SHARE INDIA

Society for Health Allied Research and Education India

ANNUAL REPORT 2020-21

SHARE INDIA Office of Research at MediCiti Institute of Medical Sciences (MIMS) Campus

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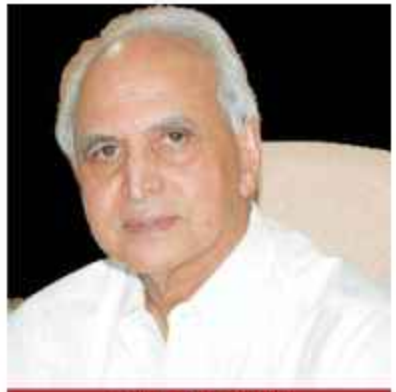
Contents

Message from our Chairman



Dr. P.S. Reddy

The year 2020-21 will be remembered globally as the era of the COVID-19 pandemic. It forced us to suspend our long-term field-based research activities. But, in every crisis there is an opportunity. This crisis gave us an opportunity to receive new research grants and conduct new studies and strengthen our capabilities to work digitally and online. During this challenging period, we have conducted a Phase III clinical trial for TB vaccines, sero-surveillance for COVID-19 and re-purposed our technical assistance projects to the Government of India for TB and HIV to provide a continuum of care during the pandemic.

The Indo-American Artificial Heart project is being delayed but our preclinical GLP animal laboratory (Palamur Biosciences, Mahabubnagar, Telangana) is being developed in an innovative way with remote online guidance from international experts. This capacity to test new Cardiac Assistive Devices in sheep model to meet international standards is crucial to developing an indigenous device. This endeavour is under the guidance of Dr. James Long, Dr. James Antaki, University of Pittsburgh, and AIG teams. We plan to test a prototype Blood Pump and Oxygenator developed by enmodes, Germany in the month of May-June, but it may be delayed due to the COVID-19 resurgence in India.

SHARE (USA) takes pride in its efforts to promote and support MIMS faculty and students with unique capabilities to achieve their full potential. Dr. Guru Rajesh Jammy, Asst. Professor at MIMS was supported to get his PhD in Epidemiology from the University of Pittsburgh. Dr. Raheel Sayeed, MIMS Alumni with unique capabilities in computing was funded to be a fellow in "Computational Health Informatics Program" at Harvard Medical School (HMS) and Boston Children's Hospital under the leadership of Dr. Kenneth Mandl, Professor of Paediatrics and Biomedical Informatics at HMS. After completion of one-year fellowship he has been appointed as Chief Fellow in the program. Dr. Vidyadhari Karne, alumnus of MIMS got an appointment as a Research Postdoctoral Fellow at the Johns Hopkins University School of Medicine. SHARE (USA) gladly agreed to support her financially. Mr. Rugveda Thanneeru has been our lead scientist to develop a Blood Pump for our Artificial Heart project. His application for PhD in Bioengineering at University of Pittsburgh is being processed. SHARE INDIA and MIMS are strongly committed, as ever, to nurture creative minds of our faculty and students to grow and bear fruits.

In our long career, we have been fortunate not to have had any significant failures. This year, we courageously report that we failed to conduct the TB Vaccines study to our usual high standards. There are multiple causes and excuses for it; but primarily it happened due to overconfidence and overenthusiasm in accepting a study with too high targets, too little time, too few resources and too little planning in the COVID-19 era. Once the leadership of the organization realised the steepness of the uphill task, it spared no efforts including management, men and money to reach our goal. Despite heavy costs to the organization, it pursued the goal with zeal. I hope the funding organizations would appreciate our commitment to do our best even in most difficult circumstances. We have learnt our lesson. Our enthusiasm should be always tempered with hard realities and pragmatism. We beg for studies, but we should be bold to say "No" when a study is offered to us and if we are not sure of our ability to successfully conduct the study within available time, resources and constraints. We learn every day and at every turn.

Nevertheless, with newfound strength and determination we tread ahead to foster, accomplish and nourish research culture in our Medical College. The ensuing pages provide a glimpse of the year that was.

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 non-resident Indian (NRIs) dreams into reality.

Along with CDC funded, technical assistance projects to the government, a variety of community welfare projects like REACH, LIFE, TETRA, HELP, CSSI are completely funded by generous donors. SHARE INDIA through its endeavours have 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 cancer.

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

Vision and Mission

- To provide quality and advanced medical care at lowest possible cost
- To develop a working model of Healthcare Delivery System for rural population
- To promote undergraduate, graduate, postgraduate and Continuing Medical Education
- And above all to promote Research

Philosophy of SHARE INDIA

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.

Governing Council, SHARE INDIA

Dr. P. Sudhakar Reddy	-	**Chairman**
Mr. M. K. Agrawal	-	**Vice Chairman and Treasurer**
Dr. V. Malakonda Reddy	-	**Secretary**
Dr. Madhu K. Mohan	-	**Secretary General**
Dr. A Gopal Kishen	-	**Member**
Dr. Prakash N Shrivastava	-	**Member**
Mr. Chada Ramesh Reddy	-	**Member**
Dr. P. Naveen Chander Reddy	-	**Member**

Executive Team, SHARE INDIA

Dr. Vijay V. Yeldandi	-	Head Infectious Diseases and Public Health
Dr. Guru Rajesh Jammy	-	Director Research, Project Director: NISCHIT, NISCHIT Plus, STAR and BOLSTER
Dr. Shikha Dhawan	-	Director Programs
Dr. Satish Kaipilyawar	-	Associate Project Director
Dr. Anita Singh	-	Associate Project Director
Dr. B. Ravi Kumar	-	Associate Project Director
Mr. Nitin C. Desai	-	Administrator, Projects
Mr. N. Lakshminarasimhan	-	Senior Manager, Finance and Accounts
Ms. Revina Suhasini Samuel	-	Senior Manager, Human Resource and Administration
Mr. Purushotham Reddy R.	-	Head, Information Technology and Data Manager

Scientific Research Advisory Members, SHARE INDIA

1. **Dr. B. M. Gandhi:** Chief Executive Officer, Neo Biomed Services, 100, Vansanth Enclave, New Delhi
2. **Prof. Seyed E. Hasnain:** Vice Chancellor, Jamia Hamdard University, Hamdard Nagar, New Delhi, India
3. **Prof Suman Kapur:** Sr. Professor, Dean, International Programmes & Collaboration Division Birla Institute of Technology & Science, Pilani, Hyderabad
4. **Dr. G.V.S. Murthy:** Director, Indian Institute of Public Health, Hyderabad
5. **Dr. Ganesh Oruganti:** Former Executive Director SHARE INDIA - MIMS, Ghanpur Village, Medchal Mandal and District, TS
6. **Prof. Prabhakaran D.:** Executive Director, CCDC & Vice President, Research & Policy, PHFI Centre of Chronic Disease Control (CCDC) & Public Health Foundation of India (PHFI), New Delhi
7. **Prof. B. Sashidhar Rao:** Fellow of Telangana Academy of Sciences (FTAS) & Former Professor & HOD, Department of Biochemistry, Osmania University, Hyderabad
8. **Dr. P.S. Reddy:** Chairman SHARE INDIA, Ghanpur, Mandal & District Medchal, Telangana
9. **Dr. B. Sesikeran:** Former Director, NIN-ICMR National Institute of Nutrition, Hyderabad
10. **Dr. J. Gowri Shankar:** Director, Indian Institute of Science Education and Research, Mohali, Punjab
11. **Dr. D. C. Sharma:** Head Technical Operations MRIDA, Palamur Biosciences Pvt Ltd., Karvina, Madigattla Village, Bhootpur Mandal, Mahabubnagar Telangana State
12. **Dr. G. Sundar:** Director, Birla Institute of Technology & Science (Pilani), Hyderabad Campus, Shameerpet, Hyderabad
13. **Dr. S. P. Vasireddi:** Chairman and Managing Director, Vimta Lab Life Sciences Facility, Hyderabad
14. **Dr. K. Vijayaraghavan:** Former Director Research SHARE INDIA and Deputy Director, NIN, H.No. B1/1,1-2-91/B, Kakiteeya Nagar, Street No.2, Habsiguda, Hyderabad
15. **Dr. Vijay V. Yeldandi:** Professor, University of Illinois at Chicago, USA

Clinical Studies at SHARE INDIA-MIMS Ghanpur Village, Medchal, Telangana

1. Indian Council of Medical Research (ICMR), the apex governing body in India for the formulation, coordination and promotion of biomedical research, selected SHARE INDIA-MIMS as a sub site of Bhagwan Mahavir Medical Research Centre (BMMRC) for a vaccine study entitled "A phase III, randomized, double-blind, three arm placebo controlled trial to evaluate the efficacy and safety of two vaccines VPM1002 and Immuvac (Mw) in preventing Tuberculosis (TB) in healthy house hold contacts of newly diagnosed sputum positive pulmonary TB patients" (July 2020-June 2023).

The primary objective of the trial is to evaluate the efficacy of VPM1002 and Immuvac by comparing the reduction in incidence of TB over 3-year period among Indian healthy household contacts of newly diagnosed sputum positive PTB patients vaccinated with VPM1002 and Immuvac in comparison to placebo. The SHARE INDIA site was initiated on 13th July 2020 and has successfully enrolled 219 participants who are being followed-up as per the protocol timelines.

2. Innovate in India(13) is a mission of Department of Biotechnology (DBT), Government of India in collaboration with World Bank for accelerating discovery research to early development of Biopharmaceuticals with focus on the development of new vaccines, bio-therapeutics, diagnostics and medical devices to address the rising burden of diseases in the country. National Biopharma Mission (NBM is the implementing arm under Biotechnology Industry Research Assistance Council (BIRAC), DBT. As part of the clinical trial network setup by NBM, Medchal-SHARE INDIA population-based cohorts were selected for epidemiological studies on Dengue and Chikungunya and to drive capacities to conduct clinical trials. The studies were initiated in September 2020.

3. In view of the COVID-19 pandemic, it was decided that with established presence in the community and strength in driving community centric interventions, NBM selected Medchal-SHARE INDIA to fill knowledge gaps related to the actual burden of SARS CoV-2 disease in the community as well as to improve understanding of the community transmission dynamics by conducting serial sero epidemiological surveys.

Enrolment of participants was initiated from 01st February 2021 with an objective to enroll 5000 participants in 5 villages from Medchal District (Nutankal, Dabilpur, Gowdavelli, Pudur and Muneerabad) from the age group of 2 years and above. 64% (3192 participants out of 5000 participants) of the participants have been enrolled till 31st March 2021.

