

SHARE

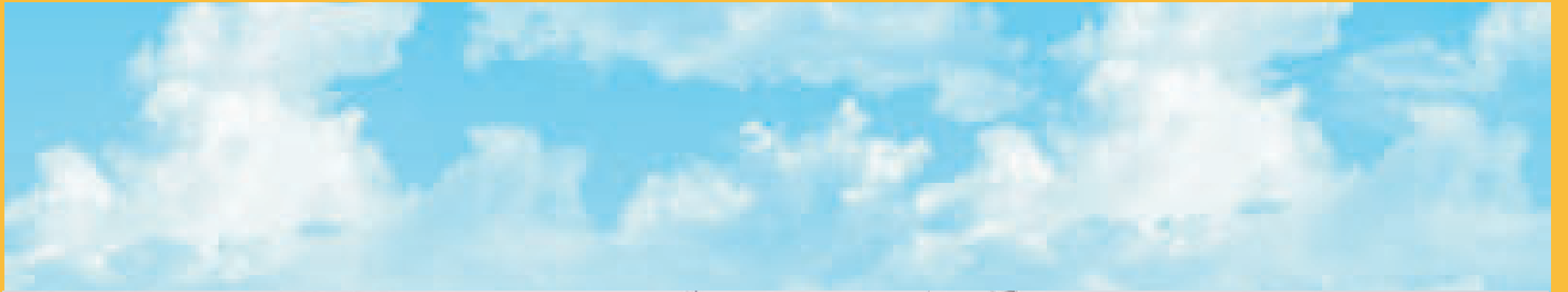


ANNUAL REPORT 2017-18



SHARE INDIA

Society for Health Allied Research and Education India



About SHARE INDIA :

Indian-American professionals from various medical and non-medical fields, all of whom earned their education from undivided Andhra Pradesh, started a not for profit society 'Science Health Allied Research Education' (SHARE) in USA in 1981. To support causes in India and for the purpose of giving back to mother country, two, not for profit societies SHARE INDIA (1986) and SHARE Medical Care (1987) were formed with a similar vision to translate the dreams into action. SHARE INDIA is a research society and recognised as a Scientific and Industrial Research Organisation (SIRO), by Ministry of Science and Technology, Government of India.

SHARE is a brainchild of Dr. P.S. Reddy, Professor of Medicine, at University of Pittsburgh who is also the chairman of the SHARE INDIA. He devotes half his time in India to translate NRI's dreams into reality.

Along with CDC funded, technical assistance projects to the government, a variety of community based research projects like REACH, LIFE, MILES, TETRA, HELP, CSSI and more are in effect, completely funded by generous donors. SHARE INDIA brought significant improvements in the areas of pre-natal and post-natal care, TB, pregnancy, birth control, awareness and prevention of HIV, infant care, infant mortality rate and maternal mortality rate, immunization and so on.

SHARE INDIA relies mostly on voluntary contributions for its funding. Its principal donors are NRI's, private sector and individual philanthropists. Donations are tax-exempt under section 35(1)(ii) of the Income Tax Act.

Vision :

Strive to create healthy population by innovation and increasing, imparting and applying knowledge.

Mission :

- Creating research culture in medical colleges of India and promoting global health.
- Adapting health care delivery through information technology; innovating new models of effective health care delivery at low costs; taking health care to doorsteps.
- Developing devices to make them available at affordable costs.
- Sowing seeds for personalized and precision medicine.
- Challenging old concepts and finding contextually relevant evidence based truths in medicine.
- Collaborating with other institutions and professionals to foster research, innovation and education/training in health sciences.

Objective :

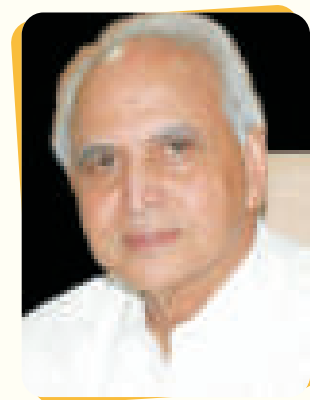
To provide comprehensive, effective, affordable health care to people and build capacity for innovation/research to address health care challenges of today and the future.

Philosophy of SHARE :

Nature has created a divided world of those who have the capacity to give and those who have the need to receive. We are the lucky few who are blessed with the capacity to give rather than receive. Let us thank God for giving the capacity and opportunity to give by giving.

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**Message from the Chairman,
Dr. P.S. Reddy**

SHARE INDIA's primary aim has been to cultivate research in Medical Colleges of India. MediCiti Institute of Medical Sciences (MIMS) has been a natural beta site for it. Record of the research projects and participation of faculty members of MIMS in their contemplation and implementation in the following pages speaks for modest degree of success. Sustainability and further progress remains a challenge!

Since research is centred around implementation science, villagers have been natural beneficiaries of most projects. REACH (Rural Effective Affordable Comprehensive Healthcare) is a working model of proactive health care delivery system that offers promotive, preventive and primary healthcare to 50,000 inhabitants of 42 villages in the Medchal District of Telangana. LIFE (Longitudinal Indian Family hEalth) study is designed to understand the link between the environmental conditions in which Indian women conceive, go through their pregnancy, give birth and their physical and mental health during this period. The MILES (Mobility and Independent Living in Elders) Study is designed to determine the prevalence of socioeconomic, psychosocial, behavioural, dietary and environmental risk factors for age-related chronic diseases. TETRA (Technology Enabled Community Health Workers Extending Telemedicine to Rural Homes at Affordable Costs) is a physician guided telemedicine based healthcare delivery model for detection, treatment and control of hypertension and diabetes at the doorsteps of beneficiaries; while HELP (HEalthy Pregnancy) investigates early preeclampsia in pregnant women using personalized and precision medicine.

SHARE INDIA is planning to launch a major health care delivery project which will be a model of health care delivery in the future. It integrates multiple technologies- personalized medicine, electronic medical record, non-physician health care workers acquiring data using multiple biosensors at point of care, artificial intelligence, and Telemedicine.

Last year, we expanded our horizons: We formed a consortium of medical faculty and four engineering institutions (BITS Pilani, CBIT, Sreenidhi and Kakatiya Institute of Technology and Sciences, Warangal and Laxven Systems) to develop artificial assistive devices for heart and circulation in collaboration with American faculty. To learn necessary skills, an attempt is being made to develop an external pump which can sustain circulation for just a few weeks. Each faculty is being supported by their own institute including any consumables. Each Engineering College has also sponsored two faculty members to attend the ASAIO 2018 (American Society for Artificial Internal Organs) conference at Washington DC. On the last day of the meeting, June 16, 2018, an Indo-American Artificial Heart group meeting is being organized by Professor James Antaki and Prof. Harvey Borovetz. This is a leap forward in many respects.

We are grateful to many donors from USA and India who are making this mission possible.

Our long and arduous journey is filled with gratification of having done significant work and contribution made to rural and urban health care. We are the torch bearers of accountable, affordable, technology driven healthcare and are well poised to reach the zenith.

SHARE INDIA Governing Council Members

Dr. P. S. Reddy, Chairman

Professor of Medicine, University of Pittsburgh, PA, USA.

Mr. M.K. Agarwal, Vice Chairman

and Treasurer Founder and CEO, GATI Ltd., Hyderabad.

Dr. V. Malakonda Reddy, Secretary

Educator and Founder of CBIT and MGIT
Engineering Colleges, Hyderabad.

Dr. K. Madhu Mohan, Secretary General

Endocrinologist, Maryland, USA.

Dr. A. Gopal Kishen, Member

Nephrologist and former Medical Superintendent,
Osmania Hospital, Hyderabad.

Dr. Prakash N. Shrivastava, Member

Professor Emeritus, University of Southern
California, USA.

Executive team of SHARE INDIA

Dr. Ganesh Oruganti

Executive Director

Dr. Jammy Guru Rajesh

Associate Research Director

D. Ramesh Reddy Allam

Deputy Project Director

Mr. Nitin C. Desai

Administrator Projects

Mr. R. Purushotham Reddy

Data Manager

Mr. N. Lakshmi Narasimhan

Finance Manager

Ms. Revina Suhasini Samuel

Executive Administrator - HR

Scientific Research Advisory Committee

- **Dr. B. M. Gandhi**, CEO, Neo Biomedical Services, New Delhi.
- **Prof. Hasnain E. Seyed**, Vice Chancellor, Jamia Hamdard University, Hamdard Nagar, New Delhi.
- **Dr. Murthy G.V.S.**, Director, Indian Institute of Public Health, Hyderabad.
- **Dr. Ganesh Oruganti**, Executive Director, SHARE INDIA, Ghanpur, Medchal Mandal and District, Telangana State.
- **Prof. Prabhakaran D.**, Executive Director of Centre of Chronic Disease Control (CCDC) & Vice President, Research & Policy, Public Health Foundation of India (PHFI), New Delhi.
- **Dr. Gowri Shankar J.**, Scientist and Former Director, Center for DNA Fingerprinting & Diagnostics, (Laboratory of Bacterial Genetics), Hyderabad.
- **Prof. Rao B. Sashidhar**, Fellow of Telangana Academy of Sciences (FTAS) & Former Professor and Head, Department of Biochemistry, Osmania University, Hyderabad.
- **Dr. P. S. Reddy**, Chairman, SHARE INDIA and Professor of Medicine, University of Pittsburgh, PA, USA.
- **Dr. Sundar G.**, Director, Birla Institute of Technology and Science Pilani, Hyderabad
- **Prof. Suman Kapur**, Sr. Professor and Dean, International Programs and Collaboration Division, Birla Institute of Technology and Science Pilani, Hyderabad.
- **Dr. Sesikeran B.**, Scientist and Former Director, NIN-ICMR, National Institute of Nutrition, Hyderabad.
- **Dr. Vasireddi S.P.**, Chairman and Managing Director, Vimta Labs Life Sciences Facility, Hyderabad.
- **Dr. Vijayaraghvan K.**, Scientist and Director Research, SHARE INDIA, Ghanpur, Medchal Mandal and District, Telangana State.
- **Dr. Vijay V. Yeldandi.**, Professor, University of Illinois at Chicago, USA

Research Advisory Committee meeting

The thirteenth Research Advisory Committee meeting was held on March 16, 2018 under the Chairmanship of Dr. P. S. Reddy at SHARE INDIA Office, MIMS Campus, Ghanpur Village. During the meeting, the investigators presented eleven research studies includes two brainstorming presentation for the upcoming activity and RAC members gave esteemed suggestion, guidance and few modification to presented studies. Dr. Lalit Kant from PHFI participated in the RAC meeting for the first time and several collaboration activities were discussed and agreed to proceed with Centre of Excellence for Infectious Disease at MIMS campus.



LIST OF SHARE INDIA RESEARCH PROJECTS / STUDIES at a glance as on 31-03-2018.

S. No.	Title of the study	Investigators	Designation / Institution Name	Project cost /Sanctioned Amount	Funding source	Project status
1	Longitudinal Indian Family hEalth - LIFE Study	Dr. Kusneniwar Govindrao N Dr. Kalpana Betha Dr. Jammy Guru Rajesh Dr. K. Vijayaraghavan	Professor, Community Medicine, MIMS Professor, Obstetrics & Gynecology, MIMS Associate Research Director, SHARE INDIA Director Research, SHARE INDIA	Rs. 33 Lakhs (2017-18)	SHARE INDIA / SHARE USA	On going
2	Mycoplasma genitalium, differentiated Ureaplasma species, and pregnancy outcomes	Dr. Kalpana Betha Dr. Catherine L. Haggerty	Professor, Obstetrics & Gynecology, MIMS Associate Professor, University of Pittsburgh	US \$ 46,318 for two years (2016-17 and 2017-18).	Fogarty International Center -NIH	On going
3	The Role of early pregnancy serum markers of cellular damage, innate immune signalling and angiogenesis in preeclampsia subtypes - DAMP - LIFE Study Samples	Dr. Kalpana Betha Dr. Brandie N. Taylor Dr. Catherine L. Haggerty	Professor, Obstetrics & Gynecology, MIMS Associate Professor, Texas A&M Univeristy Associate Professor, University of Pittsburgh	US \$ 24,000 (2017-18)	Partial support from TAMU, Texas	On going
4	Prospective study of preconception and prenatal biomarkers of preterm birth - LIFE Study Extension	Dr. Kalpana Betha Dr. Catherine L. Haggerty	Professor, Obstetrics & Gynecology, MIMS Associate Professor, University of Pittsburgh	US \$ 936,756	NIH - University of Pittsburgh	Grant will be reapplied
5	Maternal Nutritional Status and Pancreatic Beta Cell Function in Asian Indian Infants (Short title: ABC in Infants (Asian Indian Beta-Cells in Infants))	Dr. Prabhakaran D. Dr. Poornima Prabhakaran Dr. Lisa Staimez Dr. Kalpana Betha	Vice President (Research & Policy), CCDC, PHFI Associate Professor, PHFI Assistant Professor, Emory University Professor Gynecology, MIMS	US \$ 4,000	Center for Chronic Disease Control (CCDC), New Delhi.	On going
6	Mobility and Independent Living in Elders Study - MILES	Dr. Pawan Kumar Sharma Dr. Jammy Guru Rajesh Dr. Kusneniwar Govindrao N Dr. Enakshi Ganguly	Professor, Community Medicine, MIMS Associate Research Director, SHARE INDIA Professor, Community Medicine, MIMS Professor, Community Medicine, MIMS	Rs. 14 Lakhs for wave IV (2017-18)	Fogarty International Center - NIH SHARE INDIA / SHARE USA	Wave IV completed in February, 2018.
7	Technology Enabled community health workers to extend Telemedicine to Rural homes at Affordable costs - TETRA Study PHASE - 1	Dr. D. Shailendra Dr. K. Vijayaraghavan	Professor, Pharmacology, MIMS Director Research, SHARE INDIA	Rs. 40.57 Lakhs Interim grant for feasibility study (2014-15)	Hewlett Packard	Completed
	TETRA Study PHASE - 2 PILOT STUDY	Dr. D. Shailendra Dr. K. Vijayaraghavan	Professor, Pharmacology, MIMS Director Research, SHARE INDIA	US \$ 19,733 seed grant for pilot study (2015-16)	Fogarty International center - NIH	Completed
	TETRA Study PHASE - 3 FOLLOWUP OF SIX VILLAGES	Dr. D. Shailendra Dr. K. Vijayaraghavan	Professor, Pharmacology, MIMS Director Research, SHARE INDIA	Rs. 43 Lakhs for follow-up of 6 villages (2017-18)	SHARE INDIA / SHARE USA	On going and ICMR funding sanctioned, awaiting for release of funds.
8	HEaLthy Pregnancy (HELP) study	Dr. Padma Yalamati Dr. Kalpana Betha	Professor, Biochemistry, MIMS Professor, Obstetrics & Gynecology, MIMS	Rs. 11 Lakhs (2017-18)	SHARE INDIA / SHARE USA	On going
9	Improving Antenatal Care (ANC) to enhance adherence to National ANC guidelines, including the screening, detection, referral and management of gestational diabetes and pregnancy induced hypertension (PIH), using electronic decision support system enabled Frontline Health Workers , in primary healthcare settings of India and Nepal: a cluster-randomized trial	Dr. D Prabhakaran Dr. Oona Campbell Dr. Biraj Karmacharya Dr. Kalpana Betha Dr. P. S. Reddy	Vice President (Research & Policy), PHFI, Delhi Professor, Epidemiology, London School of Hygeine & Medicine, UK Professor, Community Programs, Kathmandu University School of Medical Sciences, Nepal Professor, Obstetrics & Gynecology, MIMS Chairman, SHARE INDIA	GBP 150,000	Newton Fund	Proposal approval awaited.
10	Caesarean Surgical Site Infection - CSSI Study.	Dr. Kalpana Betha Dr. P. Lakshmi Sailaja	Professor, Obstetrics & Gynecology, MIMS Assistant Professor, Obstetrics & Gynecology, MIMS	Rs. 2 Lakhs for two years (2016-17 and 2017-18). Rs.1 Lakh (2017-18)	SHARE INDIA / SHARE USA	On going
11.a	Empowering Indian health researchers with computational modelling tools	Dr. Donald S. Burke Dr. P.S. Reddy Dr. Clareann H. Bunker Dr. Saumyadipta Pyne Dr. Supriya Kumar Prof. Ramanan Laxminarayan	Dean, University of Pittsburgh Chairman, SHARE INDIA Professor Emeritus, University of Pittsburgh Scientific Director, PHDL, University of Pittsburgh. Epidemiologist, University of Pittsburgh Professor, Public Health Foundation of India , Delhi	US \$ 62,140 for three years (2015 to 2018). US \$ 20,713 (2017-18)	NIH - University of Pittsburgh	On going

S. No.	Title of the study	Investigators	Designation / Institution Name	Project cost /Sanctioned	Funding source	Project status
11.b	Empowering Indian health researchers with computational modelling tools title : Agent based Modeling of HIV epidemic in state of Telangana , INDIA	Dr. Jammy Guru Rajesh Dr. M. Raheel Sayeed Dr. Lincoln P. Choudhury	Associate Research Director, SHARE INDIA Research Scientist, SHARE INDIA HIV Consultant, Guwahati, India	US \$ 7,500 One year 2017 -2018	NIH - University of Pittsburgh	On going
12	HIV modelling capacity development among Indian researchers (Supplement grant of Empowering Indian health researchers with computational modelling tools)	Dr. Jammy Guru Rajesh Dr. M. Raheel Sayeed Dr. Lincoln P. Choudhury Dr. P. S. Reddy Dr. Supriya Kumar	Associate Research Director, SHARE INDIA Research Scientist, SHARE INDIA HIV Consultant, Guwahati, India Chairman, SHARE INDIA Epidemiologist, University of Pittsburgh	US \$ 27,372	NIH - University of Pittsburgh	On going
13	Comprehensive Intelligent Acute Respiratory Infection (ARI) monitor for early detection of pneumonia	Dr. Enakshi Ganguly Prof. M. B. Srinivas Dr. Uma Ramchandran Dr. Pawan Kumar Sharma	Professor, Community Medicine MIMS Professor, Birla Institute of Technology and Science , Hyderabad Professor, Paediatrics, MIMS Professor, Community Medicine, MIMS	Rs. 40 Lakhs for three years (2015 to 2018). Rs.16 Lakhs (2017-18)	ICMR, New Delhi	Completed in December, 2017 and report submitted to ICMR.
14	Develop and test 3D printing technology to produce innovative limbs at affordable cost for the disabled in India	Dr. Srinivasa Prakash Regalla Dr. Prakash N. Shrivastava Dr. D. Sudheer Reddy	Professor, Mechanical Engineering, Birla Institute of Technology and Science , Hyderabad Director, SHARE INDIA Professor, Orthopedics, MIMS	Rs. 47.65 Lakhs for 2-1/2 years (2015 to June 2017)	Biotechnology Industry Research Assistance Council (BIRAC), DBT, Government of India	On going
15	Association of brain metabolites, brain white matter hyperintensities and non-invasive retinal markers with cognition in type 2 diabetes in India - BRAIN STUDY	Dr. Rajani Santhakumari Dr. Shailendra Dandge Dr. Madhavi Chevuturu Dr. G. V. S Murthy Dr. G. Suresh Dr. Robert M. Boudreau Dr. Caterina Rosano	Associate Professor, Physiology, MIMS Professor, Pharmacology, MIMS Professor, Ophthalmology, MIMS Director, Indian Institute of Public Health , Hyderabad Neuroradiologist, Yashodha Hospital, Hyderabad Professor, University of Pittsburgh Professor, Epidemiology, University of Pittsburgh	US \$ 257,484 (For two years). Annually US \$128,742	NIH	Re-applying of the Grant.
16	IndEpi : A Platform for systematic Integration of Indian Epidemiology Datasets to enable Health Analytics and Disease Modelling (R & D Proposal under the ICPS Programme of DST.)	Dr. Rashmi Pant Dr. Saumyadipta Pyne Dr. M. Raheel Sayeed	Bio Statiscian, SHARE INDIA Scientific Director, PHD Lab, University of Pittsburgh Research Scientist, SHARE INDIA	Rs. 77.29 Lakhs	Department of Science & Technology, Ministry of Science & Technology, Government of India	Grant applied in March 2017 sanctioned and funding awaited.
17	Rabies Study : A strategic observation and preliminary review to profile the different types of dogs and conduct knowledge, attitudes, beliefs and practices (KABP) of the dog bites in Medchal mandal of Telangana state.	Dr. Vijay V. Yeldandi Dr. Ganesh Oruganti Dr. Jammy Guru Rajesh Mr P. S. Venkat Rao	Professor, University of Illinois at Chicago, USA Executive Director, SHARE INDIA Associate Research Director, SHARE INDIA Executive, SHARE INDIA	Rs.1.50 Lakhs	SHARE INDIA / SHARE USA	On going Pilot Study is completed and Data is being analysed for a full grant
18.a	National Initiative to Strengthen & Coordinate HIV/TB response in India - NISCHIT	Dr. Vijay V. Yeldandi Dr. Ganesh Oruganti Dr. Ramesh Reddy Allam	Professor, University of Illinois at Chicago, USA Executive Director, SHARE INDIA Deputy Project Director, SHARE INDIA	US \$ 1,000,000 (2016-17), US \$ 1,200,000 (2017-18)	Centers for Disease Control and Prevention (CDC), Atlanta, USA	On going
18.b	Laboratory Quality Systems in HIV – LaQSH	Dr. Vijay V. Yeldandi Dr. Ganesh Oruganti Dr. Ramesh Reddy Allam	Professor, University of Illinois at Chicago, USA Executive Director, SHARE INDIA Deputy Project Director, SHARE INDIA	US \$ 2,500,000 (2016-17), US \$ 1,000,000 (2017-18)	Centers for Disease Control and Prevention (CDC), Atlanta, USA.	On going
18.c	Strengthening TB Action and Response - STAR	Dr. Vijay V. Yeldandi Dr. Ganesh Oruganti Dr. Satish Kaipilyawar	Professor, University of Illinois at Chicago, USA Executive Director, SHARE INDIA Associate Project Director, SHARE INDIA	US \$ 2,500,000 (2016-17), US \$ 700,000 (2017-18)	Centers for Disease Control and Prevention (CDC), Atlanta, USA.	On going

Abbreviations

ANC	Antenatal Care
ARI	Acute Respiratory Infection
ATT	Anti-Tuberculosis Treatment
BIG	Biotechnology Ignition Grant
BIRAC	Biotechnology Industry Research Assistance Council
BITS	Birla Institute of Science and Technology
CAPH	The Center for Aging and Population Health
CBIT	Chaitanya Bharathi Institute of Technology
CCCC	Centre for Control of Chronic Conditions
CDC	Centers for Disease Control and Prevention
CPR	Cardio Pulmonary Resuscitation
CSSI	Caesarean Surgical Site Infection
CVD	Cardio-vascular Disease
DBT	Department of Bio-Technology
GBP	British Pound
GSPH	Graduate School of Public Health
HELP	HEaLthy Pregnancy
HIV	Human Immunodeficiency Virus
ICHHA	International Centre for Human Health Advancement
ICMR	Indian Council of Medical Research
KITS	Kakatiya Institute of Technology & Science
LaQSH	Laboratory Quality Systems in HIV
LIFE	Longitudinal Indian Family hEalth
LSHTM	The London School of Hygiene and Tropical Medicine
LVAD	Left Ventricular Assist Device
MILES	Mobility and Independent Living in the Elderly Study
MIMS	MediCiti Institute of Medical Sciences
NACP	National AIDS Control Program
NACO	National AIDS Control Organization
NIH	National Institute of Health
NISCHIT	National Initiative to Strengthen and Coordinate HIV/TB response
PA	Pennsylvania
PHFI	Public Health Foundation of India
PIH	Pregnancy Induced Hypertension
PLHIV	People Living with HIV/AIDS
REACH	Rural Effective Affordable Comprehensive Healthcare
RNTCP	Revised National Tuberculosis Control Program
Rs	Rupees
SIRO	Scientific and Industrial Research Organisation
SNIST	Sree Nidhi Institute of Science and Technology
STAR	Strengthening TB Action and Response
TAMU	Texas A and M University
TA	Technical Assistance
TB	Tuberculosis
TETRA	Technology Enabled community health workers to extend Telemedicine to Rural homes at Affordable costs
UK	United Kingdom
UOP	University of Pittsburgh
US \$	United States Dollar
USA	United States of America

Indo-American artificial heart program

Objectives:-

Moon-shot: Develop total artificial heart.

Immediate: Promote bioengineering research in Engineering Institutes of India in collaboration with Medical Institutions, Engineering Industries and Medical device developers.

Advisers:

Dr. P. S. Reddy, Chairman, SHARE INDIA.

Dr. A. G. K. Gokhale, Cardiothoracic Surgeon, Apollo Hospitals, Hyderabad.