Summary of SHARE INDIA Projects

S.No.	Title of the study	Investigators	Designation / Institution Name	Project Exp. 2020-21/ (Unaudited) Project Cost Approved	Funding source	Project status
1	Indo-American Artificial Heart Program	Dr. P. S. Reddy Premium Institutes from USA and India, Engineering Institutions in India, Pre-Clinical GLP facility and Medical Device Manufacturers	Chairman, SHARE INDIA	Rs. 06.85 Lakhs (2020-21)	Self-funding by Indian Institutions aided by SHARE INDIA / SHARE USA	On going
2	Longitudinal Indian Family hEalth - LIFE Study	Dr. Guru Rajesh Jammy Dr. Kalpana Betha	Director Research, SHARE INDIA; MBBS, M.D.	Rs. 16.13 Lakhs (2020-21)	SHARE INDIA / SHARE USA	On going Follow up temporarily suspended due to Covid 19
3	Mycoplasma genitalium, differentiated Ureaplasma species, and pregnancy outcomes	Dr. Kalpana Betha Dr. Catherine L. Haggerty	MBBS, M.D. Associate Professor, University of Pittsburgh	US $ 46,318 (2016-22)	Fogarty International Center-NIH	On going - No cost Extension approved (delayed due to Covid 19)
4	The influence of vaginal microbiota on adverse pregnancy outcomes in the LIFE study	Dr. Kalpana Betha Dr. Catherine L. Haggerty	MBBS, M.D. Associate Professor, University of Pittsburgh	Sub Study of Item No. 3 above	Fogarty International Center-NIH	On going- No cost Extension approved (delayed due to Covid 19)
5	The role of pre pregnancy and prenatal danger associated molecular patterns in pregnancy complications (DAMP) - LIFE Study Samples	Dr. Kalpana Betha Dr. Brandie N. Taylor Dr. Catherine L. Haggerty	MBBS, M.D. Associate Professor, Texas A&M University Associate Professor, University of Pittsburgh	US $ 24,000 (2017-22)	Partial support from TAMU, Texas	On going- No cost Extension approved (delayed due to Covid 19)
6	Technology Enabled community health workers to extend Telemedicine to Rural homes at Affordable costs TETRA Study	Dr. D. Shailendra Dr. Guru Rajesh Jammy	MBBS, M.D. Director Research, SHARE INDIA	Rs. 19.49 Lakhs (2020-21)	SHARE INDIA / SHARE USA	On going Follow up temporarily suspended (due to Covid 19)

S.No.	Title of the study	Investigators	Designation / Institution Name	Project Exp. 2020-21/ (Unaudited) Project Cost Approved	Funding source	Project status
7	HEaLthy Pregnancy (HELP) study	Dr. Sapna Vyakaranam Dr. Kalpana. B Dr. Aparna Varma Dr. Rashmi Pant Dr. Padma Yalamati	MBBS, M.D. MBBS, M.D. Department of Biochemistry, AIIMS, Bibinagar Biostatistician, SHARE INDIA Consultant Biochemist, CARE Hospitals	Rs. 5.72 Lakhs (2020-21)	SHARE INDIA / SHARE USA	Follow up and new recruitment is temporarily suspended (due to Covid 19)
8	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 Hygiene& Medicine, UK Professor, Community Programs, Kathmandu University School of MBBS, M.D. Chairman, SHARE INDIA	Role of SHARE INDIA is facilitating the work in villages when required initially.	Newton Fund	On going
9	Caesarean Surgical Site Infection - CSSI Study.	Dr. Kalpana Betha Dr. K. Lakshmi Sailaja Dr. Catherine L. Haggerty	MBBS, M.D. MBBS, M.D. Associate Professor, University of Pittsburgh	Rs. NIL Lakhs (2020-21)	SHARE INDIA / SHARE USA	Recruitment Completed in December 2018 and Data analysis is in Projects

S.No.	Title of the study	Investigators	Designation / Institution Name	Project Exp. 2020-21/ (Unaudited) Project Cost Approved	Funding source	Project status
10	Empowering Indian health researchers with computational modelling tools - HADM Small Grant	Dr. Guru Rajesh Jammy Dr. M. Raheel Sayeed Dr. Lincoln P. Choudhury	Director Research, SHARE INDIA Research Scientist, SHARE INDIA HIV Consultant, Delhi, India	US $ 7,500 2017-2021	NIH - University of Pittsburgh	On going - No cost Extension approved.
11	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 Professor Emeritus, University of Southern California, USA MBBS, M.D.	Rs. 5.63 Lakhs (2020-21)	SHARE INDIA / SHARE USA	On going, expansion and further development in progress
12	IndEpi: A Platform for systematic Integration of Indian Epidemiology Datasets to enable Health Analytics and Disease Modelling (Big Data)	Dr. Rashmi Pant Dr. Guru Rajesh Jammy	Biostatistician, SHARE INDIA Director Research, SHARE INDIA	Rs.12.10 Lacs (April, 2019 to March 2021) 03 Years Budget Rs.43.89 Lacs (Capital or Non-recurring Rs.10.05 and recurring Rs.33.84)	Department of Science & Technology, Ministry of Science & Technology, Government of India	On going
13	InPoChlam: Innovative Point of Care Chlamydiales. Joint industrial R&D projects between India and EUREKA member countries Belgium, The Netherlands, Spain and United Kingdom	Dr. Guru Rajesh Jammy Dr. Rashmi Pant Dr. Vijay V. Yeldandi Dr. Servaas A. Morre Dr. Pierre Paul Michel Thomas	Director Research, SHARE INDIA Biostatistician, SHARE INDIA Professor, University of Illinois at Chicago, USA Maastricht University, The Netherlands Institute of Public Health, Genomics, Maastricht University,	Rs. 5.40 Lacs (February 2020 to March 2021) 03 Years Budget Rs.118.196 Lacs (Capital or Non-recurring Rs.35.476 and Recurring Rs.82.72)	DBT, Government of India	Sanctioned and in Planning stage - Implementation delayed (due to COVID-19)

S.No.	Title of the study	Investigators	Designation / Institution Name	Project Exp. 2020-21/ (Unaudited) Project Cost Approved	Funding source	Project status
14	Harnessing a population-based cohort for an epidemiological study on Dengue and Chikungunya and drive capacities to conduct clinical trials	Dr. Guru Rajesh Jammy Dr. Shikha Dhawan Dr. D Shailendra	Director Research, SHARE INDIA, Director Programs, SHARE INDIA MBBS, M.D.	INR 1093 Lakhs (2020-2023)	National Biopharma Mission, Government of India	Technical and Financial Due Diligence Completed. Project activity commenced in February, 2021
Technical Assistance to Government of India – "CDC funded Projects"						
15	National Initiative to Strengthen & Coordinate HIV/TB response in India – NISCHIT/ NISCHIT Plus	Dr. Vijay V. Yeldandi Dr. B. Ravi Kumar	Professor, University of Illinois at Chicago, USA Associate Project Director, SHARE INDIA	US $ 4,305,130 (2015-2021) Till March 2021 / Awarded amount for Year-01 $ 1,400,000 (30thSeptember2020 to 29thSeptember 2021) Expenses US $ 59,375 30th September 2020 to March 2021	Centers for Disease Control and Prevention (CDC), Atlanta, USA	On going
16	Laboratory Quality Systems in HIV — LaQSH / LaQSH Plus	Dr. Vijay V. Yeldandi Dr. Anita Singh	Professor, University of Illinois at Chicago, USA Associate Project Director, SHARE INDIA	US $ 5,672,996 (2015-2021) Till March 2021 / Awarded amount for Year-01 $ 2,400,000 (30th September 2020 to 29th September 2021) US $ 236,393 30thSeptember 2020 March 2021	Centers for Disease Control and Prevention (CDC), Atlanta, USA	On going
17	Strengthening TB Action and Response - STAR	Dr. Vijay V. Yeldandi Dr. Satish Kaipilyawar	Professor, University of Illinois at Chicago, USA Associate Project Director, SHARE INDIA	US $ 2,071,432 (2015-2021) Till March 2021	Centers for Disease Control and Prevention (CDC), Atlanta, USA	On going
18	Building Systems Capacity on Outbreaks Laboratory Surveillance Training Emergency Response - BOLSTER	Dr. Vijay V. Yeldandi Dr. Guru Rajesh Jammy	Professor, University of Illinois at Chicago, USA Project Director, SHARE INDIA	Awarded amount for Year 01 $ 2,589,467 (30thSeptember2020 to 29th September2021) US $38,266 (August 15 2020 to Till March 2021)	Centers for Disease Control and Prevention (CDC), Atlanta, USA	On going

1. Indo-American Artificial Heart Program (IAAHP)

Vision:

Promote bio-engineering research in Engineering Institutes of India in collaboration with Medical Institutions, Engineering Industries and Medical device developers to develop medical devices in India.

Objectives:

- Moon-shot: Develop total artificial heart
- Immediate: Development of ECMO

Key activities:

The project is developing extracorporeal LVAD and ECMO Blood Pump. IAAHP jump started its activities toward the development of a blood pump suitable for bench testing and pre-clinical readiness. Laxven Systems is working on a pump with rotating disk operating under the "maglev" principle which is suspended in its casing via magnetic levitation. CBIT and KITS will use the Maglev motor to develop a Centrifugal Levitation Pump. In addition, CBIT is working on development of Magnetic coupled blood pump with LVAD setting and ECMO setting. Magnetic coupled blood pump Prototype was 3D printed and tested with human blood at AIG Hospital. The experiment was successfully conducted with human blood according to the ASTM 1830-19 standard for in vitro Evaluation of Hemolysis in Blood Pumps.

The year dawned with the advent of pre-clinical sheep studies at Palamur Biosciences GLP animal testing facility, India with animal experiment protocols provided by University of Pittsburgh, USA. The team studied the effects of implantation of arterial and venous cannulae and testing veno-arterial blood flow using external ECMO pump. Through various deliberations the protocols were fine-tuned with inputs from international faculty and cardiologist team from AIG. These studies set the stage for the fitness of anatomy and physiology of the host animal for invasive cardiothoracic surgeries (implantation of left ventricular assisted device) and fulfilment of biocompatibility parameters and organ function during the procedures.

COLLABORATORS

SHARE INDIA, Hyderabad, India

- Dr. P. S. Reddy, Chairman
- Dr. Vijay V. Yeldandi, Head Infectious Diseases and Public Health
- Dr. Shikha Dhawan, Director Programs
- Dr. B. M. Gandhi, Chief Executive Officer, Neo BioMed Services, New Delhi
- Dr. A. G. K. Gokhale, Cardiothoracic Surgeon, Apollo Hospitals, Hyderabad

Birla Institute of Technology (BITS) PILANI, Hyderabad, India

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

Chaitanya Bharathi Institute of Technology (CBIT), Hyderabad, India

- Dr. P. Ravinder Reddy, Professor and Head, Mechanical and Production Engineering
- Mr. Rugveda Thanneeru, Research Associate

Kakatiya Institute of Technology & Science, (KITS) Warangal, India

- Dr. K. Ashoka Reddy, Principal
- Dr. K. Sridhar, Professor & Head of Mechanical Engineering
- Dr. Venu Madhav Kotturu, Professor of Electronics & Instrumentation Engineering
- Dr. Ganesh Kumar Gampa, Associate Professor, Dept of Mechanical Engineering
- Sri. V. Pradeep, Asst. Professor, Dept. of Mechanical Engineering

Asian Institute of Gastroenterology, Hyderabad, India

- Dr. P. Naveen Chander Reddy, Medical Director
- Dr. C. Sukesh Kumar Reddy, Sr. Consultant Cardiothoracic Surgeon

- Dr. Naresh Kumar, Cardiothoracic Surgeon
- Dr. Rama Krishna Reddy, Anaesthesiologist
- Dr. Rajeev Vijay Kumar Menon, Sr. Consultant - Interventional Cardiology
- Dr. Sachin Yalagudri, Sr. Consultant Cardiologist and Electrophysiologist

Laxven Industries, Hyderabad, India

- Mr. C. Ramesh Reddy, Managing Director; Electromechanical Manufacturing

Palamur Biosciences Pvt. Ltd., Mahbubnagar

- Mr. K. Venkata Reddy, Managing Director
- Mr. T. Vijayaragavan, Chairman
- Dr. Rammoorthy, Test Facility Management
- Dr. D. C. Sharma, Medical Research Institute for Device Assessment (MRIDA)
- Dr. S. Anoop, Medical Research Institute for Device Assessment (MRIDA)

Shree Pacetronix Ltd., Indore, India

- Mr. Atul Sethi, Executive Director & Managing Director
- Mr. Aakash Sethi, Executive Director & Joint Managing Director
- Mr. Vikas Gokhale, Technical Director – Research

University of Pittsburgh, Pennsylvania, USA

- Prof. Harvey Borovetz, Professor of Bioengineering
- Mr. Shawn Bengston, Director of Quality Management Systems
- Dr. William R. Wagner, Director of the McGowan Institute for Regenerative Medicine
- Dr. Edward Klein, Director of Pathology Services at Division of Laboratory Animal Resources

Cornell Engineering, Cornell University, Ithaca, New York, USA

- Prof. James Antaki, Professor of Heart Assist Technology

Nazih Zuhdi Transplant Institute – INTEGRIS Baptist Medical Center, Oklahoma, USA

- Dr. James Long, Cardio thoracic surgeon, Medical Director

Inspired Therapeutics, Florida, USA

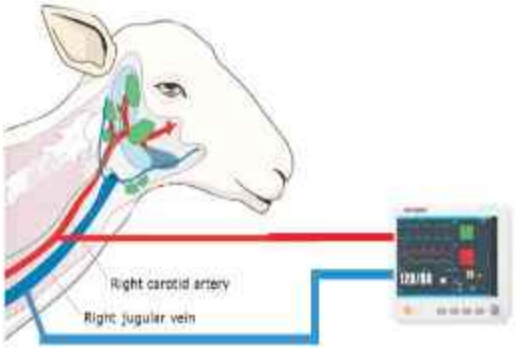
- Dr. Kurt Dasse, Co-Founder, President & CEO
- Ms. Priscilla Petit, Co-Founder, Director of Quality & Regulatory

enmodes GmbH, Aschen, Germany

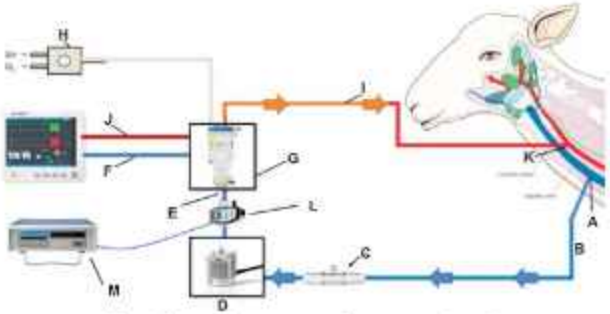
- Dr. Tim Kaufmann, Chief Executive Officer
- Dr. Deepanshu Sodhani, R&D Project Manager

Abstracts

- Rugveda T, Dr J F Antaki, Dr Ravinder Reddy., Fast and Effective Method to Conduct Flow Visualization on Blood Pump, ASAIO 2020
- Rugveda T, Sadia Alvi, Dr Ravinder Reddy., Design of Mock Circulatory Test Loop with LV Simulator for a Centrifugal Blood Pump, ASAIO 2020
- Dr Ravinder Reddy., Rugveda T., Chemical Polishing Method to Improve the Surface Roughness of FDM Printed Component of Blood Wetted Devices, ASAIO 2020
- Ganesh Kumar, G., Ashoka Reddy, K., Venu Madhav K., Eswaraiah. K., Experimental and Numerical Studies of a Centrifugal Heart Pump Used for Total Artificial Heart (TAH), ASAIO 2021
- Ganesh Kumar, G., Ashoka Reddy, K., Venu Madhav K., Eswaraiah. K., Comparative Studies on six and four bladed Centrifugal Heart Pump Used for Left Ventricular Assisted Device (LVAD), ASAIO 2021
- Ganesh Kumar, G., Ashoka Reddy, K., Venu Madhav K., Eswaraiah. K., (2020), "Mathematical and Experimental Studies on Effect Of Number Of Blades On Centrifugal Pump Used In Left Ventricular Assisted Device (LVAD), ASAIO Journal June 20, Volume 66, ISSN 1058-2916, pp 83, (DOI: 10.1097/MAT.0000000000001186), Wolters Kluwer Publishers



Blood pressure and Blood gas monitoring during sheep study



Cardiopulmonary bypass circuit

A Internal Jugular vein cannula
B Pre-pump line
C Straight connector with luer lock
D Centrifugal pump- Centrimag Blood pump
E Post pump line
F Pre-membrane pressure monitoring / sample Hport
G Membrane oxygenator
H Gas blender
I Post oxygenator line
J Post membrane pressure monitoring / sample Mport
K Carotid artery cannula (Return cannula)
L Flow probe
M Flow meter

Design of the Blood Pumps

The study teams at Palamuru Bio Sciences, Mahabubnagar, Telangana and on Zoom e-meeting during sheep studies

2. Longitudinal Indian Family hEalth (LIFE) pilot study

Investigators

- Dr. Guru Rajesh Jammy, Director Research, SHARE INDIA
- Dr. Kalpana Betha, MBBS, M.D.

Objectives:

The LIFE study is being conducted in villages of Medchal Mandal, Medchal District of Telangana, India. This is a long-term cohort study that will examine socio-economic and environmental influences on children's health and development in India.

Funding Source: SHARE INDIA and SHARE USA

Aims: 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.

Methods: The LIFE Pilot is a prospective cohort study of Indian women followed through conception, pregnancy, delivery, and the physical and mental health and development of their children. Since 2009, 1227 women aged between 15 and 35 years were recruited before conception or within 14 weeks of gestation. Women were followed through pregnancy, delivery, and postpartum. Follow-up of children is on-going. Baseline data were collected from husbands of 642 women. Anthropometric measurements, biological samples and detailed questionnaire data were collected during registration, the first and third trimesters, delivery and at 1 month postpartum. Anthropometric measurements and health questionnaire data are obtained for each child, including developmental assessment at periodic intervals.

Status of Work: Till 31st March 2020, 1227, women have been recruited from 40 villages in Medchal Mandal; 924 deliveries were done at MediCiti Hospital (MIMS) while 351 deliveries were done outside MIMS. 1139 PNC- 1 month follow-up are completed. Project specific questionnaires completed by age of the child include 06 months- 990, 12 months-964, 18 months-1020, 24 months-999, 36 months-989, 48 months-939, 60 months-933. Children screened for mental health problems include 1029 in the age group for 3-4 years; 817 in age group 6-7 years. Couples follow-up visits for 5-6 years include 977 women and 883 men. The project also completed 96-98 months follow-up for 360 children, 108-110 months follow-up visit for 109 children: WISC-IV scale (8-11years) for 198 children and SMR scale for 198 children.

Due to pandemic the team was working on the digitization of the records and the investigators are analysing the data for publications. Visits of the participants were deferred due to COVID 19.

3. Mycoplasma genitalium, differentiated Ureaplasma species, and pregnancy outcomes

Investigators

- Dr. Kalpana Betha, MBBS, M.D.
- Dr. Catherine L. Haggerty, Associate Professor, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA

Funding Source: Fogarty International Center –NIH

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

Objectives: Determine the role of pre-pregnancy and pre-natal 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). It also examines chorioamnionitis as an associated factor between Mycoplasma genitalium or Ureaplasma infection and spontaneous pre-term birth.

Methods: The project is studying 188 women who delivered pre-term, 218 women who experienced spontaneous abortion and 436 control women who delivered at term in the LIFE Study.

Status of the project: DNA was isolated from 2000 and odd vaginal scrapings collected from the women at registration, 1st Trimester, 3rd Trimester, Delivery and 30 days after delivery by QIAamp cador Pathogen mini kit (QIAGEN), following manufacturers protocol. Probes and Primers were designed by Dr. Jorgen Skov Jensen (Statens Serum Institute, Denmark) for the following organisms: Mycoplasma genitalium (MG): FAM (organism) and HEX (Internal control), Chlamydia trachomatis (Ctr): FAM (organism) and Cy5(Internal Control), Mycoplasma hominis (Mh): FAM (organism) and HEX (Internal control), Trichomonas vaginalis (Tv): FAM (organism) and HEX (Internal control), Neisseria gonorrhoeae (Ng): FAM (organism) and HEX (Internal control), Ureaplasma urealyticum (UU), Ureaplasma parvum (UP) All the probes were standardized under specific cycling conditions; reamplified for Mh, Mg, Ng and Tv; As next steps approximately 800 and odd DNA samples should be amplified with the Mh, Mg, Ng and Tv probes provided.

4. The influence of vaginal microbiota on adverse pregnancy outcomes in the LIFE study

Investigators

- Dr. Kalpana Betha, MBBS, M.D.
- Dr. Catherine L. Haggerty, Associate Professor, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA

Funding Source: Fogarty International Center-NIH

Aims & Objectives: To characterize and compare the pre-pregnancy vaginal microbiota of:

1. pregnant women who subsequently experience a spontaneous abortion
2. women who subsequently deliver pre-term, to a control group of women who deliver at term.
3. To characterize and compare the vaginal microbiota at labour and delivery among women who deliver pre-term and a control group of women who deliver at term.