Dr. B. M. Gandhi, Chief Executive Officer, Neo Biomedical Services, New Delhi.

Project coordinator:

Dr. A. Subhanada Rao, Director, Advancement and Research, Sree Nidhi Institute of Science and Technology.

Jump start facilitated by:

United States of America

University of Pittsburgh, Pittsburgh, PA, USA:

Dr. Robert L. Kormos, Professor of Cardiac Surgery;

Dr. Harvey Borovetz, Professor of Bioengineering;

Mr. Salim Olia, Doctoral student.

Carnegie Mellon University, Pittsburgh, PA, USA:

Dr. James Antaki, Professor of Bioengineering.

INTEGRIS Nazih Zuhdi Transplant Institute, INTEGRIS Baptist Medical Center Oklahoma City, OK, USA:

Dr. James Long, Director.

INDIA

Birla Institute of Technology - BITS PILANI, Hyderabad:

Dr. Suman Kapur, Senior Professor, Department of Biological Sciences;

Dr. M.B. Srinivas, Professor, Electronics and Electrical Engineering Department and Dean, Administration;

Dr. Srinivas Prakash Regalla, Professor and Head, Department of Mechanical Engineering;

Dr. Sanket Goel, Associate Professor, Department of Electronics and Electrical Engineering.

Chaitanya Bharathi Institute of Technology (CBIT):

Dr. B. Chennakesava Rao, Principal;

Dr. P. Ravinder Reddy, Professor and Head, Mechanical and Production Engineering;

Dr. N. V. Koteshwar Rao, Professor and Head, Department of Electronics and Communication Engineering;

Dr. G. Suresh Babu, Professor, Department of Electronics and Electrical Engineering;

Dr. C. Obula Reddy, Assistant Professor, Department of Biotechnology;

Dr. V. Aruna, Assistant Professor, Department of Biotechnology.

Sree Nidhi Institute of Science and Technology(SNIST):

Dr. K.S.R. Siva Sai, Professor and Head, Department of Biotechnology;

Dr. Anil Kumar Puppala, Associate Professor, Department of Electrical Engineering;

Dr. A. Purushotham, Professor, Department of Mechanical Engineering;

Dr. C. Bhargava, Associate Professor, Department of Electrical Engineering.

SHARE INDIA:

Dr. Vijay V. Yeldandi, Clinical Professor of Medicine and Surgery, University of Illinois and advisor, SHARE INDIA.

Laxven Systems, Hyderabad:

Mr. Ramesh Reddy, Chairman and Managing Director.

Shree Pacetronix Ltd., Indore:

Mr. Atul Sethi, Chairman and Managing Director;

Mr. Vikas Gokhale, Technical Director.

Shrishti Resins, Hyderabad

Mr. K.P. Reddy, Chairman and Managing Director.

Sri Koteswara Cam Systems Pvt Ltd., Hyderabad:

Mr. Koteswara Rao, Managing Director.

Path Care Lab. Pvt Ltd., Hyderabad:

Dr. G. V. Prasad, Chairman and Managing Director;

Ms. Nandini Prasad, Director.

Consultant:

Mr. K. Vijay Saradhi

Funding source: SHARE INDIA and SHARE USA**Development Approach of the Project**

M/s. Laxven Systems is developing Centrifugal Levitation Pump for extracorporeal LVAD and CBIT is developing Centrifugal Pump with magnetically coupled impellor and Pivot bearing. KITS also entered into the scene recently and is working on Centrifugal Pump. SNIST is working on fabrication of Centrifugal Pump impellor and housing by Injection moulding in trade. SNIST is also working on Axial Levitation Pump for implant.

Current Status of the Project

M/s. Laxven Systems: Drive and levitation system for centrifugal pump for LVAD is designed and prototype developed. Speed variation achieved in specified range Hall sensors, coils are designed and realized. Required PCBs are designed and fabricated. Levitation is being tested and fine-tuned.

CBIT: The Centrifugal pump with magnetic coupled impellor is designed. Prototype 3D printed. CFD Analysis is carried out. Flow and pressure specifications are met. H-Q curves are being generated.

SNIST: The configuration for Axial Levitation Pump is evolved conceptually. CFD is being carried out. Drive and levitation system design is under progress.

Identified the Industry for injection moulding of pump housing and impellor.

KITS: The design of centrifugal pump, CFD Analysis are in progress.

BITS: Hemodynamic circuit for testing the pump is designed and realized. Trials carried out using Diaphragm pump. Waiting for actual pumps for testing with water.

Another circuit for testing with blood is being rigged up in Biotechnology Lab.

Research Projects

1. Longitudinal Indian Family Health (LIFE) pilot study

Principal Investigator:

Dr. Kusneniwar Govindrao N., Professor and Head, Department of Community Medicine, MIMS.

Co-Investigators:

Dr. K. Vijayaraghavan, Director Research, SHARE INDIA.

Dr. Kalpana Betha, Professor and Head, Department of Obstetrics and Gynecology, MIMS.

Dr. Jammy Guru Rajesh, Associate Research Director, SHARE INDIA.

Funding source: GATI Limited.

Amount: Rs. 33 Lakhs (2017-18).

Aims: To understand the links between the environmental conditions in which Indian women conceive, become pregnant, give birth, the physical and mental health along with development of their children.

Objectives: Identify factors which contribute to the causation of low birth weight, maternal, fetal, neonatal, infant, childhood mortality, childhood disorders and diseases. Identify antecedents of cardio-vascular disease from pre-pregnancy through pregnancy and young adulthood in women.

Current status of the project: The pilot study is following a cohort of 1227 fertile married women aged between 15 and 35 years and their husbands from pre-pregnancy through the birth of an expected number of 1000 babies. As on 31st March, 2018, all enrolled women are contacted. Data and biological samples are being collected as and when they became pregnant. Regular antenatal visits at 1st and 3rd trimester, post-delivery visits at one month, children follow-up visits at every 6 months up to 24 months and thereafter every 12 months up to 60 months are being carried out. Special follow-up visits between 60 to 72 months for couples, between 36 to 48 months and 72 to 84 months for children are also been carried out. Apart from regular children follow-up to assess their health status and developmental milestones, screening for mental health problems at age group of 3-4 years is being done. Other project activities include 5-6 years couple follow-up visits to assess their health status, 6-7 years children follow-up to access various health problems by using the standardized questionnaire and investigations including diabetes, high blood pressure, thyroid, overweight /obesity, anaemia and worm infestation. 8-9 years children follow-up to access their health status and cognitive function using WISC-IV modified India Scale.



Status of Field work from 1st April, 2017 to 31st March, 2018

Details	
Total Deliveries	26
Deliveries at MediCiti Hospital (MIMS)	21
Deliveries at Outside Hospitals	5
1st Trimester	23
3rd Trimester	18
PNC - 1 month follow up	18
Child Follow - up visits (No. of questionnaires completed by age of the child)	
06 months	31
12 months	48
18 months	62
24 months	75
36 months	97
48 months	156
60 months	244
No. of children screened for mental health problems in the age group of 3-4 years	79
6 - 7 years children follow - up	195
No. of under five children deaths	2
5 - 6 years couple follow up visit: (questionnaire & lab completed)	
Women	976
Men	883

2. **Mycoplasma genitalium, differentiated Ureaplasma species, and pregnancy outcomes**

Principal Investigators:

Dr. Kalpana Betha, Professor and Head, Department of Obstetrics and Gynecology, MIMS.

Dr. Catherine L. Haggerty, Associate Professor, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.

Funding source: Fogarty International Center - NIH.

Amount: US \$ 46,318 for two years (2016-17 and 2017-18).

Aims: To reduce the burden of poor pregnancy outcomes due to reproductive tract infections in India.

Objectives: Determine the role of pre-pregnancy and prenatal vaginal infections with mollicutes including fastidious *Mycoplasma genitalium* and the newly differentiated *Ureaplasma* spp. termed *U. urealyticum* (UU) and *U. parvum* (UP) in Pre-Term Birth (PTB) and Spontaneous abortion (SAB). The study also aims to determine the relationships between vaginal infection with *Mycoplasma genitalium*, *Ureaplasma urealyticum*, *Ureaplasma parvum*, and adverse pregnancy outcomes, including spontaneous abortion and preterm birth. It also examines chorioamnionitis as a mediating factor between *Mycoplasma genitalium* or *Ureaplasma* infection and spontaneous preterm birth.

Current status of the project: The project is currently studying 188 women who delivered preterm, 218 women who experienced spontaneous abortion, and 436 control women who delivered at term, nested within the on-going SHARE INDIA projects. The samples are being processed for the various organisms as mentioned in the objectives

3. **The role of early pregnancy serum markers of cellular damage, innate immunosignalling and angiogenesis in preeclampsia subtypes - LIFE Study Samples**

Principal Investigator:

Dr. Kalpana Betha, Professor and Head, Department of Obstetrics and Gynecology, MIMS.

Co-Investigators:

Dr. Brandie N. Taylor, Associate Professor, School of Public Health, The Texas A&M University System, Texas, USA.

Dr. Catherine L. Haggerty, Associate Professor, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.

Funding source: Partial support from Texas A & M University

Amount: US \$ 24,000 (2017-18).

Aims: To identify biomarkers for early prediction or to identify women with severe subtypes of hypertension who require different clinical management.

Objectives: Examine the relationship between early pregnancy serum markers of cellular damage, innate immune signalling, angiogenesis and preeclampsia subtypes.

Current status of the project: The reagents are procured to perform necessary tests of 150 biological specimens from women with spontaneous abortion, preeclampsia and healthy normotensive controls who participated in the LIFE study.

4. **Prospective study of preconception and prenatal biomarkers of preterm birth - LIFE Study Extension**

Principal Investigator:

Dr. Kalpana Betha, Professor and Head, Department of Obstetrics and Gynecology, MIMS.

Co-Investigator:

Dr. Catherine L. Haggerty, Associate Professor, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.

Funding source: NIH through University of Pittsburgh.

Amount: US \$ 936,756.

Aims: To examine a broad range of preconception and prenatal serum biomarkers in the above Cardiovascular Disease (CVD) pathways in relation to the risk of Pre-Term Birth (PTB).

Objectives: Determine if preconception biomarkers: lipid, inflammatory/immune, glucose, blood pressure and vitamin D predict PTB. Examine longitudinal changes in the above biomarkers across pregnancy (preconception, first and third trimester and delivery) in relation to PTB. Examine shared pathways leading to pregnancy loss and PTB.

Current status of the project: Grant applied, approval is awaited.

5. Maternal Nutritional Status and Pancreatic Beta Cell Function in Asian Indian Infants

Short title: ABCs in Infants (Asian Indian Beta-Cells in Infants)

Principal Investigators:

Dr. D. Prabhakaran, CCDC

Dr. Poornima Prabhakaran - Public Health Foundation of India

Dr. Lisa Staimez, Emory University

Dr. Kalpana Betha, SHARE INDIA, MIMS

Amount: \$ 4,000

Funding Source: Center for Chronic Disease Control (CCDC), New Delhi.

Objective: To examine the association of maternal nutritional status [i.e., first trimester body mass index (BMI); and pregnancy weight gain] with beta cell function of their infants at 6-months of age. Outcome measures will be collected at two time points: birth and 6-months postpartum. At birth, cord blood will be analyzed for glucose, c-peptide, and insulin and will be used to calculate maternal and fetal glycemia, insulin resistance, static insulin secretion, and insulin clearance. At 6 months of age, infants will undergo an oral glucose tolerance test, with samples analyzed for glucose, C-peptide, and insulin to assess pancreatic beta-cell function, measured by the oral disposition index. Other calculated measures at 6 months will include insulin resistance, static insulin secretion, and insulin clearance.

Current status of the project: Of 169 eligible women recruited from HELP study, 63 women delivered. Cord blood samples were collected from all women. Of them 27 % of women were underweight, 49.2% were normal weight, 23.8% were overweight.



6. Mobility and Independent Living in Elders Study – MILES

Principal Investigator:

Dr. Kusneniwar Govindrao N., Professor and Head, Department of Community Medicine, MIMS.

Co-Investigator:

Dr. K. Vijayaraghavan, Director Research, SHARE INDIA.

Investigators:

Dr. Jammy Guru Rajesh, Associate Research Director, SHARE INDIA.

Dr. Pawan Kumar Sharma, Professor, Department of Community Medicine, MIMS.

Dr. Enakshi Ganguly, Professor, Department of Community Medicine, MIMS.

Dr. T. Kamaraju, Tutor, Department of Community Medicine, MIMS.

Consultants from USA:

Dr. Anne Newman, Professor and Chair, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.

Dr. Jane Cauley, Distinguished Professor, Department of Epidemiology and Associate Dean for Research, GSPH, University of Pittsburgh, PA, USA.

Dr. Clareann H. Bunker, Associate Professor Emerita, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.

Dr. Joseph M. Zmuda, Associate Professor, Epidemiology, GSPH, University of Pittsburgh, PA, USA.

Dr. Tushar Singh, Geriatrics, Clinical Trials, Epidemiology, CDC, Atlanta, USA.

Consultant from INDIA:

Dr B.S. Garg, Director and Professor of Community Medicine, Mahatma Gandhi Institute of Medical Sciences, Sewagaram.

Funding source: SHARE INDIA and SHARE USA.

Amount: Rs. 14 Lakhs for wave IV (2017-18).

Aims: To define the prevalence, incidence and risk factors for disability and age-related chronic diseases through a period of five years, in the population of older adults (60+) in the Telangana region.

Objectives: Determine the prevalence of age-related chronic disease in older adults. Determine the prevalence of socioeconomic, psychosocial, behavioural, dietary and environmental risk factors for age-related chronic disease and disability using examinations and non-invasive testing. Determine which conditions are most strongly associated with the mobility disability, both cross-sectional and longitudinally.



Current status of the project:

The wave IV of the project was concluded in January 2018 wherein a total of 435 participants participated in the data collection.

Participants followed up in 4 th wave	435
Physically Handicapped	28
Total deaths (till March 2018)	135

Below is the overall study progress:

Wave	Data collection period	Male	Female	Total
Wave 1 - Visit 1	Feb 2012 - Nov 2012	281	281	562
Wave 1 - Visit 2	Jun 2012 - Jul 2014	261	276	537
Wave 2	Jul 2013 - Aug 2014	250	253	503
Wave 3	Oct 2015 - Nov 2016	227	242	469
Wave 4	Feb 2017 - Jan 2018	197	238	435

In wave IV data collection was conducted similar to the earlier waves like Short Physical Performance Battery (SPPB), 400 meter walk, grip strength, questionnaire on health behaviours, medical history, health event history, physical performance, haemoglobin, fasting blood sugar, blood pressure, anthropometry, vision (objective) and hearing (audiometry). The Pittsburgh Frailty Score was included in this wave. All the participants who died, a detailed verbal autopsy was conducted.

7. Technology Enabled community health workers to extend Telemedicine to Rural homes at Affordable costs - TETRA

Principal Investigator:

Dr. K. Vijayaraghavan, Director Research, SHARE INDIA.

Co-Investigator:

Dr. D. Shailendra, Professor, Department of Pharmacology, MIMS.

Funding source: SHARE INDIA and SHARE USA. Application under review at ICMR.

Amount: Rs. 43 Lakhs for follow-up of 6 villages (2017-18).

Aims: To increase access to high-quality medical care to rural India.

Objectives: Assess the feasibility, effectiveness and costs of the technology enabled community health workers extending telemedicine to rural homes to control hypertension and diabetes.



About the project: The community health workers were equipped with tablet computers linked with point-of-care devices for blood pressure (BP) and blood glucose measurements visited households, screened adults aged ≥ 20 years for hypertension and diabetes. Further, they networked those with hypertension and diabetes to a physician via SKYPE®, handed over a printed e-prescription and medication as advised by the physician. Medication adherence checks, BP and fasting blood sugar measurements were done once a month and doctor consultation once in three months during follow-up.

The entire longitudinal series of doctor patient interactions along with the laboratory data for each individual was securely recorded on a cloud server as 'patient electronic health record' and was dynamically accessible to the treating physician on the doctor's dashboard while interacting with the patient on Skype®. After successfully piloting the intervention strategy in one village, it was subsequently implemented in two randomly selected villages in Medchal Mandal for a period of three years. At the end of three years, overall control of BP and blood glucose was achieved in 54.0% and 34.1% of individuals with hypertension and diabetes respectively in the intervention villages.

However, the overall blood pressure and blood glucose control rates in a comparable population recruited from three randomly selected villages in Medchal Mandal were much lower-28% and 27% respectively, at a point in time corresponding to the end of three years of implementation of the strategy in the intervention villages. Further, the yield of proactive screening by CHWs was about fifty per cent for hypertension and about twenty five percent for diabetes both in the intervention as well as the control villages.

The community health worker led, physician guided telemedicine based healthcare delivery model for detection, treatment and control of hypertension and diabetes at the doorsteps of beneficiaries is technologically feasible and holds promise to promote better detection, treatment and control of blood pressure and blood sugar in underserved community settings in India.

8. HEALThy Pregnancy (HELP) Study

Principal Investigator:

Dr. Padma Yalamati, Professor, Department of Biochemistry, MIMS.

Co-Investigators:

Dr. Kalpana Betha, Professor and Head, Department of Obstetrics and Gynecology, MIMS.

Dr. Aparna Varma, Professor and Head, Department of Biochemistry, MIMS.

Dr. Rashmi Pant, Biostatistician, SHARE INDIA.

Funding source: SHARE INDIA and SHARE USA.

Amount: Rs. 11 Lakhs (2017-18).

Aims: To identify whether the early rise in blood pressure or serum creatinine or serum uric acid or serum cystatin C or urine protein creatinine ratio compared to the 1st trimester (baseline) value predicts the later onset of hypertensive disorders. It also aims to study the association between these markers and maternal and fetal outcomes.

Objectives: Measure blood pressure, serum uric acid, serum creatinine and serum cystatin C (stored at -80°C) and urine protein creatinine ratio every month during the course of pregnancy and examine the tracking of these markers to identify which marker, individually or in combination helps in the prediction of hypertensive disorders at the earliest.



Current status of the project:

Details	Participants
No. of pregnant women screened	770
No. of pregnant women excluded	28
No. of pregnant women included	742
No. of withdrawals	40
No. of deliveries at MIMS	475
No. of deliveries outside MIMS	111
No. of primigravida	322
No. of early pregnancy losses	13
No. of fetal deaths	16
No. of pregnant women with PIH	31
No. of pregnant women with Preeclampsia / Eclampsia	25/1
No. of pregnant women with hypothyroidism	60
No. of pregnant women with subclinical hypothyroidism	23
No. of pregnant women with hyperthyroidism	9
No. of pregnant women with subclinical hyperthyroidism	7

9. Improving Antenatal Care (ANC) to enhance adherence to National ANC guidelines, including the screening, detection, referral and management of gestational diabetes and pregnancy induced hypertension (PIH), using electronic decision support system enabled frontline health workers, in primary healthcare settings of India and Nepal: a cluster-randomized trial

Principal Investigators:

Dr. D. Prabhakaran, Vice President (Research and Policy), PHFI, Delhi.

Dr. Oona Campbell, Professor, Epidemiology, The London School of Hygiene and Tropical Medicine (LSHTM), UK.

Dr. Biraj Karmacharya, Professor Programs, Kathmandu University of Medical Sciences, Nepal.

Dr. P. S. Reddy, Professor of Medicine, University of Pittsburgh and Chairman, SHARE INDIA.

Dr. Kalpana Betha, Professor and Head, Department of Obstetrics and Gynecology, MIMS.

Co-Investigators:

Dr. Sailesh Mohan, Centre for Control of Chronic Conditions (CCCC), PHFI, New Delhi.

Dr. Poornima Prabhakaran, CCCC, PHFI, New Delhi.

Dr. Ajay V. S, CCCC, PHFI, New Delhi.

Dr. Ambuj Roy, Department of Cardiology, AIIMS, New Delhi.

Dr. Sandosh Padmanabhan, Department of Medicine, University of Glasgow, UK.

Dr. Sonia Anand, Professor, Department of Medicine, McMaster University, Canada.

Dr. Abha Shrestha, Department of Obstetrics and Gynecology, Kathmandu University of Medical Sciences, Nepal.

Dr. Pablo Perel, Associate Professor, Cardiologist and epidemiologist, LSHTM.

Dr. Clara Calvert, Assistant Professor, LSHTM.

Dr. John Cairns, Professor of Health Economics, LSHTM.

Dr. Ishita Rawal, Research Fellow, CCCC, PHFI, New Delhi.

Funding source: Newton Fund.

Amount: GBP 1 50,000.

Objectives: Develop and evaluate an electronic decision support system for non-physician frontline health workers that incorporates ANC services with the screening, detection and referral of high risk pregnancies to the existing health system for appropriate clinical management.

Current status of the project: Project accepted for funding.

10. Caesarean Surgical Site Infection (CSSI) study

Principal Investigator:

Dr. Kalpana Betha, Professor and Head, Department of Obstetrics and Gynecology, MIMS.

Co-Investigator:

Dr. P. Lakshmi Sailaja, Assistant Professor, Department of Obstetrics and Gynecology, MIMS

Funding source: SHARE INDIA and SHARE USA.

Amount: Rs.1 Lakh (2016-17) and Rs.1 Lakh (2017-18).

Aims: To reduce incidence of surgical site infections following caesarean sections.

Objectives: Estimate the incidence of caesarean surgical site



infections following caesarean sections at MediCiti Hospital. Identify risk factors associated with SSI following caesarean and to determine the bacteriological profile of SSI linked with caesarean section.

Current status of the project: A total of 1555 cases of Caesarean Sections were included in the study. Of them 1376 women completed one month follow up postoperatively. 117 women were lost to follow up. Among them, surgical site infection was found in 3.05 % cases. Sixty two women are currently being followed up post Caesarean Section.

11.a. Empowering Indian health researchers with computational modelling tools

Principal Investigators:

Dr. Donald S. Burke, Dean, GSPH and Associate Vice Chancellor for Global Health, Health Sciences, University of Pittsburgh, PA, USA.

Dr. Clareann H. Bunker, Associate Professor Emerita, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.

Dr. Saumyadipta Pyne, Scientific Director, PHDL, University of Pittsburgh.

Co-Investigators:

Dr. P. S. Reddy, Chairman, SHARE INDIA.

Dr. Supriya Kumar, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.

Prof. Ramanan Laxminarayan, Vice President Research and Policy, Public Health foundation of India, Hyderabad.

Dr. Jammy Guru Rajesh, Associate Research Director, SHARE INDIA.

Dr. Mohammed Raheel Sayeed, Research Scientist, SHARE INDIA.

Funding source: Fogarty International Center - NIH.

Amount: US \$ 62,140 for three years (2015 to 2018),
US \$ 41,427 (2015-17), US \$ 20,713 (2017-18)

Aims: Capacity building of public health professionals and researchers in India.

Objectives: To enhance evidence based, data driven decision making through innovations in information communication technology.

Current status of the project: As a part of the grant “International symposium on Health Analytics and Disease Modelling” (HADM 2018) and fourth in a series of such events was organized by the Public Health Dynamics Laboratory (PHDL) of the University of Pittsburgh in partnership with various institutions in India. HADM 2018 was jointly organized by PHDL, the Indian Council of Medical Research - National Institute of Medical Statistics (ICMR-NIMS), and SHARE INDIA during March 8-9, 2018, at the National Academy of Medical Sciences auditorium in New Delhi, India.

Symposium was inaugurated by Dr. P. S Reddy, Chairman, SHARE INDIA, along with Dr. Mark Roberts, University of Pittsburgh, USA, Dr. M. Vishnu Rao, Director ICMR-NIMS. HADM 2018 provided attendees with practical information on recent developments involving emerging models and databases, as well as computational strategies to develop solutions that can effectively translate public health data to policy in rapidly evolving populations.

Eminent speakers from the United States, United Kingdom, France, Vietnam and India such as Wilbert Van Panhuis, UoP, USA; Carmen Molina Paris, UoL, UK; Saumyadipta Pyne, UoP, USA; Kaja Abbas, LSH&TM, UK; Hukum Chandra, ICAR, IASRI, India; H.K. Chaturvedi, ICMR-NIMS, India; Marc Choisy, NIH&E, Vietnam; Nirmal Kumar Ganguly, THS&TI, India; Daphne Lopez, VIT, Vellore, India; Martin Lopez-Garcia, UoL, UK; Abhaya Indrayan, DUCMS, India; Manoj Murhekar, NIE, India; R.M. Pandey, AIIMS, India; Arvind Pandey, ICMR-NIMS, India; P.S. Reddy, SHARE INDIA; M. Vishnu Rao, ICMR-NIMS, India; Harpreet Singh, ICMR-NIMS, India; D.K. Shukla, ICMR-NIMS, India; Olivier Telle, Centre for Policy Research, India presented their research on topics covering infectious and non-communicable disease models, immune system modelling, and vaccine and surveillance data analytics, among others.