Key interventions: The project is studying 20 cases of women with spontaneous abortion, 20 cases of women who delivered pre-term and 20 control women who delivered at term. Archived pre-conception vaginal samples were analysed using broad range 16S rRNA gene PCR with sequencing. Women who delivered at term had vaginal microbiota dominated by Lactobacillus species.

5. The role of pre-pregnancy and pre-natal danger associated molecular patterns in pregnancy complications (DAMP) - LIFE Study Samples

Investigators

- Dr. Kalpana Betha, MBBS, M.D.
- 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, USA

Aims:

1. Determine if circulating pre-pregnancy and first trimester biomarkers of placental dysfunction (EGFL7, PlGF, sFLT-1, PP-13) are associated with SAB.
2. Determine if circulating pre-pregnancy and early pregnancy DAMPs (HGBM-1, HSP70) and innate immune signalling biomarkers (Pentraxin-3) are associated with SAB.
3. Determine if pre-pregnancy and early pregnancy circulating markers of oxidative stress (MDA, GDH) are associated with SAB.

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

Methods: The project is studying 50 cases of women who had spontaneous miscarriage and 100 control women who delivered at term. First pregnancies with singleton pregnancies that have stored plasma samples available from pre-conception and first trimester in the LIFE study were taken.

Status of the Project: Eleven markers from different groups of immune response were analysed with 320 samples from women who are controls, registered pre-conception and at 1st trimester. Data entry is completed. Statistical analysis to be done.

6. Technology Enabled health workers to deliver Telemedicine to Rural Homes at Affordable costs (TETRA)

Investigators

- Dr. D. Shailendra, MBBS, M.D.
- Dr. Guru Rajesh Jammy, Director Research, SHARE INDIA

Funding Source: SHARE INDIA and SHARE USA

Aims: To demonstrate feasibility, effectiveness and sustainability of a low-cost telemedicine strategy for detection, treatment and monitoring of blood pressure and blood sugar in remote and underserved locations.

Methods: 'TETRA' uses a novel strategy anchored on non-physician health workers (NPHWs) networked in real time with doctors via telemedicine to proactively detect, treat and follow-up individuals with hypertension and diabetes at the convenience of their homes, across six villages in Telangana. The NPHWs equipped with a tablet computer with embedded decision prompt systems (mHealth tool) linked to point-of-care devices for blood pressure and blood sugar measurement and guided remotely by a physician via Skype, screen individuals for hypertension and diabetes, facilitate a telemedicine consult, print a physician ordered e-prescription and distribute medication at the door steps of beneficiaries. Further, the NPHWs follow-up individuals with hypertension and diabetes once in three months and provide a continuum of care.

Status of the project: The plan was to follow-up with the status of 1600 individuals with hypertension and over 600 individuals with diabetes in each quarter. But the quarterly door-to-door follow-up of participants by the non-physician health workers was suspended since March 2020 in view of the ongoing COVID -19 pandemic.

The software for launching the expanded TETRA is in the process of development, embracing a life course approach to screen, treat and follow-up all members of a household for widely prevalent diseases is poised to launch by the fourth week of June 2021. The over arching goal of the expanded version of TETRA is to develop a model for affordable community level healthcare and lay the foundation for personalised medicine by generating FHIR compatible electronic health record of everyone at the community level.

7. HEaLthy Pregnancy (HELP) Study

Investigators

- Dr. Sapna Vyakaranam, MBBS, M.D.
- Dr. Kalpana Betha, MBBS, M.D.
- Dr. Rashmi Pant, Biostatistician, SHARE INDIA
- Dr. Aparna Varma, Professor and Head, Department of Biochemistry, AIIMS, Bibinagar
- Dr. Padma Yalamati, Consultant Biochemist, CARE Hospitals

Funding source: SHARE INDIA and SHARE USA

Introduction: Hypertensive disorders of the pregnancy cover a spectrum of conditions including pre-eclampsia, eclampsia, chronic hypertension and pre-eclampsia super imposed on chronic hypertension. Pre-eclampsia is a major cause of maternal and perinatal mortality (number of still births and deaths of new-borns in first week of life). Hypertensive disorders of the pregnancy occur in about 10% of all pregnant women around the world. Pre-eclampsia effects 3-5% of pregnancies. SHARE INDIA earlier conducted and published studies on hypertensive disorders of pregnancy.

Aim: 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.

Methods: HEaLthy Pregnancy (HELP) Study is a cohort study of pregnant women. The study initially enrolled 1000 pregnant women and followed them throughout the pregnancy till delivery, while these women visit the department of Obstetrics and Gynaecology at MIMS.

Objectives: Measure blood pressure, serum uric acid, serum creatinine and serum cystatin C (stored at -80 o C) and urine protein creatinine ratio every month during 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.

Status of the project: The data is being analysed in respect of the 1274 women already enrolled in the study. There were no new women recruited in the study and the recruited women could not be followed-up due to COVID-19 pandemic. Work is being carried out on writing a cohort study paper on the HELP study.

Details	Nos
Deliveries at MIMS	926
Outside deliveries	218
Abortion at MIMS	17
Abortion outside	14
Live birth at MIMS	885
Live birth outside	190
Still birth at MIMS	4
Still birth outside.	0
IUD at MIMS	20
IUD outside MIMS	12
Gestational Hypertension	63
Pre-eclampsia without severe features	34
Pre-eclampsia with severe features	9
Eclampsia	1
Hypothyroidism	137
Hyperthyroidism	10

8. 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 settingsof India and Nepal: A Cluster-Randomized Trial

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, MBBS, M.D.
- Dr. Sailesh Mohan, Centre for Control of Chronic Conditions (CCCC), PHFI, New Delhi
- Dr. Poornima Prabhakaran, CCCC, PHFI, New Delhi
- Dr. Ajay V. 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 Gynaecology, Kathmandu University of Medical Sciences, Nepal
- Dr. Pablo Pere, Associate Professor, Cardiologist and epidemiologist, LSHTM
- Dr. Clara Calvert, Assistant Professor, LSHTM
- Dr. John Cairns, Professor of Health Economics, LSHTM
- Dr. Ishita Rawat, Research Fellow, CCCC, PHFI, New Delhi

Funding source: Newton Fund

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

Status of the project:

a. As part of the first phase i.e., Formative phase, the data collection and analysis of study tools, Health Facility Survey Tool, ANC Observation Tool, Clinical Vignettes, In-depth interviews (with Healthcare Providers, Policy Makers, Pregnant Women) in "25" health facilities under selected five districts (Rangareddy, Yadadri Bhuvanagiri, Medak, Siddipet and Vikarabad) and at State Level of Telangana State has been completed. An integrated draft study report comprising of qualitative and quantitative results of the formative phase has been prepared for submission to Commissioner, CHFW, Govt. of Telangana.

b. The Electronic Decision Support System (EDSS) for frontline health workers aiming to improve the quality of ANC care in the areas of Anemia, Gestational Diabetes and Pregnancy Induced Hypertension in selected government facilities in five districts of Telangana is in final stages of development. Presently the testing part of the EDSS is been carried out.

c. A trial protocol with details of mIRA study rationale, objective, trial design, study settings, eligibility criteria, Intervention and Control arm, outcomes, sample size, recruitment, process evaluation, assignment of intervention, data collection methods, analysis, monitoring and ethics and dissemination of the mIRA trial has been prepared.

d. As part of the process evaluation different study tools have been prepared, these include Audit of records tool, Baseline Health Facility Survey, End line In-depth Interviews, Healthcare Provider Attitude Survey and Checklist for Monitoring visits has been prepared.

e. A publication Committee has been set up and presently in the process of publishing papers from formative phase study results in different journals.

9. Caesarean Surgical Site Infection (CSSI) study

Investigators

- Dr. Kalpana Betha, MBBS, M.D.
- Dr. P. Lakshmi Sailaja, MBBS, M.D.
- Dr. Catherine L. Haggerty, Associate Professor, Department of Epidemiology, GSPH, University of Pittsburgh, PA, USA

Funding source: SHARE INDIA and SHARE USA

Introduction:
Surgical site infections are one of the most common associated infections in the low middle-income countries. As per studies conducted in India, they make up to 14-16% of inpatient infections. Objective of present study was to evaluate the risk factors associated with caesarean surgical site infections and the bacteria causing these infections and the antibiotic sensitivity and resistance pattern of the pathogens isolated.

Objectives: To estimate the incidence of caesarean surgical site infections following caesarean sections at MIMS. Identify risk factors associated with SSI following caesarean and to determine the bacteriological profile of SSI linked with caesarean section.

Status of the project: A total of 2000 cases of patients who underwent caesarean section were included and all women completed one month follow-up post operatively. Among them CSSI was found in 4.6% of cases. In the interim analysis, duration of less than 6 hours of labour, presence of more than 10 and more than 15 people in OT and no use of cautery in subcutaneous tissue showed significance with SSI. Women who were overweight showed a marginal significance as a risk factor ($p=0.058$).

10. Empowering Indian health researchers with computational modelling tools

Investigators

- Dr. Guru Rajesh Jammy, Director Research, SHARE INDIA
- Dr. Raheel Sayeed, Research Scientist, SHARE INDIA
- Dr. Lincoln P. Choudhury, Consultant

Funding Source: University of Pittsburgh

Introduction: Agent based modelling, which can take in to account the individual level characters has been used elsewhere for understanding HIV epidemic but has not yet been used in Indian context for policy making.

Objectives: Utilize a validated agent-based model to project the HIV incidence in the state of Telangana from the year 2005, till year 2030. To understand the effect of some, select interventions on the HIV incidence for achieving the Sustainable Development Goals (SDG).

Status of the project: The Agent Based modelling was performed specifically for prevention of parent to child transmission (PPTCT) intervention efficiency in Telangana state population synthetic and was completed in April 2020. The results will be shared with various stakeholders in India and a manuscript is underway.

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

Investigators

- Dr. Prakash N. Shrivastava, Professor Emeritus, University of Southern California, USA; Founder Member, SHARE INDIA
- P. Nikethan Reddy, M. Tech, BKP Project Manager
- Dr. Srinivasa Prakash Regalla, Professor and Head, Department of Mechanical Engineering, BITS Pilani, Hyderabad
- Dr. D. Sudheer Reddy, MBBS, M.D.
- Dr. Kaushik Kalyan, MBBS, M.D.
- K. Uday Kiran, M. Tech, Research fellow

Funding source: Initial Funding: Biotechnology Industry Research Assistance Council (BIRAC), Department of Biotechnology, Government of India; Currently: SHARE USA

Introduction:

SHARE INDIA/MIMS and BITS Pilani (HYD) have collaborated in the last 4 years to develop individually tailored, light weight and comfortable sockets for below knee prosthesis. Our product called "Sukhfit" has been used by over 20 patients for over 2 years. We are now in the process of using patient feedback to improve our designs. These improvements include:

1. Increase of strength to make it longer lasting.
2. Increase of comfort level by redesigning the liner.
3. Decrease of the cost of production by reusing waste materials, computer automation and reduced labour.

Aims:

1. Increase the strength of the prosthesis and make it more effective and longer lasting.
2. Improve our digital Imaging process to remotely collect patient's anatomical data.
3. Provide the prosthesis for as many patients as possible and make it attractive for both prosthetists and patients in the near future.
4. To provide better comfort, and maximum security for all patients at low cost.

Status of the project: We have successfully doubled the strength of the prosthesis by using strategically placed reinforcement ribs around the area where higher stresses and loads are acting. We have given 5 new patients our new model "Sukhfit 2020" with the latest changes and are getting new patient feedback to continue further improvements. We are also modifying our workbench (model3) to improve quality, stability and reliability of patient's anatomical data taken in the field remotely. We have developed a customized new motor with our required specifications for torque and rpmsl in collaboration with Laxven Solutions Inc., Cherlapally Telangana. We applied and received a new, formal approval for our patient testing protocol from the MIMS research Committee during this period. A completely new design for a liner is being developed. Its success will permit us to replace the imported silicone liners that are prohibitively expensive for Indian populace and allow us to use the shuttle lock pyramid device with our 3D printed sockets. We are very thankful to Mr. Suresh and Mrs. Indira Shah for a donation to provide "Sukhfit 2020" prosthesis to 50 deserving patients. We are presently severely limited in working with patients due to COVID-19 pandemic but continue to proceed within laboratory developments.

12. IndEpi: A platform for systematic integration of Indian Epidemiology datasets to enable health analytics and disease modelling (Big Data)

Investigators

- Dr. Rashmi Pant, Biostatistician, SHARE INDIA
- Dr. Guru Rajesh Jammy, Director Research, SHARE INDIA

Funding Source: Department of Science and Technology, Government of India.

Aim: To create a national resource that integrates epidemiological evidence from existing sources on the health and well-being of the Indian population and make it available with tools of modelling and analysis to aid evidence-based policy making.

Methods: This project will conduct secondary data analysis of the REACH, LIFE, MILES and HELP databases. The data science methods used will include Growth curve modelling, Social Network analysis and machine learning.

Status of the project: Year 1 activities completed, and dashboard presented at DST partners meet at Pune on February 07th, 2020. As next steps we upload models to the Public Health Informatics Platform (PHIP) to display results from machine learning methods for potential collaboration. Year 2 activities completed by transferring some models of child anthropometry to the PHIP. SHARE INDIA's work on COVID-19 is also part of the platform.

13. Lab on Wheels: An innovative point-of-care test to diagnose Chlamydiales in an One Health setting InPoChlam

Investigators

- Dr. Guru Rajesh Jammy, Dr. Vijay V. Yeldandi, Dr. Rashmi Pant, SHARE INDIA.
- Dr. Jonathan A. Lai, - Dr. Rajiv Kant, Dr. Neeraj, Dr. Sarvjeet Herbert, Dr. Bipasha David, Sam Higginbottom, University of Agriculture Technology and Sciences: [SHUATS], Allahabad, Uttar Pradesh.
- Dr. T. Srinivasa Rao, Dr. D. Narendra Nath, Dr. Ch. Bindu Kiranmayi, NTR College of Veterinary Sciences, Vijayawada, Andhra Pradesh.
- Prof. Dr. Servaas Morre, Anne Ammerdorffer, Sander Ouburg, Pierre Thomas; BiosparQ: Dr. Gerold de Valk Belgium; UGent: Dr. Daisy Vanrompay, Dr. Ir. Sven Arnouts, The Netherlands Microbe.

Funding Source: Department of Biotechnology, Government of India.

Objectives: The main objective is the collection of a clinical cohort of human patient samples, chicken broiler samples and poultry worker samples in India. Samples will be used for identification of Chlamydiales in a variety of biological and environmental samples to fully validate the Lab on Wheels and show its market potential in India, and possible other less developed countries.

Methods: Samples will be collected according to previously established strategies for epidemiological studies on Chlamydiales in both humans, chickens and the environment. If we know that women infected with C. trachomatis and additional 'veterinary' Chlamydiales have a higher risk on reproductive health failures than women with C. trachomatis only, treatment of these women can be adjusted accordingly. As next steps work will begin on designing measurement instruments for the surveys and data collection.

14. Harnessing a population-based cohort for an epidemiological study on Dengue and Chikungunya and drive capacities to conduct clinical trials

Investigators

- Dr. Guru Rajesh Jammy, Director Research, SHARE INDIA
- Dr. Shikha Dhawan, Director Programs, SHARE INDIA
- Dr. D. Shailendra, MBBS, M.D.

Funding Source: National Biopharma Mission, Biotechnology Industrial Research Advisory Council, Department of Biotechnology, Government of India

Objectives:

1. Preparation towards initiation of longitudinal incidence study
2. To operationalize longitudinal incidence study at the site
3. To establish GCP compliant field site for conduct of vaccine trials

Methods: SHARE INDIA will implement the common protocol for study and initiation of sample collection for studying sero-prevalence of Dengue and Chikungunya. The participants will be followed for 24 months for acute febrile episodes and tested for incident dengue and chikungunya cases. A total of 1500 participants aged 2-50 years in the Medchal area will be recruited for the study. In year 3 of the study, SHARE INDIA will work towards developing a clinical trial site and by the end of third year should be ready for clinical trial for any vaccine candidates for the diseases. In view of the COVID-19 pandemic, it was decided that established community presence and experience of maintaining population cohorts could be leveraged to fill knowledge gaps related to the actual burden of COVID disease in the community as well as to improve understanding of the community transmission dynamics. A total of 5000 participants aged above 2 years in the Medchal area will be recruited in the study.

Status of the project:

1. The virtual staff training was conducted by the Clinical Services Development Agency (CDSA) on GCP AND GCLP.
2. The Enrolment of the participants for the Sero-Survey on SARS-CoV-2, Dengue and Chikungunya commenced from 01st February 2021 from the five villages viz., Muneerabad, Pudur, Dabilpur, Gowdavelly and Nutankal. The following table provides the status of enrolment as on 31st March 2021.

The villages selected for the study	Target Participants	Total Registration till 31st March, 2021	Enrolment %
Pudur A	500	375	75%
Pudur B	500	359	72%
Muneerabad A	500	381	76%
Muneerabad B	500	389	78%
Gowdavelly A	500	382	76%
Gowdavelly B	500	312	62%
Dabilpur A	500	375	75%
Dabilpur B	500	347	69%
Nutankal A	500	151	30%
Nutankal B	500	121	24%
Total	**5000**	**3192**	64%

3. Enrollment for Round 1 is targeted to be completed by 15th May, 2021, based on the current COVID-19 second wave.
4. Agreement finalised with THSTI for PRNT & Biorepository.
5. Agreement is in process for cold chain courier agency.
6. Work with BIRAC and other site PIs on:
   - Manuscript of the protocol
   - Manuscript on defining the sero-survey cohort
   - Manuscript on round 1 COVID-19 antibodies, HbA1C, dengue & chikungunya sero- prevalence

Technical Assistance to Government of India – "CDC funded Projects"

SHARE INDIA, aims to provide TA to India's National AIDS Control Programme (NACP) for achieving Undetectable=Untransmittable through quality laboratory testing, workforce development, improved result utilization, strong laboratory epidemiology platforms and strengthen the national response on improving the ART services and HIV-TB management for people living with HIV (PLHIV) through project LaQSH (Laboratory Quality Systems in HIV) and NISCHIT (National Initiative to Strengthen and Coordinate HIV/TB Response in India. Project STAR is providing technical assistance (TA) to the National TB Elimination Program (NTEP) through its work in collaboration with the Municipal Corporations in Maharashtra.

SHARE INDIA has gained substantial experience in providing TA to promote heath 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 provided training on operations research.

15. National Initiative to Strengthen and Coordinate HIV/TB Response in India – NISCHIT / NISCHIT Plus

Investigators

- Dr. Vijay V. Yeldandi, Clinical Professor of Medicine and Surgery, University of Illinois at Chicago, USA
- Dr. Jammy Guru Rajesh, Project Director, SHARE INDIA
- Dr. B.Ravi Kumar, Associate Project Director, SHARE INDIA

Funding Source: Presidents Emergency Plan for AIDS relief (PEPFAR) – U.S. Centers for Disease Control and Prevention (CDC), Atlanta; 2015-2020 and 2020-2025

Introduction: National Initiative to Strengthen and Coordinate HIV-TB response (NISCHIT), implemented by SHARE INDIA, supported by the President's Emergency Plan for AIDS Relief (PEPFAR) and the US Centers for Disease Control and Prevention (CDC) aims to strengthen the national response on improving the ART services and HIV-TB management for people living with HIV (PLHIV). As a key implementing partner, SHARE INDIA, provides technical assistance (TA) to the National AIDS Control Organization (NACO) and Andhra Pradesh State AIDS Control Society (APSACS) to enhance the treatment and retention cascade in the state of Andhra Pradesh (AP).

With the support of Accelerate and Scale-up Asia Program (ASAP) incentive funding the scope of program was expanded to 10 additional districts in the state of Andhra Pradesh to enhance the program response.

SHARE INDIA has been awarded a five-year Cooperative Agreement NISCHIT plus (September 2020 – September 2025) by PEPFAR - CDC to provide strategic technical assistance to the national program on strengthening ART services, retention and viral load suppression among people living with HIV. NISCHIT plus led by SHARE INDIA would

strengthen the capacities of health facilities in implementation and scale-up successfully demonstrated ART service delivery models in the state of Andhra Pradesh.