11.b. Empowering Indian Health Research with Computational Modeling Tools – Small Grant

Principal Investigator:

Dr. Jammy Guru Rajesh, Associate Research Director, SHARE INDIA.

Co-Investigator:

Dr. Mohammed Raheel Sayeed, Research Scientist, SHARE INDIA.

Consultant:

Dr. Lincoln P. Choudhury, Guhawati, Assam.

Funding source: Fogarty International Center - NIH.

Amount: US \$ 7500. (2017-18)

Aims: Agent based Modeling of HIV epidemic in state of Telangana , INDIA

Current status of the project: Parametering the agent had HIV model is being done.

12. HIV modelling capacity development among Indian researchers (Administrative Supplement grant of Empowering Indian health researchers with computational modelling tools)

Principal Investigator:

Dr. Jammy Guru Rajesh, Associate Research Director, SHARE INDIA.

Co-Investigator:

Dr. Mohammed Raheel Sayeed, Research Scientist, SHARE INDIA.

Consultant:

Dr. Lincoln Choudhury, Consultant.

Mentors:

Dr. Mark S. Roberts, Professor and Chair, Health Policy and Management, Director, Public Health Dynamics Lab, University of Pittsburgh, PA, USA.

Dr. John Grefenstette, Professor, Health Policy and Management, Senior Scientist, Public Health Dynamics Lab, University of Pittsburgh, PA, USA.

Funding source: Fogarty International Center - NIH.

Amount: US \$ 27,372. (2016-17)

Aims: To develop synthetic representative population & conduct agent based modelling on HIV.

Current status of the project: This NIH supplemental funding was added to support an extension of the disease modelling efforts to include modelling of HIV. To support these efforts, a synthetic representative population has been created for Telangana State to use in the modelling studies. Based on the synthetic population created, an agent based modelling with evaluation and characterization of parameters is being done to model HIV in the state.

13. Comprehensive intelligent acute respiratory infection (ARI) monitor for early detection of pneumonia

Principal Investigator:

Dr. Enakshi Ganguly, Professor, Department of Community Medicine, MIMS.

Co-Principal Investigator:

Dr. M. B. Srinivas, Professor, Electronics and Electrical Engineering Department and Dean, Administration, BITS, Hyderabad.

Co-Investigators:

Dr. Uma Ramchandran, Professor, Department of Paediatrics, MIMS.

Dr. Pawan Kumar Sharma, Professor, Department of Community Medicine, MIMS.

Funding source: ICMR.

Amount: Rs. 40 Lakhs for three years (2015 to 2018). Rs.16 Lakhs (2015-16).

Aims: To develop comprehensive intelligent acute respiratory infection monitor.

Objectives: Test the validity of a comprehensive intelligent ARI monitor to correctly record selected vital parameters among infants and under five year old children suffering with respiratory symptoms attending Paediatric outpatient department or admitted to the Paediatric ward of MIMS. Test the reliability of the cut off alarms of the comprehensive intelligent ARI monitor.

Current status of the project:

The ARI monitor device prototype was designed and operated on through two sensors- the pulse oximetry sensor and the temperature sensor to detect and provide information on four parameters namely heart rate, temperature, SpO₂ and Respiratory rate in a single reading. The sensors were connected to a microcontroller that transformed the signals into information that could be read on a tablet PC or mobile phone. An algorithm based on the Integrated Management of Neonatal and Childhood Illnesses guidelines has been developed to feed data into the monitor for decision making.

The next phase of this work is proposed to be conducted in rural areas for testing validity as well as the sensitivity and specificity in field conditions. It will also provide an opportunity to look at technical and operational problems in the field and also provide us with a measure of the utility of the device and the proposed model of early detection and referral system to reduce pneumonia deaths among under- five children. The model may also demonstrate a visible reduction in pneumonia deaths among under five children, when scaled up in rural areas.

14. Develop and test 3D printing technology to produce innovative limbs at affordable cost for the disabled in India

Principal Investigator:

Dr. Srinivasa Prakash Regalla, Professor and Head, Department of Mechanical Engineering, BITS Pilani, Hyderabad.

Co-Investigators:

Dr. Prakash N. Shrivastava, Professor Emeritus, University of Southern California, USA. Member, SHARE INDIA.

Dr. Sudheer Reddy, Orthopedics Surgeon, MIMS.

Funding source: Biotechnology Industry Research Assistance Council (BIRAC), Department of Bio Technology, Government of India.

Amount: Rs. 47.65 Lakhs for 2-1/2 years (2015 to June 2017).

Aims: Create innovative limbs at affordable cost to meet the needs of people, acknowledging their economic and health status.

Objectives: Develop and test 3D printing technology to produce innovative limbs at affordable cost for the disabled in India.

Current status of the project: The investigators manufactured 15 robust and versatile prosthetics with the support of PSPR 3D tech company at the Technology Business Incubator. 10 patients were tested on these prosthetics and, further research trials are in progress.

15. Association of brain metabolites, brain white matter hyper intensities and non-invasive retinal markers with cognition in type 2 diabetes in India - BRAIN STUDY

Principal Investigator:

Dr. Rajani Santhakumari, Associate Professor, Department of Physiology, MIMS.

Co-Investigators:

Dr. D. Shailendra, Professor, Department of Pharmacology, MIMS.

Dr. Madhavi Chevuturu, Professor of Ophthalmology, MIMS.

Consultants from India:

Dr. Suresh G., Neuroradiologist, Yashodha Hospital, Hyderabad.

Dr. G. V. S. Murthy, Director, IIPH, Hyderabad.

Consultants from USA:

Dr. Caterina Rosano, Professor of Epidemiology, GSPH, University of Pittsburgh, PA, USA.

Dr. Robert M. Boudreau, The Center for Aging and Population Health (CAPH), University of Pittsburgh, PA, USA.

Funding source: Fogarty International Center - NIH.

Amount: US \$ 257,484 (For two years). Annually US \$ 128,742.

Aims: To increase understanding of the factors associated with cognitive impairment in Type 2 diabetes (T2D), and ultimately lead to measures to prevent or reduce this risk. The study will determine whether brain white matter hyper-intensities and brain metabolites (using MRI), retinal vascular injury markers, and cognitive function differ between Asian Indians with and without T2D.

Objectives: Determine whether biomarkers of cognitive impairment differ between persons with and without T2D recruited from a population-based sample of middle-aged, rural South Indians. Measure the association between biomarkers and cognitive function (continuous) in persons with, and in persons without, T2D. Explore the interrelationships among these markers to identify the strongest predictor of cognitive function adjusting for other predictors and covariates.

Current status of the project: Earlier grant application was rejected due to some technical issues, it is being resubmitted for another grant call.

16. IndEpi: A platform for systematic integration of Indian Epidemiology datasets to enable health analytics and disease modelling (R and D proposal under the ICPS program of DST)

Principal Investigator:

Dr. Rashmi Pant, Biostatistician, SHARE INDIA.

Co-Investigator:

Dr. Saumyadipta Pyne, Scientific Director, PHD Lab, University of Pittsburgh.

Funding source: Department of Science and Technology, Ministry of Science and Technology, Government of India.

Amount: Rs. 77.29 Lakhs.

Aims: Integrate, organize and make available to the scientists and policy makers an easily usable interface, tentatively called IndEpi 1.0.

Objectives:

Data Synthesis and Integrative Modelling–

- ❖ Develop a common platform integrating public health databases (IndEpi V.1.0).
- ❖ Conduct epidemiological investigations.

Big data analytics and visualizations:

- ❖ Create population level simulations and predictions based on parameters assimilated from IndEpi 1.0.
- ❖ Generate easily interpretable, visually accessible and policy relevant evidence that may provide inputs to all stakeholders.

Pilot testing:

- ❖ Perform case studies on synthesis of IndEpi 1.0 with select independent epidemiological studies.

Current Status: Project approved and awaiting release of funds from DST.

17. Rabies study: A strategic observation and preliminary review to profile the different types of dogs and conduct knowledge, attitudes, beliefs and practices (KABP) of the dog bites in Medchal mandal of Telangana State

Principal Investigator:

Dr. Vijay V. Yeldandi, Clinical Professor of Medicine and Surgery, University of Illinois at Chicago, USA.

Co-Investigators:

- Dr. Ganesh Oruganti, Executive Director, SHARE INDIA.
- Dr. Jammy Guru Rajesh, Associate Research Director, SHARE INDIA.
- Mr P. S. Venkat Rao, Executive, SHARE INDIA.

Amount of funding: Rs. 1.50 Lakhs

Funding source: SHARE INDIA and SHARE USA.

Aims and objectives: A pilot on Rabies Profiling in Medchal Mandal was conducted by SHARE –ICHHA with an objective to observe and do a preliminary review, and profile the different types of dogs and document knowledge, attitudes, beliefs and practices (KABP) of the dog bites in Medchal Mandal of Telangana state.

Status of the project: A team of field personnel conducted a base line study in Ghanpur and surrounding villages for measuring the dog populations with Geocoding with pictorial observation with time stamp while also documenting litter / garbage. Dog bite Estimation was done based on Community Health Volunteer and residents information during the past one year. Interviews with people who has dog bite were conducted to study the knowledge, attitudes, beliefs and practices during the recent dog bite event and availability of competent first responders and post exposure prophylaxis availability in public health care facilities was mapped. It was found during the pilot that, there were 124 dog bites in the cluster of 42 villages and one dog bite related rabies death had occurred.

Results:The survey is completed, data analysis in progress. The findings are as follows:

Description	Numbers
Number of villages reached out to	42
Number of Pet dogs (vaccinated)	146
Number of Pet dogs (not vaccinated)	139
Number of stray dogs	683
Number of dog bites determined (past 12 months)	124
Number of rabies deaths (past 12 months)	1

Technical assistance to Government of India – “CDC funded Projects”

SHARE INDIA has gained substantial experience in providing TA to promote health systems strengthening by establishing a model of Private Public Partnerships for HIV prevention and treatment; Strategic Information and human capacity development through capacity building, supportive supervision and mentoring; and training on operations research. **Currently there are three, CDC cooperative agreements; (a) National Initiative to Strengthen and Coordinate HIV/TB Response (NISCHIT); (b) Laboratory Quality Systems in HIV (LaQSH); and (c) Strengthening TB Action and Response (STAR) with SHARE INDIA.**

18.a National Initiative to Strengthen and Coordinate HIV/TB Response (NISCHIT)

Principal Investigator:

Dr. Vijay V. Yeldandi, Clinical Professor of Medicine and Surgery, University of Illinois at Chicago, USA.

Co-Investigators:

Dr. Ganesh Oruganti, Executive Director, SHARE INDIA.

Dr. Ramesh Reddy Allam, Deputy Project Director, SHARE INDIA.

Funding source: US Centers for Disease Control and Prevention (CDC)

Amount: US \$ 1,000,000 (2016-17), US \$ 1,200,000 (2017-18).

Objectives: Enhance coverage and retention of People Living with HIV/AIDS (PLHIV) on treatment at ART centers. Operationalize and strengthen delivery of daily Anti Tuberculosis Treatment (ATT) services with emphasis on retention of HIV-TB co-infected PLHIV on ATT and ART. Strengthen collaboration between National AIDS Control Programme (NACP) and Revised National Tuberculosis Control Program (RNTCP) for HIV-TB case detection, treatment, care services and referrals. Institutionalize “3 Is” – Isoniazid Preventive Therapy (IPT), Intensified Case Finding (ICF) for TB and Airborne Infection Control measures at ART centres, ICTC and TI.

Current status of the project: In 2017, the NISCHIT project plans were tailored to strengthen the national response on improving the ART services to implement 'Treat all' policy in Andhra Pradesh and HIV-TB management in Andhra Pradesh and Maharashtra. To ensure that the “Treat all” strategy is fast tracked and the process implemented with quality, necessary tools and Standard Operating Procedures (SOPs) developed in consultation with SACS and CDC, which include tracking tools and algorithm for data validations, standardized motivational calling script for telephone conversations/counselling the pre-ART patients and the ART centre staffs particularly the Data Managers were oriented thoroughly by **team**. Project NISCHIT coordinated the state level review meetings of the Medical Officers and Nodal Officers of the ART centers in Andhra Pradesh. A training program for the Data Managers of all the 40 ART centres with 44 participants in AP was facilitated at Vijayawada to orient them on various aspects of data management and reporting from the ART centers. NISCHIT Project staffs in Maharashtra facilitated training for Thane district ART Centres staff on “Isoniazid Preventive Therapy”. In the recent most initiative, NISCHIT used **ECHO Platform, for tele-mentoring TB HIV co-infected case management in ART centres.**

18.b Laboratory Quality Systems in HIV (LaQSH)

Principal Investigator:

Dr. Vijay V. Yeldandi, Clinical Professor of Medicine and Surgery, University of Illinois at Chicago, USA.