Key Activities:

- Expansion of program: The project has been providing site level TA in three districts of AP namely East Godavari, Guntur and Krishna since April 2015. With the support of Accelerate and Scale the Asia Program (ASAP) incentive funding, the project was expanded to 10 additional districts in April 2020, thus covering the entire state of AP. Rapid scale-up of successful models demonstrated in the three districts is planned in additional districts.
- In the context of COVID-19 pandemic, project has provided Technical Assistance (TA) to APSACS on ensuring uninterrupted delivery of ART drugs. In line with NACO recommendations i.e., multi-month dispensation for 3 months to all PLHIV for stable and unstable patients, relaxing the current eligibility criteria (except for certain second-and third-line regimen), dispensation of INH and ATT (as per NTEP guidelines).
- To mitigate the impact of pandemic, promoted infection control measures to prevent the transmission of SARS-CoV-2 virus at the ART centers, project has supplied PPEs (surgical mask, hand sanitizer and gloves) to all the outreach workers (ORWs) and ART staff in the three cluster districts. Further, the staff were sensitized and oriented over virtual platform on correct usage of PPEs.
- The project extended support to DAPCUs in transportation of drugs and dispensation through decentralized facilities and home visits. Through collaborative efforts of APSACS, non-PEPFAR partners and community networks, drugs were also dispensed through 326 new decentralized facilities such as Primary Health Centre (PHC), Community Health Centre (CHC), Integrated Counselling and Testing Centres (ICTC), Care and Support Centres (CSC), and Targeted Interventions (TI-NGOs). As a result, a total of 1, 66,494 patients (of 1, 91,342 alive on ART) were dispensed drugs during the months of April and May 2020 (the period of intensive lock down), of which 39% (64,632) PLHIV were dispensed pills through decentralized facilities and home visits.
- National AIDS Control Organisation has introduced Dolutegravir, a new drug with better results. SHARE INDIA provided technical support to APSACS in the roll-out and scale-up of DTG transition.
- Sustained efforts of the project team and support from SACS and NTEP resulted in improved IPT coverage in the ART centers prioritized for IPT saturation in Andhra Pradesh and Maharashtra.
- Post successful implementation of phase-1, e-NISCHIT a technology-based capacity building initiative for ART staff on HIV-TB management was successfully expanded to Northeast and West Bengal which is envisaged to strengthen the capacities of ART staff on HIV-TB management.


Drug dispensation to PLHIV tribal areas, East Godavari


Home delivery to PLHIV Red zones, East Godavari

16. Strengthening TB Action and Response – STAR

Investigators

- Dr. Vijay V. Yeldandi, Clinical Professor of Medicine and Surgery, University of Illinois at Chicago, USA
- Dr. Jammy Guru Rajesh, Project Director, SHARE INDIA
- Dr. Satish Kaipilyawar, Associate Project Director, SHARE INDIA

Funding Source: Centers for Disease Control and Prevention (CDC), Atlanta.

Introduction: Project STAR is providing technical assistance (TA) to the National TB Elimination Program (NTEP) through its work in collaboration with the Municipal Corporation in Maharashtra. Project STAR aims at 1) strengthening airborne infection control (AIC) practices in primary and secondary healthcare institutions in Mumbai through 'AIC project', now supporting as infection prevention and control (IPC) activities, 2) improving treatment outcomes for Multi Drug Resistant TB (MDRTB) patients in slums of Dharavi, Mumbai via addressal of adverse drug reaction (ADR) & linkage of migrated patients through 'End MDRTB Dharavi project', 3) providing Latent TB infection (LTBI) diagnosis & treatment for all household contacts (HHC) of index patients and improving diagnosis and prevention of pediatric TB in Nagpur through 'Household active and latent TB in Nagpur (HAaLT project)', and 4) building capacity of NTEP staff in Mumbai for improved use of 'data for action' via Surveillance, Epidemiological analysis, Monitoring and Evaluation through 'SEME project'.

Key activities:

The airborne infection control (AIC) Unit (now IPC) is working with Municipal Corporation of Greater Mumbai (MCGM) since 2016. Since its inception, the unit has conducted over 800 assessment visits in 140 peripheral health institutes (PHIs) and has built the capacity of more than 3500 healthcare personnel. Based on the unit's recommendations, the infection control compliance in the institutes improved from 46% at baseline (2016) to 61% at the 5th follow-up (2021). The COVID-19 pandemic has challenged the health system in general and there was a need for having a robust infection control system in place. During these testing times, the IPC team followed-up with the District TB officers, ward engineers and medical officers of health institutes to make the structural changes as per assessment recommendations and use the open spaces for waiting areas which is an important aspect in preventing COVID-19 transmission. The follow-up visits showed 9% compliance in structural recommendations during the pandemic period. For transition of IPC activities to MCGM, a proposal for incorporation of the IPC unit in the NTEP project implementation plan (PIP) 2021-22 was submitted. In addition, the unit provided technical support to MCGM to initiate ART-DRTB co-consultative OPD following AIC guidelines. The team also provided 1) the City TB office with an annexure on 'critical AIC requirements for starting DRTB sites' and 2) National AIDS Control Organization (NACO) with a 'model ART floor plan as per AIC guidelines' for including in its operational guidelines for ART centers. The AIC work has been disseminated on various forums like the 51st Union World Conference on Lung Health, 2020 (via e-poster titled 'Strengthening airborne infection control measures in Mumbai health facilities, 2016-2020') and Federation of Indian Chambers of Commerce and Industry (FICCI) (as technical expert speaker on 'Assessment and compliance on airborne infection control in primary and secondary healthcare settings in Mumbai'). The work was also highlighted at national and international fora during the commemoration of World TB days.

Audiometry screening Nutrition support to MDRTB patient during COVID lockdown

In the 'End MDRTB Dharavi (ETBD) project' implemented in Mumbai, field co-ordinators (FC) were recruited and trained during April to May 2020. When the lockdown was announced due to COVID-19 pandemic in 2020, there was a major shift in operationalising our activities and migrating on to a virtual platform. Many challenges in terms of accommodating new technology, training for all staff to adopt to a never tried before virtual activities on phone and zoom platform were put in place. The staff was sensitised, trained and a strategy was designed to execute the activities virtually. Accordingly, the training program got designed, handheld and administered. The team conducted weekly phone calls with all the MDR TB patients for screening of adverse drug reaction (ADR), enquiring about patients' other health issues and availability of stock of medicines. Beyond the protocol, the team responded and linked the Govt staff, the NGOs and patients in providing nutrition support to 53 needy patients. The team supported the TB program through 1) making more than 800 phone calls to 56 migrated patients and linking these patients to care at their native place and 2) making more than 7000 phone calls to COVID-19 patients for screening of TB symptoms under 'COVID-TB bidirectional testing'. As the restrictions of lockdown were eased, team started conducting home visits to patients for ADR monitoring and household contact (HHC) screening on a monthly basis. Between June 2020 to March 2021, a total of 499 patients were registered in the project. All of them were screened for ADR on a monthly basis. Nearly 2000 HHCs of all the registered patients were screened for TB symptoms, of which 27 were found to be symptomatic, of which 8 were found to be positive for TB upon further evaluation. For patients who were prescribed second-line injectable (59) and oral Bedaquiline (32), the point of care audiometry and ECG screening proved to be a boon since its operationalization in the field. Much to the relief of patients who prior to the POC intervention used to spend money and time in days before getting a redressal of their concerns. After screening with POC, 16 patients were referred to PHI for further management. On World TB Day, 2021, the field coordinators from Dharavi project were recognised by CDC globally as "2021 CDC Global TB Champions".

As a part of the **'Surveillance, Epidemiology, Monitoring & Evaluation (SEME)'** project, the unit consisting of one Data Analyst was established in MCGM in 2020. The unit was supported by epidemiologists at the SHARE INDIA, Mumbai office. The unit contacted District TB Officers (DTOs), Senior DOTS plus supervisors (SDPS) and Data Entry Operators (DEOs) and other staff from 24 districts of Mumbai to conduct follow-up of the capacity building workshops that were conducted in 2018 and 2019 on 'data maintenance and utilization' practices. The follow-up was done telephonically during the COVID-19 lockdown in 2020 and in-person after the lockdown restrictions were eased. The objective of the follow-up was to assess knowledge, skills and practices among NTEP staff on data quality, cleaning and analysis. Results from follow-up showed that 21/24 (87.5%) districts showed minimal challenges overall in data cleaning; missing entries were reduced by 50% in districts; real-time data entry (within 5 days of enrolment) for private sector notifications in NIKSHAY improved in the districts; and 21/24 (87%) districts incorporated usage of pivot tables to customize dashboards for data analysis & review. Further, workplans consisting of intervention steps and detailed plan of action were developed. As a part of the intervention, team prepared cadre-wise checkpoints to improve data management and utilization practices of NTEP staff. The team worked in close coordination with 24 DTOs and City TB Officer (CTO) and developed "District TB Fact Sheets" for showcasing trends of data on key program indicators over three years (2018, 2019 and 2020). Team continues to work with the CTO to a prepare detailed plan for epidemiological analysis of data related to whole of Mumbai.

Sensitization of DTOs on SEME unit Feb 2020

HAaLT TB in Nagpur (Household contacts active and latent TB intervention in Nagpur)

Collaborators: Central Tuberculosis Division (CTD), Centers for Disease Control and Prevention (CDC), SHARE INDIA and Indira Gandhi Government Medical College (IGGMC), Centers for Disease Control and Prevention (CDC)

Aim: The goal of HAaLT-TB project is to improve TB control in Nagpur through a package of interventions to detect and cure active and latent TB infections among household contacts of Index patients.

Methods: The project is being conducted in Nagpur district (Rural & Municipal Corporation) of Maharashtra, India. Prospective cohort of TB contacts from households of persons with microbiologically confirmed (by CBNAAT or LPA) drug-susceptible TB cases receive a package of interventions aimed to decrease TB incidence in Nagpur through early detection and prevention of TB. The project will follow the household contacts (HHC) every 6 months for 2 years for the development of TB.

Status of the project:
The project has passed through the Institutional Ethics Committee (IEC) of IGGMC and Institutional Review Board of CDC during March 2020.

HAaLT team participating in World TB Day 2021

All the key project staffs (Project manager, Data manager, 2 Project co-ordinators, 8 Field co-ordinators, Lab technicians & Data entry operator) came on board by March 2021. Induction training of recruited project staff was completed. Sensitization session for all the key stakeholders (District Health Officer, Taluka Health Officer and NTEP staff) was conducted on 15th February 2021 to orient on LTBI and SOPs of project. Trainings were conducted for 497 ASHA workers & NTEP staff on the project activities during the months of February and March 2021. RED Cap data base was prepared for the project data entry including barcode mechanism. The team continues to work on microplanning for the budget and other logistics arrangements such as drug procurement and requisition for IGRA kit, etc.

17. Laboratory Quality Systems in HIV – LaQSH & LaQSH Plus

Investigators

- Dr. Vijay V. Yeldandi, Clinical Professor of Medicine and Surgery, University of Illinois at Chicago, USA
- Dr. Ganesh Oruganti, Project Director, SHARE INDIA
- Dr. Anu George, Associate Project Director & Consultant, SHARE INDIA
- Dr. Anita Singh, Associate Project Director, SHARE INDIA

Funding Source: Centers for Disease Control and Prevention (CDC), Atlanta; 2015-2020 and 2020-2025

Introduction: CDC-SHARE INDIA, through its project LaQSH (Laboratory Quality Systems in HIV), provided Technical Assistance (TA) for strengthening HIV laboratories in India under the National AIDS Control Programme (NACP) between 2015 to 2020. In the reporting period the following key activities were conducted.

Key Activities:

Operationalization of Viral Load laboratories:

The project provided TA and operationalized VL laboratories across the country, from 10 to 63.

Technical Assistance to VL labs:

The "Training on Laboratory-Clinical Interface for HIV-1 Viral Load Testing" were organized through the virtual platform for the public sector VL labs. Three batches of online training were conducted and 168 VL lab staff and ART medical officers were trained on technical and operation guidelines for VL, Quality Assurance and VL result uptake. With support from the Apex VL laboratory at NARI Pune, PT panels were dispatched to the 53 VL Labs.

The project provided technical assistance to link 2 additional ART centers with RIMS Imphal, Manipur VL Lab to optimize the testing capacity and improve the VL testing coverage. In addition, 33 camps have been conducted in five districts till March 2021 with a total of 1807 VL samples collected. Between January – March 2021, 4,551 PLHIV were tested in three months with a monthly average of 1,517 PLHIV. The annual VL testing coverage increased from 54% in December 2020 to 67% in March 2021.

Camp Model & Hub & Spoke Model in Northeast Region:

The project adopted two strategies that are Camps for VL sample collection and Expansion of Hub & Spoke model in Kolasib, Mamit, Champhai and Lunglei to increase the VL coverage in the state. There were 40 camps that were conducted in eleven districts till March 2021 with a total of 793 VL samples collected. Between January – March 2021, 4,896 PLHIV were tested in three months with a monthly average of 1,632 PLHIV. The annual VL testing coverage increased from 44% in December 2020 to 57% in March 2021. 582/1635 (35.5%) KPs have accessed VL testing through Hub & Spoke model between October 20 to March 21. The average monthly VL testing increased from 43% in October 19 to March 20 to 85% in October 20 to March 21. The project improved the VL coverage by conducting 28 camps in seven districts till March 2021. A total of 797 VL samples were collected. Between January – March 2021, 4,348 PLHIV were tested in three months with a monthly average of 1,449 PLHIV. The VL testing coverage increased from 27% in December 2020 to 68% in March 2021.

Nacoprayogshala:

The project provided TA for the second round (FY 20-21) of PT panel preparation and dispatched panels to 53 VL labs. The project has also developed "Nacoprayogshala", an online portal for real-time data entry for data management of VL PT program for VL labs and trained all the VL labs staff on EQA tool. In addition, the project analysed the PT data and submitted the report to NARI and NACO. Among 52 VL labs who participated in the PT, 50 of them passed the PT. The project provided TA to conduct Root cause analysis and the reports were shared with NARI and NACO. One lab did not participate due to non-availability of testing kits.

Continuous Quality Improvement at HCTS:

The projects also propelled National scale-up and transition of continuous quality improvement (CQI) model at HIV Counselling and Testing Services (HCTS) laboratories. The project has also designed A road map for "Continuous Quality Improvement (CQI) initiative at >5000 HCTC laboratories in the country.

The project provided TA to prepare the user-specific requirements for integrated information management for Laboratory services which were developed for HCTS, VL and CD4 testing.

LaQSH Plus

In continuation, SHARE INDIA has been awarded a five-year cooperative agreement by CDC from PEPFAR funding starting from

30th September 2020. It aims to provide TA to India's National AIDS Control Programme (NACP) for achieving Undetectable = Untransmittable through quality laboratory testing, workforce development, improved result utilization and strong laboratory epidemiology platforms for informed Public Health response. The overall goal of the project is to develop a Continuous Quality Improvement (CQI) led comprehensive and innovative laboratory strengthening support to NACP through innovative, evidence-based and proven strategies. The specific objectives are to,

- Provide technical assistance for Viral load (VL) scale-up and strengthen lab clinical interface
- Implement Continuous Quality Improvement (CQI) in HIV/TB laboratories and other testing modalities
- Demonstrate integrated models of quality assisted diagnostic services for comprehensive management of PLHIV
- Strengthen HIV/TB laboratory capacity and integration of laboratory networks for optimization
- Strengthen HIV testing capacity and HIV case-based surveillance using evidence-based testing modalities like community-based testing, index testing, self-testing, recency testing and HIV drug resistance testing.

The focus is on high burden districts in the states of Andhra Pradesh (AP), Maharashtra (MH), Manipur, Mizoram and Nagaland towards achieving 95-95-95 treatment targets and the focus was on the following key activities.

Telangana Surge Activity:

The project established a sample referral and linkage mechanism to transport the plasma samples from ART Centers in Hyderabad to the VL Lab in Public Sector. The project provided training on "sample collection, processing and transportation" to ART Centre and VL Lab staff in the state and 20 staff were capacitated. In order to increase the coverage of VL testing, a surge operation was initiated in 13 ARTCs by linking these ARTCs with both public and private VL labs, and by increasing the sample collection frequency and number of samples, since 4th January 2021. The surge operation resulted in increased VL coverage from 22.4% in Dec 2020 to 67% by end of March 2021.

TB LAM and CrAg testing for ADM in Mumbai:

The project provided TA including capacity building to conduct investigations such as TB LAM and CrAg testing across 19 ARTC in Mumbai. As of March 2021, 1982, TB, LAM tests and 2149 CrAg tests against the target of 3,000 have been done. All positive PLHIVs have been linked to treatment.

TB LAM and CrAg testing for ADM in Mumbai

Other activities:

Transgender (TG) Health & Wellness Center:

It is the first of its kind in the country that aims to provide a comprehensive package of general health, HIV/ STI, psycho-social and gender affirmative services, all under one roof to the transgender community. CDC-SHARE INDIA in collaboration with ITECH India supports the Point-of-Care Testing (POCT) services at the wellness centre as part of the comprehensive diagnostics services to the transgender community. The TGHWC and the Help Desk at Jawaharlal Nehru Institute of Medical Sciences (JNIMS), Porompat, Imphal East were inaugurated on March 25, 2021.

18. Building systems capacity on Outbreaks Laboratory Surveillance Training Emergency response and Infection Prevention Control and Anti-Microbial Resistance– BOLSTER

Investigators

- Dr. Vijay V. Yeldandi, Clinical Professor of Medicine and Surgery, University of Illinois at Chicago, USA
- Dr. Guru Rajesh Jammy, Project Director, SHARE INDIA

Funding Source: Centers for Disease Control and Prevention (CDC), Atlanta; 2020-2025

Introduction:

COVID-19 has revealed that IPC needs to be an integral part of every healthcare facility. Cognizant to the challenges posed by the new pandemic, Government of Andhra Pradesh, evinced interest and SHARE INDIA was tasked by the Special Chief secretary, Department of Health, Medical and Family Welfare, Government of AP to strengthen IPC. Before starting, SHARE INDIA obtained and received approvals from its Institutional Review Board (IRB) and Health Ministry Screening Committee (HMSC) of Indian Council of Medical Research (ICMR) and technical assistance from CDC-India, to strengthen IPC in 21 selected tertiary and secondary level hospitals in Andhra Pradesh.

The overall objectives of the project are to,

1. Conduct baseline IPC assessments in 21 hospitals
2. Identify the gaps and provide recommendations to address the same at these hospitals
3. Immediately begin to build capacity through trainings and support for bridging the gaps
4. Link these hospitals to the existing Healthcare Associated Infections (HAI) surveillance network of AIIMS, New Delhi, technically coordinated by ICMR.

Accomplishments under BOLSTER in Andhra Pradesh (AP)

- Conducted IPC baseline assessments at 21 healthcare facilities in Andhra Pradesh to understand
- The current IPC practices and to understand the areas of improvement, using WHO - "IPCAF (Infection Prevention and Control Assessment Framework)" tool and "Hospital Preparedness & Infection Prevention and Control for COVID-19 in COVID facility" tool by Govt. of India.
- Conducted IPC baseline assessments at 3 Maternal & Child Health facilities in Andhra Pradesh, using WHO - "IPCAF (Infection Prevention and Control Assessment Framework)" tool.
- At all interventions sites, upon completion of IPC baseline assessment, progress review visits are conducted every 3 months, to understand the progress made by individual facilities and support them with drafting necessary next steps, to strengthen IPC in their facility.
- Supported facilities to create an "IPC team" at each facility, constituting an ICO (Infection Control Officer) and ICN (Infection Control Nurse), to facilitate and monitor IPC-related activities in their facility.
- Provided Ten weekly-virtual trainings to ICN/facility staff, till date and since Feb, 2021. Total number of participants from these virtual trainings were 509.
- Upon completion of each virtual training, facilitated ICNs to develop training calendar for their facility staff and supported conduct of in-house IPC trainings, where the trained ICNs be the master trainers.
- Training reports are prepared after each virtual training and shared with the facilities and the state health department officials.
- Provided technical assistance about importance of constituting HICC (Hospital Infection Control Committee) and conduct of

monthly-HICC meetings and all facilities have institutionalised the same.

- Provided technical support to conduct Risk assessment to recognize Risks and plan appropriate Risk management strategies to enhance IPC practices
- Provided healthcare facilities with appropriate resource materials relevant to IPC and COVID-19. Have mobilized and distributed print-copies of "National Guidelines for IPC at Healthcare Facilities, MoHFW, GoI", from NCDC-Delhi to all Area Hospitals, District Hospitals and Govt. General Hospitals in AP.
- Initiated capturing the good practices at facilities, which could be shared with other facilities to improve the IPC practices, in future

19. Global Health / International Exchange Program

The SHARE INDIA exchange program aims 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.

Due to the pandemic in the reporting period and restrictions on travel there were no faculty and students who visited SHARE INDIA and there were no students who have gone abroad for any internship programs.