Co-Investigators:

Dr. Ganesh Oruganti, Executive Director, SHARE INDIA.

Dr. Ramesh Reddy Allam, Deputy Project Director, SHARE INDIA.

Funding source: US Centers for Disease Control and Prevention (CDC)

Amount: US \$ 2,500,000 (2016-17), US \$ 1,000,000 (2017-18).

Aims: To support implementation of sustainable, evidence based quality improvement activities for laboratory services under NACP to strengthen HIV and HIV related diagnosis.

Objective: Provides Technical Assistance to NACO for implementing the quality management systems in India's National AIDS Control Programme laboratories and strengthening its laboratory testing network for HIV and related diseases.

Current status of the project: During 2017, on-site mentoring for implementation of Quality Management System (QMS) was provided. This has resulted in the accreditation of 86 referral labs by the National Accreditation Board for Testing and Calibrating Laboratories (NABL) by May 2018. Furthermore, the CDC partnership has resulted in strengthening institutional capacities at national, state, district and facility levels to sustain the QMS program for NACP laboratories.

TA in 2017-18 is focused on strengthening QMS of unaccredited HIV testing reference labs (National Reference Laboratories and State Reference Laboratories), HIV testing and counselling sites - the ICTCs and other HIV related laboratories under NACP including the Early Infant Diagnosis (EID) testing laboratories, Sexually Transmitted Disease (STI)/ Reproductive Tract Infection (RTI) laboratories, Viral Load (VL) laboratories and CD4 testing laboratories. The major thrust area was also to strengthen viral load testing under NACP by public sector scale up, public-private engagement and utilization of GeneXpert for Viral Load testing. The areas of project priority are high burden districts in the states of Andhra Pradesh (Guntur, Krishna and East Godavari), Maharashtra (Pune, Mumbai and Thane), Manipur, Mizoram and Nagaland.

18.c Strengthening TB Action and Response (STAR)

Principal Investigator:

Dr. Vijay V. Yeldandi, Clinical Professor of Medicine and Surgery, University of Illinois at Chicago, USA.

Co-Investigators:

Dr. Ganesh Oruganti, Executive Director, SHARE INDIA.

Dr. Satish Kaipilyawar, Associate Project Director, SHARE INDIA

Funding source: CDC Atlanta under the Global Health Security Agenda (GHSA)

Amount: US \$ 2,500,000 (2016-17), US \$ 700,000 (2017-18).

Aims: To build institutional capacity to improve TB laboratory quality, airborne infection control, health care worker surveillance, drug-resistant TB treatment and adherence.

Objective: Improve quality assured diagnostics for early detection, treatment, and control of Drug Resistant (DR) TB and Multi DR TB through strengthening the capacities of health care workers to detect and investigate outbreaks of DR-TB to provide targeted control measures and better understand transmission patterns.

Current status of the project: STAR is providing TA to build institutional capacity for the Ministry of Health and Family Welfare of Maharashtra and Municipal Corporation of Greater Mumbai in collaboration with Central TB Division to strengthen Airborne Infection Control(AIC) and improve drug resistant TB treatment adherence. The project activities are intended to increase coverage and quality of diagnosis, treatment and care for TB services with particular focus on DR-TB.

On the AIC, MCGM AIC Unit has completed 112 baseline assessments out of 112 health institutes in the project area, i.e. accomplished 100% of the planned project area coverage in February 2018. The efforts and contribution of Mumbai AIC team in TB control was appreciated and awarded by MCGM on the occasion of World TB day. STAR promoted and sensitised a different sectors on national airborne infection control guidelines for the nursing professionals, counsellors, treatment coordinators including sensitization of 2260 MCGM staff. STAR partnered with Tata Institute of Social Sciences to provide counselling support to 10 western wards with 17 counsellors, 3 supervisory and 3 support staff working from TISS campus. Furthermore, STAR is engaged in improving quality of CBNAAT testing Laboratories in collaboration with Central TB Division (CTD), National Tuberculosis Institute (NTI), and FIND in Mumbai and Maharashtra. Sensitization of all stakeholders, followed by training of Microbiologists in panel testing and panel preparation was done at NTI Bangalore by CDC Atlanta team in 2017. A total of 1257 samples were tested during February 2017 to February 2018 as part of STAR's public sector support for second line DST based individualized treatment partnering with RNTCP and Hinduja hospital.

SHARE INDIA and Public Health Foundation of India signs MOU

SHARE INDIA and Public Health Foundation of India have signed an MOU to collaborate on research, science and training in Health Sciences, including setting up a Centre for Infectious Disease Epidemiology and Research at Hyderabad within the MIMS campus.

List of Research Grants Applied / Planned

Grants Applied

Sl no	Grant details	Funding source	Funding amount	Application status	Status
1	FIND grant for PPP partner	FIND	1.2 million USD	Applied for Telangana state	Under review
2	Management of Technical Support Units in eight states	NACO	\$ 38,91022	Applied with PHFI	Under review
3	HIV services for Key Populations affected by HIV/AIDS	USAID	\$20,000,000	Applied with PHFI	Under review
4	DHR training grant for Health Technology Assessment	DHR	INR 5,00,000	Applied	Under review
5	Phage therapy and AMR One -Health embodied interventions	BIRAC/BMGF	\$100,000	Applied ICHHA and PHFI	Under review
6	Selection of an implementation agency having expertise in patient management across the continuum of care, i.e. notifications, treatment and adherence along with close monitoring and reporting of stock and patient information	GFATM	\$10,48,900	Applied	Under review
7	An Atypical Mycobacterium Registry for Surveillance and Treatment in South India	Chest foundation USA	\$30,000	Applied with GYD	Under review
8	Hospital Borne Infection Control	PEPFAR Humanitarian Emergencies, USA		Applied with PHFI, Rollins school of Public health	Under review

Grants Planned

Sl No	Grant details	Funding agency	Funding amount	Planning status
1	Brain grant	NIH	\$250,000	Application in process with University of Pittsburgh and LV Prasad Eye Institute
2	ICMR - NIH HIV research grants	NIH/ICMR	\$250,000	Applying with University of Chicago
3	ICMR - NIH HIV research grants	NIH/ICMR	\$250,000	Applying with University of Pittsburgh
4	R21 on m Health	NIH	\$250,000	Applying with UPMC
5	R21 on HIV stigma and discrimination	NIH	\$250,000	Applying with university of Pittsburgh
6	Standardization of Molecular Diagnosis of Leprosy for surveillance study			In prepration
7	Effectiveness of field deployment of Truenat test for diagnosis of tuberculosis and HIV Viral Load: an implementation study in North East India			In prepration
8	Introduction to Patient Safety and Hospital Borne Infection prevention updates directed towards Infection Prevention Practitioners working in Health Care Facilities in Hyderabad and Mizoram			In prepration
9	TB Call for Proposal to fight tuberculosis and its drug resistant strains	UNITAID		In prepration

Seminars, conferences, workshops and trainings conducted

Public Health Dynamics Workshop (PHD 2018)

Public Health Dynamics Workshop (PHD 2018) held at ICMR Headquarters, Ansari Nagar, New Delhi, India from March 5-7, 2018 hosted by the Indian Council of Medical Research (ICMR) in partnership with the Public Health Dynamics Laboratory (PHDL) at the University of Pittsburgh Graduate School of Public Health, and SHARE INDIA with the support of U.S. Fogarty International Center eCapacity educational grant.



The workshop with the 74 registered participants enhanced skills on building disease modelling capabilities in India. This hands-on workshop focused on use of FRED (A Framework for Reconstructing Epidemiological Dynamics), an agent-based modelling program developed at the PHDL.

Other types of disease modelling programs were also discussed including disease clustering, data standardization, access and integration for epidemic modelling, and spatial microsimulation.

Participants learned how to develop modelling assumptions, assemble disease characteristics, parameterize models, develop synthetic populations, run models, and explored ways to apply the results. In addition to FRED, an Indian synthetic population, which was developed by Indian experts affiliated with the eCapacity program, were available during the workshop to provide hands-on the tools.

International Symposium of Health Analytics and Disease Modelling (HADM 2018)

The International Symposium on Health Analytics and Disease Modelling (HADM 2018) is the fourth in a series of such events organized by the Public Health Dynamics Laboratory (PHDL) of the University of Pittsburgh in partnership with different institutions in India. HADM 2018 was jointly organized by PHDL, the Indian Council of Medical Research - National Institute of Medical Statistics (ICMR-NIMS), and SHARE INDIA during March 8-9, 2018, at the National Academy of Medical Sciences auditorium in New Delhi, India.



University of Pittsburgh
Graduate School of Public Health



SHARE INDIA, Co Partner



Indian Council of Medical Research
National Institute of Medical Statistics

International Symposium on Health Analytics and Disease Modeling 2018



Symposium was inaugurated by Dr. P. S Reddy, Chairman, SHARE INDIA, along with Dr. Mark Roberts, University of Pittsburgh, USA, Dr. M. Vishnu Rao, Director ICMR-NIMS. HADM 2018 provided attendees with practical information on recent developments involving emerging models and databases, as well as computational strategies to develop solutions that can effectively translate public health data to policy in rapidly evolving populations.

Eminent speakers from the United States, United Kingdom, France, Vietnam and India such as Wilbert Van Panhuis, UoP, USA; Carmen Molina Paris, UoL, UK; Saumyadipta Pyne, UoP, USA; Kaja Abbas, LSH&TM, UK; Hukum Chandra, ICAR, IASRI, India; H.K. Chaturvedi, ICMR-NIMS, India; Marc Choisy, NIH&E, Vietnam; Nirmal Kumar Ganguly, THS&TI, India; Daphne Lopez, VIT, Vellore, India; Martin Lopez-Garcia, UoL, UK; Abhaya Indrayan, DUCMS, India; Manoj Murhekar, NIE, India; R.M. Pandey, AIIMS, India; Arvind Pandey, ICMR-NIMS, India; P.S. Reddy, SHARE INDIA; M. Vishnu Rao, ICMR-NIMS, India; Harpreet Singh, ICMR-NIMS, India; D.K. Shukla, ICMR-NIMS, India; Olivier Telle, Centre for Policy Research, India presented their research on topics covering infectious and non-communicable disease models, immune system modelling, and vaccine and surveillance data analytics, among others.

Satellite session on computational Modelling for Health and 7th Annual Research Methodology Course

The Satellite session on computational Modeling for Health and seventh annual research methodology course was conducted by SHARE INDIA – MediCiti Institute of Medical Sciences from March 12-15, 2018 at Hyderabad. The participants for the course were faculty, postgraduate and undergraduate medical students' from MediCiti Institute of Medical Sciences (MIMS) and the trainers were faculty from MIMS trained under the Fogarty International center capacity building grant awarded to University of Pittsburgh-SHARE INDIA for a period of five years from 2012-2016.



Like its previous versions, the objective of the course was to build research capacity among faculty and medical students at MIMS. This year's research course was unique from the previous versions in at least a couple of ways. Firstly, there were stimulating talks by experts on health analytics and disease modelling to showcase the tremendous potential of disease modelling in predicting and preventing epidemic outbreaks from reaching catastrophic proportions. Further, a fascinating talk on the future of healthcare in the information age crisply illustrated the potential of technological innovation in facilitating healthcare delivery at the doorsteps of beneficiaries and; the creation of robust longitudinal electronic health record of each individual as a prelude to establishing personalized medicine in the future.

In all, 72 participants including faculty actively participated in the four day course conducted in a hybrid mode integrating interactive lectures in the morning session with small group teaching in the afternoon session.

The participants were divided into four groups for the small group interactive sessions that were conducted in a workshop mode under close supervision and guidance of a faculty mentor.

Over the first three days, each group framed a research question and developed a research concept note incorporating the following elements: a research question, brief background, literature review, materials and methods, dummy tables for data tabulation, data analysis plan, an informed consent form and a brief statement on expected outcomes. The research methods course ended on a high note with each of the four groups enthusiastically presenting their well-designed research proposals to the larger group comprising the faculty and the peer group for critical evaluation and suggestions on the final day. The participants expressed keen interest to translate the concept note into a research study in the days to come. The four day research course was supported in part by funding from an NIH (USA) grant.