Publications

Our past publications are available at:

http://shareindia.org/about_SI.html#PUBS

2020

1. Narassima MS, Guru Rajesh Jammy, Rashmi Pant, Lincoln Choudhury, Aadharsh R, Vijay Yeldandi, Anbuudayasankar SP, Rangasami P. **An Agent Based Model methodology for assessing spread and health systems burden for Covid-19 using a synthetic population from India.doi:** https://doi.org/10.1101/2020.06.04.20121848]

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3. Choudhury, L., Jammy, G., & Pant, R. (2020). **Concurrent impact evaluation of lockdown measures on COVID-19 positivity in three states of India.** International Journal of Community Medicine And Public Health, 7(10), 4028-4032. doi:http://dx.doi.org/10.18203/2394-6040.ijcmph20204371

4. Ramesh R Allam, Mayuko Takamiya, Rashmi Pant, Sabitha Gandham, Vijay V Yeldandi, Jaya Thomas,Maria L Ekstrand and Mark S Dworkin. **Factors associated with non-adherence to antiretroviral therapy among female sex workers living with HIV in Hyderabad, India.** International Journal of STD & AIDS 31(8). 2020, Vol. 31(8) 735–746

5. Kusneniwar GN, Jammy GR, Shailendra D, Bunker CH, Reddy PS. **Which obesity index is a better predictor for cardiometabolic risk factors in a young adult rural population of Telangana State, India?** J Family Med Prim Care. 2020 Sep 30;9(9):4667-4672

6. Manoj V. Murhekar, Muthusamy Santhosh Kumar, P. Kamaraj, Siraj Ahmed Khan, Ramesh Reddy Allam, Pradip Barded, Bhagirathi Dwibedi, Suman Kanungo, Uday Mohan, Suman Sundar Mohanty, Subarna Roy, Vivek Sagar, Deepali Savargaonkar, Babasaheb V. Tandale, Roshan Kamal Topno, C.P. Girish Kumar, R. Sabarinathan, Sailaja Bitragunta, Gagandeep Singh Grover, P.V.M. Lakshmi, Chandra Mauli Mishra, Provash Sadhukhan, Prakash Kumar Sahoo, S.K. Singh, Chander Prakash Yadav, Rajesh Kumar, Shanta Dutta, G.S. Toteja, Nivedita Gupta, Sanjay M. Mehendale, ICMR – Serosurvey group. **Hepatitis-B virus infection in India: Findings from a nationally representative serosurvey, 2017-18.** International Journal of Infectious Diseases 100 (2020) 455–460

7. Srinivasa Prakash Regalla, Sagar S. Karwa, Sreeram Rajesh, P.V. Shyam, Prakash N. Shrivastava, **Strength and fracture behaviour of polymer matrix composite layered structures made by additive manufacturing, Materials Today:** Proceedings,Volume 28, Part 2, 2020, Pages 1030-1038. (Scopus)

2021

8. Dr Vijay V. Yeldandi, Dr Vandana Dabla. **Ensuring essential HIV services during the COVID-19 pandemic.** The Indian Express-Editorial , 24th Jan, 2021, New Delhi.

9. Muthusamy Santhosh Kumar, Pattabi Kamaraj, Siraj Ahmed Khan, Ramesh Reddy Allam, Pradip V Barde, Bhagirathi Dwibedi, Suman Kanungo, Uday Mohan, Suman Sundar Mohanty, Subarna Roy, Vivek Sagar, Deepali Savargaonkar, Babasaheb V Tandale,Roshan Kamal Topno, Chethrapilly P Girish Kumar, Ramasamy Sabarinathan, Velusamy Saravana Kumar, Sailaja Bitragunta,Gagandeep Singh Grover, Pinnaka V M Lakshmi,

Chandra Mauli Mishra, Provash Sadhukhan, Prakash Kumar Sahoo, Shivendra K Singh,Chander Prakash Yadav, Elangovan Ramya Dinesh, Thiyagarajan Karunakaran, Chinnasamy Govindhasamy, Thomas Daniel Rajasekar,Annadurai Jeyakumar, Arunachalam Suresh, Duraisamy Augustine, Paparaju Ashok Kumar, Rajesh Kumar, Shanta Dutta, Gurudayal S Toteja, Nivedita Gupta, Hannah E Clapham, Sanjay M Mehendale, Manoj V Murhekar. **Seroprevalence of chikungunya virus infection in India, 2017: a cross-sectional population-based serosurvey.** www.thelancet.com/microbe Vol 2 January 2021 Lancet Microbe 2021; e41–47

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11. Azhar, S., Vaudrey, J., Gandham, S., Burr, S., Oruganti, G., & Yeldandi, V. (2021). **Secret lives and gender fluidity of people living with HIV in Hyderabad, India.** Journal of Community Psychology, 1–17. https://doi.org/10.1002/jcop.22541

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Abstract/Oral Presentation:

1. Dr Vijay V Yeldandi, Dr Rashmi Pant and Dr Jammy Guru Rajesh from SHARE INDIA, Abstract on COVID-19 Epidemic Dynamics and Population Projections from Early Days of Case Reporting in a 40 million population from Southern India.

2. Shikha Dhawan, Webinar on "Monastery Magic, from TB to Zero TB"; experience from Sikkim; The International Union Against TB and Lung Diseases (The UNION), TB and Migration Group with International Organization for Migration (IOM), (2020)

3. Shikha Dhawan, "Grant Writing Workshop" as part of Faculty Development Course, Kalinga Institute of Industrial Technology (KIIT), Odisha, India (2020)

4. Shikha Dhawan, Faculty Development Course on "Developing Research Proposals" as part of series on "Inculcating Research Culture in Teaching and Learning Process", Central University of Rajasthan, India (2021)

5. Shikha Dhawan, QIAGEN Knowledge Seminar on "Latent Tuberculosis Infection" (2021)

6. Shikha Dhawan, "Unveiling the tips for an impactful pitch", Workshop on "Designing Framework for Commercialization Research", Biotechnology Industry Research Assistance Council (BIRAC), Department of Biotechnology (2021)

SHARE INDIA

Ghanpur Village, Medchal Mandal, Medchal Malkajgiri District-501401. TS

BALANCE SHEET AS AT 31 st March, 2020

	SCH. NO		As At 31.03.20		As At 31.03.19
			Amount (Rs)		Amount (Rs)
Source of Funds					
Capital Fund	1		13108321		15816069
Total			**13108321**		**15816069**
Application of Funds					
Fixed Assets	2				
Gross Block		34350640		34245082	
Less: Depreciation		24487925		22819928	
Net Block			9862715		11425154
Current Assets:					
Cash and Bank	3	41808859		33926273	
Balances	4	3946526		3550166	
Loans and Advances	5	1038958		824245	
Other Current assets		46794343		38300684	
Less:					
Current Liabilitiees and Provisions	6	43546737		33909769	
Net Current Asset			3245606		4390915
Total			**13108321**		**15816069**

INCOME AND EXPENDITURE ACCOUNT AS AT 31 st March, 2020

	SCH. NO	31.03.20	31.03.19
INCOME:		Amount (Rs)	Amount (Rs)
Donations		10383216	11084308
Grants		146083099	133497835
Other Income	7	1539478	2378056
Total		**158005793**	**146960199**
EXPENDITURE:			
Personnel Expenses	8	79791222	70528245
Power & fuel	9	797861	757813
Program expenses	10	65471735	57691158
Other Expenses	11	11546091	11847527
Total		**157606909**	**140824743**
Excess of Income over Expenditure before Depreciation		398884	6135456
Less: Depreciation		3106631	3228230
Excess of expenditure over Income Transferred to Capital Account		**2707747**	**(2907226)**
NOTES TO ACCOUNTS	12		

As Per our report of even date attached

For LUHARUKA & ASSOCIATES
CHARTERED ACCOUNTANTS
FRN 018825

(RAMESHCHAND JAIN)
PARTNER
M No. 023019

Place: Hyderabad
Date: 07.12.2020

For SHARE INDIA
(Dr.V.MALAKONDA REDDY)
SECRETARY

Abbreviations

AIG	Asian Institute of Gastroenterology
ANC	Antenatal Care
ATT	Anti-Tuberculosis Treatment
BIG	Biotechnology Ignition Grant
BIRAC	Biotechnology Industry Research Assistance Council
BOLSTER	Building Systems Capacity on Outbreaks Laboratory Surveillance Training Emergency Response and Infection Control Prevention and Anti-Microbial Resistance
CBIT	Chaitanya Bharathi Institute of Technology
CCCC	Centre for Control of Chronic Conditions
CDC	Centers for Disease Control and Prevention
CSSI	Caesarean Surgical Site Infection
CVD	Cardio-Vascular Disease
GBP	British Pound
GSPH	Graduate School of Public Health
HELP	HEaLthy Pregnancy
HIV	Human Immunodeficiency Virus
ICMR	Indian Council of Medical Research
LaQSH	Laboratory Quality Systems in HIV
LIFE	Longitudinal Indian Family hEalth
LSHTM	The London School of Hygiene and Tropical Medicine
MIMS	MediCiti Institute of Medical Sciences
NACP	National AIDS Control Program
NACO	National AIDS Control Organization
NIH	National Institutes of Health
NISCHIT	National Initiative to Strengthen and Coordinate HIV/TB response
PA	Pennsylvania
PHFI	Public Health Foundations of India
PIH	Pregnancy Induced Hypertension
PLHIV	People Living with HIV/AIDS
REACH	Rural Effective Affordable Comprehensive Healthcare
Rs	Rupees
SIRO	Scientific and Industrial Research Organisation
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 Kingdoms
UOP	University of Pittsburgh
US $	United States Dollar
USA	United States of America

Notes

Notes

Participant Stories

1. The End MDR TB Dharavi project Going the Extra Mile

Hello Sakina, its Padmaja!

Padmaja rang up Sakina Banu (name changed), who lives in Dharavi and is taking anti-TB treatment. Although it was a routine call for Padmaja for being an active ORW of SHARE INDIA, what she was about to hear, was heart-rending.

"My sister died from TB", were the first words of Sakina. The family had lost their income resources due to COVID-19 lockdown. She along with her mother and brother were dependent on a nearby mosque for a daily one-time meal. A portion of the meal was saved for Sakina's dinner so that she does not consume her TB medications on an empty stomach. By the time the phone call was over with a promise to help, Padmaja knew of her immediate action!

She connected with NGO SNEHA and Deeniyat Trust and coordinated the supply of food provisions, vegetables and fruits for Sakina's family. While the supply was sufficient to ensure food for a month, Padmaja was certain to see Sakina adhere to her anti-TB course.
Padmaja went above and beyond the call of duty; for she is dedicated to her work. We are proud of our association, for we believe in "One Health".

Dedicated to Ms Padmaja Chavan, ORW, SHARE INDIA, who indeed walked that "extra mile" to "save a life".

2. Global TB Champions 2021

An incredibly proud moment for SHARE INDIA to be recognized once again by the United States Centers for Disease Control and Prevention on World TB day-24th March as one of the "2021 Global TB Champions."

Multidrug-Resistant TB Dharavi Field Coordinators made:

- >800 calls to drug-resistant TB patients
- Ensured an adequate supply of medication
- Checking adverse drug reactions
- Linking clients to food/social services

Their commitment was to fight drug-resistant TB in Dharavi.

3. Infection Prevention and Control Measures at the Health facilities

When it becomes necessary for people with HIV to have access to HIV care & treatment on time, it is vital to support and promote using the best tools to fight the pandemic:

- Social distancing
- Re-aligning to fast-track patient flow
- Face masks

We pledge to educate, encourage and support our health system to conquer this difficult time. SHARE INDIA in collaboration with APSACS and CDC supported the infection prevention and control at the ART centres in Andhra Pradesh.

SHARE

SHARE INDIA

MediCiti Institute of Medical Sciences Campus, Ghanpur Village, Medchal Mandal
Medchal Malkajgiri District, 501 401, Telangana, India
Phone: 08418-256201 – 209 Ext: 256 | Mobile: +91 99858 20831 | Email: info@sharefoundations.org
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