First Annual Research Day by MIMS and SHARE INDIA

MIMS-SHARE INDIA conducted the first Annual Research Day at its campus on November 16, 2017. The Research day was inaugurated and chaired by eminent personalities to celebrate intellectual curiosity across disciplines, bringing students and faculty out of their classrooms and laboratories to share their work and learn about the breadth of scholarly endeavours taking place beyond their own areas of study. The Research Day showcased cutting-edge research and innovative research approaches of MIMS and SHARE INDIA. The event provided platform and an excellent opportunity for local researchers and scientists to connect, enhancing collaboration and communication with basic and clinical researchers. It served as a catalyst for the exchange of ideas that forge new collaborations and partnerships across disciplinary boundaries.



It was inaugurated and graced by Dr. B. Karunakar Reddy, Vice Chancellor, Kaloji Narayana Rao University of Health Sciences; Dr. Mark A. Nordenberg, Emeritus Chancellor, University of Pittsburgh; Dr. Harvey Borovetz, Professor of Bioengineering, University of Pittsburgh; Dr. Clareann H. Bunker, Emerita, Associate Professor of Epidemiology, University of Pittsburgh; Dr. Sanjeev Shroff, Chair Bioengineering, University of Pittsburgh; along with other dignitaries, Dr. Prakash Shrivastava, Emeritus Professor, USCLA, Dr. B. Somaraju, Managing Director, CARE Hospitals and Dr. A.G.K. Gokhale, Cardio-Thoracic Surgeon, Apollo Hospitals, Hyderabad.

Viral Load testing for People Living with HIV/AIDS (PLHIV)

On February 26, 2018, Shri J P Nadda, Union Health Minister launched Viral Load testing for all People Living with HIV/AIDS (PLHIV), by unveiling the National Guidelines for HIV-1 Viral Load

Laboratory Testing, Standard Operating Procedure for HIV-1 Quant Assay with CBNAAT and Guidelines on Quality Monitoring System for Outsourced Viral Load Tests developed by SHARE INDIA Project LaQSH under the United States, Centers for Disease Control and Prevention funding. Viral Load testing will empower medical officers at ART to detect failure on first line treatment early and therefore save PLHIV from developing resistance to drugs. It will also help in strengthening 'Mission Sampark' in tracking LFU (Loss to Follow Up) PLHIV. Speaking at the occasion, Principal Investigator of Project



NISCHIT and LaQSH Dr. Vijay Yeldandi said SHARE is committed to achieving the global 90-90-90 target by 2020 and it will always increase the quality of the service delivered to the PLHIV.

Hands-Only CPR (Cardiopulmonary Resuscitation) Reduces Mortality due to Sudden Cardiac Arrest

In India, 4280 out of 100,000 people die yearly of sudden cardiac arrest. Immediate, high-quality, hands-only CPR can be life-saving. In October 2017, University of Illinois at Chicago and the Indian American Medical Association, Illinois chapter, collaborated with SHARE India to deliver a hands-only CPR training to villagers in Medchal Mandal. The latest guidelines of the American Heart Association were followed.

This was the second leg of a pilot program to teach basic knowledge and skills of hands-only CPR and evaluate attitudes and knowledge about CPR. Villagers viewed a Telugu PowerPoint with Telugu audio, to accommodate varying levels of literacy. Facilitators then demonstrated hands-only CPR on manikins and led CPR practice sessions. Pre- and post-test data were collected.



The program was delivered to students at CMR College in Kandlakoya, employees of Nuziveedu Seeds factory, and HIV positive individuals residing at the John Foundation. Participants provided positive feedback, and more training sessions are being planned.

Global health / International exchange program

The SHARE INDIA exchange program aimed to promote cultural understanding and cooperation among medical students and other health professionals, and increase awareness of the discrepancies between health systems around the globe. SHARE INDIA undertakes exchange program to enhance opportunities for global education and training for current and future medical workforce in India.

List of students who attended the clerkship in the University of Pittsburgh (UOP) and University of Kentucky (UOK) under the Global health / International exchange program (2017-18)

S.No	Name of the Student	University visited	Year of visit
1	Nida Farokh Ladiwala	University of Pittsburgh, PA, USA	2017
2	Habeeba Mohammed Sabir Ali	University of Pittsburgh, PA, USA	2017
3	K. Sanjana Reddy	University of Pittsburgh, PA, USA	2017
4	Sanjana Thota	University of Kentucky, USA	2017
5	Vidyadhari Karne	University of Pittsburgh, PA, USA	2018
6	Kodimala Shiva Charana	University of Pittsburgh, PA, USA	2018
7	Keerthi Kulkarni	University of Pittsburgh, PA, USA	2018

International faculty visits to SHARE INDIA – MIMS in 2017-2018

S. No.	Name of the Faculty	Designation / Purpose of visit	Name of the Institute / University
1	Dr. Mark A. Nordenberg	Emeritus Chancellor,	University of Pittsburgh, Pittsburgh , PA, USA
2	Prof. Clareann H. Bunker	Associate Professor Emerita of Epidemiology / Imparting (Fogarty) Training, Telangana and HIV -NCD Meeting.	GSPH, University of Pittsburgh, Pittsburgh , PA, USA
3	Dr. Prakash N. Shrivastava	Professor Emeritus/ Review of Prosthetics Project.	University of Southern California, Los Angeles, California.
4	Dr. Harvery Borovetz	Professor of Bioengineering / Artificial Heart Program	University of Pittsburgh, Pittsburgh , PA, USA
5	Dr. Sanjeev Shroff	Chair Bioengineering / Artificial Heart Program	University of Pittsburgh, Pittsburgh , PA, USA
6	Dr. James Antaki	Professor of Bioengineering / Artificial Heart Program	Carnegie Mellon University, Pittsburgh, PA, USA
7	Dr. James Long	Cardiothoracic Surgeon & Director / Artificial Heart Program	Integris Nazih Zuhdi Transplant Institute, INTEGRIS Baptist Medical Center, Oklahoma City, OK, USA.
8	Dr. Ranjita Mishra	Professor and Director, Public Health Training Center / Data Analysis	West Virginia University, Morgantown, WV, USA.
9	Mr. Hitendra Ghosh	Founder / Future Collaborations	Wheels Global Foundations
10	Dr. Caterina Rosano	Professor of Epidemiology / Collaborations	GSPH, University of Pittsburgh, Pittsburgh , PA, USA

Students visited SHARE INDIA – MIMS

S. No.	Name of the Student	Purpose of Visit	Parent Educational Institute
1	Dr. Radhika Chimata	CPR Training Project in Medchal mandal villages	Rush University Medical Center, Chicago, Illinois, USA

National & International Investigators



Dr. Ajay V. S.
CCCC, PHFI, New Delhi.



Dr. Ambuj Roy
Department of Cardiology,
AIIMS, New Delhi.



Dr. Aparna Varma,
Professor and Head,
Department of Biochemistry,
MIMS.



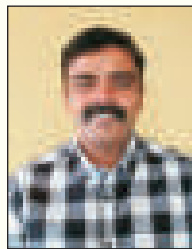
Dr. Enakshi Ganguly
Professor,
Department of Community Medicine,
MIMS.



Dr. Ganesh Oruganti
Executive Director,
SHARE INDIA.



Dr. B. S. Garg
Director and Professor of
Community Medicine,
Mahatma Gandhi Institute of
Medical Sciences, Sewagram.



Dr. Jammy Guru Rajesh,
Ph.D Scholar, University of Pittsburgh,
Associate Research Director,
SHARE INDIA



Dr. Kalpana Betha,
Professor and Head,
Department of Obstetrics and
Gynecology, MIMS



Dr. Kusneniwar Govindrao N.,
Professor and Head,
Department of Community Medicine,
MIMS.



Dr. P. Lakshmi Sailaja
Assistant Professor,
Department of Obstetrics and Gynecology,
MIMS.



Dr. Madhavi Chevuturu
Professor,
Department of Ophthalmology,
MIMS.



Dr. Mohammed Raheel Sayeed
Fellowship at Harvard University,
Research Scientist, SHARE INDIA.



Dr. G. V. S. Murthy
Director,
IIPH, Hyderabad.



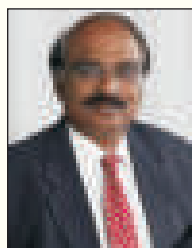
Dr. Padma Yalamati
Professor,
Department of Biochemistry,
MIMS.



Dr. Pawan Kumar Sharma
Professor,
Department of Community Medicine,
MIMS.



Dr. Poornima Prabhakaran
Centre for Control of
Chronic Conditions,
PHFI, New Delhi.



Dr. D. Prabhakaran
Vice President
(Research and Policy),
PHFI, New Delhi.



Dr. Rajani Santhakumari
Associate Professor,
Department of Physiology, MIMS.



Dr. Ramesh Reddy Allam
Deputy Project Director,
SHARE INDIA.



Dr. Rashmi Pant
Biostatistician,
SHARE INDIA.



Dr. Sailesh Mohan
Centre for Control of
Chronic Conditions,
PHFI, New Delhi.



Dr. Satish Kaipilyawar
Associate Project Director,
SHARE INDIA.



Dr. D. Shailendra
Professor,
Department of Pharmacology,
MIMS.

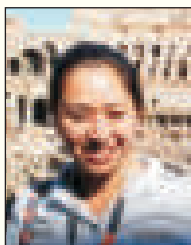


Dr. Srinivasa Prakash Regalla
Professor and Head,
Department of Mechanical Engineering,
BITS Pilani, Hyderabad.



Dr. K. Vijayaraghavan
Director Research, SHARE INDIA

National & International Investigators



Dr. Abha Shrestha
Department of Obstetrics and Gynaecology, Kathmandu University of Medical Sciences, Nepal.



Dr. Anne Newman
Professor and Chair, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.



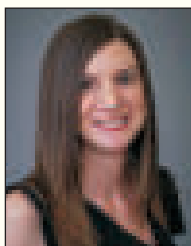
Dr. Biraj Karmacharya
Professor programs, Kathmandu University of Medical Sciences, Nepal.



Dr. Brandie N. Taylor
Associate Professor, School of Public Health, The Texas A&M University System, Texas, USA.



Dr. Caterina Rosano
Professor, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA



Dr. Catherine L. Haggerty
Associate Professor, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.



Dr. Clara Calvert
Associate Professor, The London School of Hygiene and Tropical Medicine, UK



Dr. Clareann H. Bunker
Associate Professor Emerita, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.



Dr. Donald S. Burke
Dean, GSPH and Associate Vice Chancellor for Global Health, Health Sciences, University of Pittsburgh, PA, USA.



Dr. Jane Cauley
Distinguished Professor, Department of Epidemiology and Associate Dean, Research, GSPH, University of Pittsburgh, PA, USA.



Dr. John Cairns
Professor of Economics, The London School of Hygiene and Tropical Medicine, UK



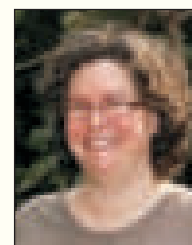
Dr. John Grefenstette
Professor, Health Policy and Management, Senior Scientist, Public Health Dynamics Lab, University of Pittsburgh, USA



Dr. Joseph M Zmuda
Associate Professor, Epidemiology, GSPH, University of Pittsburgh, PA, USA.



Dr. Mark S Roberts,
Professor and Chair, Health Policy and Management, Director, Public Health Dynamics Lab, University of Pittsburgh, USA



Dr. Oona Campbell
Professor, Epidemiology, The London School of Hygiene and Tropical Medicine, UK.



Dr. Pablo Perel
Associate Professor, Cardiology and Epidemiologist, The London School of Hygiene and Tropical Medicine, UK



Dr. Prakash N. Shrivastava
Professor Emeritus, University of Southern California, USA. Member, SHARE INDIA.



Dr. Robert M. Boudreau
The Center for Aging and Population Health (CAPH), University of Pittsburgh, PA, USA.



Dr. Sandosh Padmanabhan
Department of Medicine, University of Glasgow, UK.



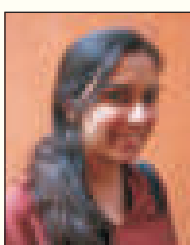
Dr. Saumyadipta Pyne,
Scientific Director, PHD, University of Pittsburgh.



Dr. Sonia Anand
Professor, Department of Medicine, McMaster University, Canada.



Dr. M. B. Srinivas
Professor, Electronics and Electrical Engineering Department and Dean, Administration, BITS, Hyderabad.



Dr. Supriya Kumar
Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA.



Dr. Suresh G.
Neuroradiologist, Yashodha Hospital, Hyderabad.



Dr. Tushar Singh
Geriatrics, Clinical Trials, Epidemiology, CDC, Atlanta, USA.

SHARE INDIA Publications

On several occasions, SHARE INDIA's technical assistance to the government and research programs were able to have an impact beyond its activities. It reached populations or pioneered technologically advanced health Program practices in ways that have far-reaching and lasting consequences like REACH. Over the years SHARE INDIA has increased the percentage of its paper submissions and acceptance rate overall. Medical papers published in international and national accredited journals of repute which are peer reviewed and acclaimed academically are listed below.

2005

1. Sowjanya AP, Jain M, Poli UR, Padma S, Das M, Shah KV, Rao BN, Devi RR, Gravitt PE, Ramakrishna G. **Prevalence and Distribution of High-Risk Human Papillomavirus (HPV) Types In Invasive Squamous Cell Carcinoma of the Cervix and in Normal Women in Andhra Pradesh, India.** BMC Infect Dis. 2005; 5:116.

2007

2. J. A. Schneider, G. S. Saluja, G. Oruganti, S. Dass, J. Tolentino, E. O. Laumann, V. Yeldandi, D. Pitrak. **HIV Infection Dynamics In Rural Andhra Pradesh South India: A Sexual-Network Analysis Exploratory Study.** AIDS Care, October, 2007, 19:9, 1171 – 1176

2008

3. J A Schneider, A Dude, M Dinaker, V Kumar, E O Laumann, A Holloway-Beth, G Oruganti, G S Saluja, V Chundi, V Yeldandi, K H Mayer. **General Hygiene, Sexual Risk Behaviour and HIV Prevalence In Truck Drivers from Andhra Pradesh, South India: Implications For Prevention Interventions.** International Journal of STD & AIDS 2008, Volume-20; 00: 1–7.
4. SudhaSivaram, Gurcharan Singh Saluja, Manik Das, P. Sudhakar Reddy and Vijay Yeldandi. **Reasons for Seeking HIV-test: Evidence from a Private Hospital in Rural Andhra Pradesh, India.** J HEALTH POPUL NUTR Dec-2008; Volume 26(4): 431-441 ISSN 1606-0997.

2009

5. J A Schneider MD MPH, A Dude PhD, M Dinaker MD, V Kumar MBBS, E O Laumann PhD, A Holloway-Beth MS, G Oruganti MD, G S Saluja MBBS, V Chundi MD, V Yeldandi MD, and K H Mayer MD. **General Hygiene, Sexual Risk Behaviour And HIV Prevalence In Truck Drivers From Andhra Pradesh, South India: Implications For Prevention Interventions.** International Journal of STD & AIDS Volume 20(1) January 2009, 39-45, PMID: 19103892.
6. Tatineni A., Vijayaraghavan K., Reddy P.S., Narendranath B, and Reddy R.P., **Health Metrics Improve Childhood Immunization Coverage in A Rural Population of Andhra Pradesh.** Indian Journal of Public Health, 2009, 53:41;43.
7. Annie Dude, Ganesh Oruganti, Vinod Kumar, Kenneth H. Mayer, Vijay Yeldandi, John A. Schneider. **HIV Infection, Genital Symptoms and Sexual Risk Behaviour among Indian Truck Drivers from a Large Transportation Company in South India.** Journal of Global Infectious Diseases, January – June, 2009 / Vol-1 / Issue-1 Doi:10.4103/0974-777X.52977.
8. Sowjanya AP, Paul P, Vedantham H, Ramakrishna G, Vidyadhari D, Vijayaraghavan K, Lakshmi S, Sudula M., Ronnett BM, Das M., Shah KV, Gravitt PE for the Community Access to Cervical Health Study Group. **Suitability of Self-Collected Vaginal Samples for Cervical Cancer Screening in Peri urban Villages in Andhra Pradesh, India.** Cancer Epidemiol Biomarkers Prev. 2009;18(5):1373-8.

2010

9. Piyathilake CJ, Badiga S, Paul P, Vijayaraghavan K, Vedantham H, Sudula M., Sowjanya P, Ramakrishna G, Shah KV, Partridge EE, Gravitt PE. **Indian Women with Higher Serum**

Concentrations of Folate and Vitamin-B₁₂ are Significantly less likely to be Infected with Carcinogenic or High Risk (HR) Types of Human Papillomaviruses (HPVs). International J Women's Health 2010: 2:7-12.

10. Vedantham H, Silver MI, Kalpana B, Rekha C, Karuna BP, Vidyadhari K, Mrudula S, Ronnett BM, Vijayaraghavan K, Ramakrishna G, Sowjanya P, Laxmi S, Shah KV, Gravitt PE; CATCH Study Team. **Determinants of VIA (Visual Inspection of the Cervix after Acetic Acid Application) Positivity in Cervical Cancer Screening of Women in a Peri-Urban Area in Andhra Pradesh, India.** Cancer Epidemiol Biomarkers Prev. 2010; 19(5): 1373-80.
11. John A. Schneider, RakhiDandona, ShravaniPasupneti, Vemu Lakshmi, Chuanhong Liao, Vijay Yeldandi, Kenneth H. Mayer. **Initial Commitment to Pre-Exposure Prophylaxis and Circumcision for HIV Prevention amongst Indian Truck Drivers.** PLoS ONE 2010 Jul 30; 5(7): e11922. PMC 20689602.
12. Gravitt PE, Paul P, Katki H, Vedantham H, Ramakrishna G, Sudula M, Kalpana B, Ronnett BM, Vijayaraghavan K, Shah KV. **Effectiveness of VIA, Pap and HPV DNA Testing in a Cervical Cancer Screening Program in a Peri urban Community in Andhra Pradesh, India.** PLoS ONE, 6-11-2010; 10-PONE-RA-19715.

2011

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Posters Presented in International and National Conferences 2017-18

1. Gondwe T, Betha K, Kusneniwar GN, Bunker CH, Tang G, Simhan H, Haggerty CL. **Cesarean section delivery and short-term adverse infant health outcomes in a peri-urban Indian population.** American College of Epidemiology Annual Meeting, New Orleans, Louisiana 2017.
2. Gondwe T, Betha K, Kusneniwar GN, Bunker CH, Tang G, Simhan H, Haggerty CL. **Cesarean section delivery and child mortality in India.** American College of Epidemiology Annual Meeting, New Orleans, Louisiana 2017.
3. Gondwe T, Betha K, Kusneniwar GN, Reddy PS, Bunker C, Tang G, Simhan H, Haggerty CL. **Factors Associated with Mode of Delivery in an Indian Population.** 30th Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER), Seattle, Washington 2017.
4. Gondwe T, Betha K, Kusneniwar GN, Reddy PS, Bunker C, Tang G, Simhan H, Haggerty CL. **Factors Associated with Mode of Delivery in an Indian Population.** 30th Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER), Seattle, Washington 2017.
5. Jammy GR, Boudreau RM, Tushar Singh, Kristine E Ensrud, Joseph M Zmuda, Anne B Newman, Jane A Cauley. **Comparison of calf skeletal muscle composition among rural south Indian, US Caucasian and Afro-Caribbean older men.** Annual meeting 2017 of American Society of Bone and Mineral Research, 8-11 September 2017, Denver, Colorado, USA.
6. Samrat Banerjee, Dr. Jayesh Dale, Dr. Shikha Dhawan, Dr. Ramesh Reddy Allam, Dr. Ganesh Oruganti, Dr. Vijay Yeldandi. **Implementation of Quality Management System in HIV testing laboratories under National AIDS Control Organization in Kolkata translating to better health outcomes for PLHIV (2017).** Poster presentation in 3rd International Conference on Translational Research, Kolkata 22-25 September 2017.
7. Dr Padma Y, **Early pregnancy biomarkers and blood pressure in predicting hypertensive disorders of pregnancy- A cohort study (HEALTHY Pregnancy (HELP) Study) in rural Indian pregnant women.** 25th Annual conference of Association of medical biochemists of India conference, November 17th -19th 2017, Mysuru.
8. Dr. Anil Puppla, Dr. R. Basanth. **Considerations for introducing Pulsatility in continuous flow VAD's by modulation of motor speed by using fuzzy logic"** in IEEE International Conference held at Osmania University from 11-18 April, 2018. This paper was judged as the best paper in Bio-medical Engineering track.
9. Betha K, Kusneniwar GN, Ness RB, Taylor BD, Tang G, Reddy PS, Haggerty CL. **Elevated preconception lipids increase the risk of preterm birth.** Submitted for presentation at the 31st Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER), Baltimore, Maryland 2018.



Luharuka & Associates
Chartered Accountants

Membership Number of
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Telangana, India

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AUDITOR'S REPORT

To the Members,
SHARE INDIA

We have audited the attached Balance Sheet of **M/S. SHARE INDIA** as at **31st March, 2017** and the Income and Expenditure Account for the year ended **31st March, 2017** on that date annexed thereto which are in agreement with the Books of Accounts maintained by the Society. These Financial Statements are the responsibility of the management of the Society. Our responsibility is to express an opinion on the Financial Statements based on our Audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the Financial Statements are free of material misstatements. An audit includes examining on a test basis, evidence supporting the amounts and disclosures in the Financial Statements. An audit also includes assessing the Accounting principles, used and significant estimates made by Management as well as evaluating the reasonable basis for our opinion and report that.

We have obtained all information and explanations which to the best of our knowledge and belief were necessary for the purpose of the audit.

In our opinion proper books of Accounts have been kept by the society so far as appears from our examination of the books.

In our opinion and to the best of our information and according to explanation given to us the said accounts read with notes gives a true and fair view.

- i) In the case of Balance Sheet of the State of Affairs of the above named society as at **31-03-2017**
- and
- ii) In the case of the Income and Expenditure Account of the **EXCESS OF EXPENDITURE OVER INCOME** for the year ended **31st March, 2017**.

Place:- Secunderabad

Date:- 31-07-2017



For LUHARUKA & ASSOCIATES
CHARTERED ACCOUNTANTS
(FRN:- 1882S)



(CA RAMESH CHAND JAIN)
(PARTNER) (M NO. 023019)

SHARE INDIA

MediCiti Buildings, Ghanpur Village, Medchal Mandal, Medchal District
BALANCE SHEET AS AT 31st March, 2017

	SCH.NO		As At 31.03.17 Amount (Rs)		As At 31.03.16 Amount (Rs)
Source of Funds					
Capital Fund	1		12619325		17555073
Total			12619325		17555073
Application of Funds					
Fixed Assets	2				
Gross Block		26731631		22826669	
Less: Depreciation		15872720		15104261	
Net Block			10858911		7722408
Capital work in progress					411294
Current Assets:					
Cash and Bank Balances	3	32657294		27047247	
Loans and Advances	4	2641859		1611892	
Other Current assets	5	447253		323471	
		35746406		28982610	
Less:					
Current Liabilities' and Provisions	6	33985992		19561239	
Net Current Asset			1760414		9421371
Total			12619325		17555073

For LUHARUKA & ASSOCIATES
CHARTERED ACCOUNTANTS
FRN 01882S

For SHARE INDIA

sd/-
(RAMESHCHAND JAIN)
PARTNER
M No.023019

sd/-
(Dr.V.MALAKONDA REDDY)
SECRETARY

Place : Hyderabad
Date: 31st July,2017

SHARE INDIA

MediCiti Buildings, Ghanpur Village, Medchal Mandal, Medchal District
Income and Expenditure Account for the year ended 31st March, 2017

	SCH.NO	31.03.17	31.03.16
		Amount (Rs)	Amount (Rs)
<u>INCOME:</u>			
Donations		8829435	7598085
Grants		147362111	100366616
Other Income	7	1288876	1094176
Total		157480422	109058877
<u>EXPENDITURE:</u>			
Personnel Expenses	8	51496970	33201311
Power & fuel	9	575523	305966
Program expenses	10	97244476	67457763
Other Expenses	11	10091734	6346871
Total		159408703	107311911
Excess of Income over Expenditure before Depreciation		-1928281	1746966
Less: Depreciation		3007467	3152498
Excess of expenditure over Income Trf to Capital Account		4935748	1405532

NOTES TO ACCOUNTS

12

As Per our report of even date attached

For LUHARUKA & ASSOCIATES
CHARTERED ACCOUNTANTS
FRN 01882S

For SHARE INDIA

sd/-
(RAMESHCHAND JAIN)
PARTNER
M No.023019

sd/-
(Dr.V.MALAKONDA REDDY)
SECRETARY

Place : Hyderabad
Date: 31st July,2017



MediCiti Institute of Medical Sciences



MediCiti Hospital



SHARE INDIA

Society for Health Allied Research and Education India
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