INDIAN INSTITUTE of PUBLIC HEALTH
ESTABLISHED BY PHFI
GANDHINAGAR | HYDERABAD | DELHI
BHUBANESWAR | SHILLONG | BENGALURU

PUBLIC HEALTH FOUNDATION of INDIA

PUBLIC HEALTH FOUNDATION OF INDIA

KNOWLEDGE. ACTION. IMPACT. EQUITY

Indian Institute of Public Health (IIPHs) students assisting in COVID-19 activities at the state level

ANNUAL REPORT
2019-20


phfi
KNOWLEDGE . ACTION . IMPACT . EQUITY

Who are we

Vision

Our vision is to strengthen India's public health institutional and systems capability and provide knowledge to achieve better health outcomes for all.

Mission

- Developing the public health workforce and setting standards
- Advancing public health research and technology
- Strengthening knowledge application and evidence informed public health practice and policy

Values

Transparency

- Uphold the trust of our multiple stakeholders and supporters
- Honest, open and ethical in all we do, acting always with integrity

Impact

- Link efforts to improving public health outcomes, knowledge to action
- Responsive to existing and emerging public health priorities

Informed

- Knowledge based, evidence driven approach in all we do
- Drawing on diverse and multi disciplinary expertise, open to innovative approach

Excellence

- Aim for highest standards in all aspects of our work
- Promote excellence in public health precept and practice

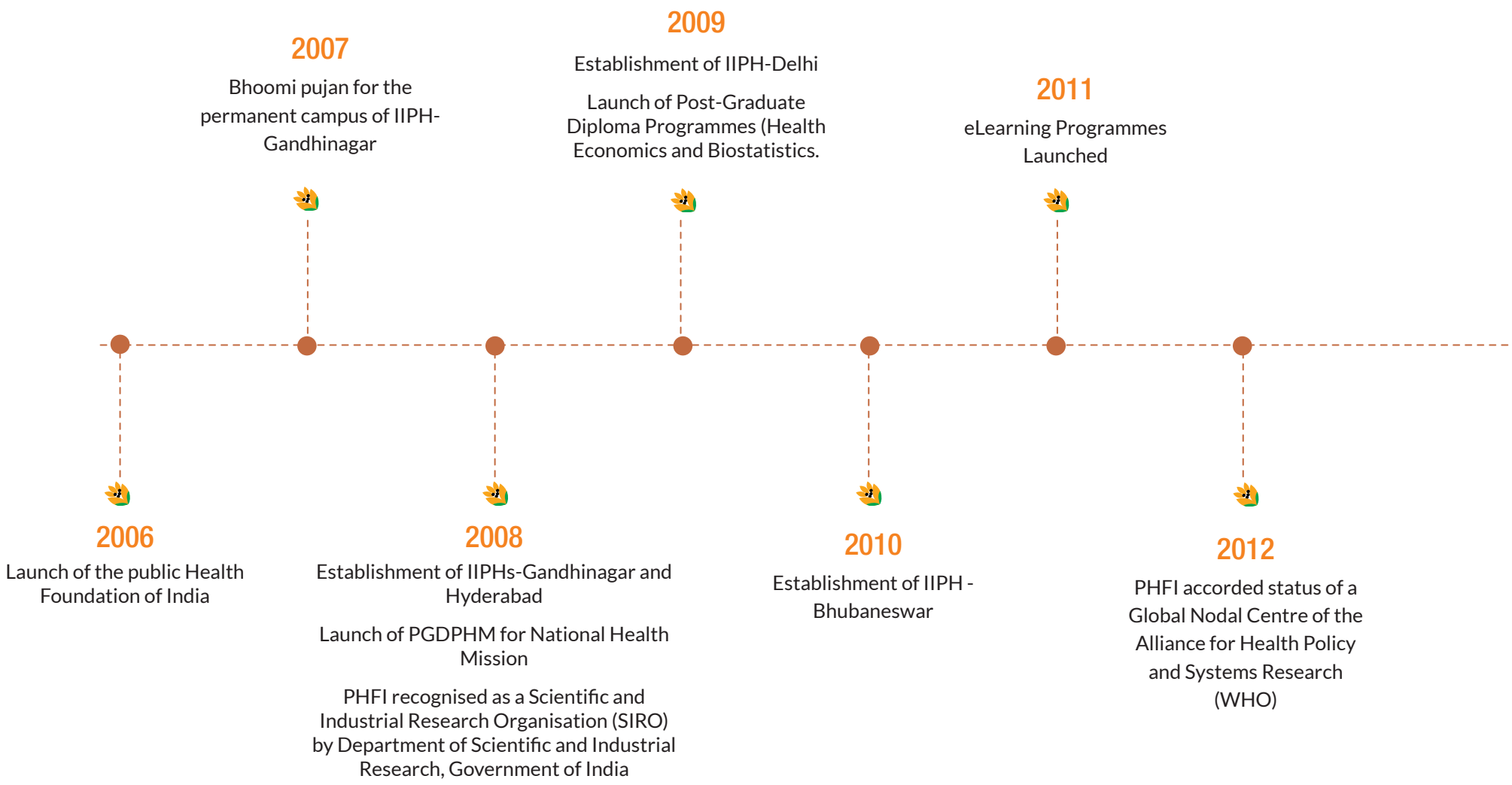
Independence

- Independent view and voice, based on research integrity & excellence
- Support academic and research freedom, contributing to public health goals and interests

Inclusiveness

- Strive for equitable and sustainable development, working with communities
- Collaborate and partner with other public health organizations

Our Journey so far



2013

Launch of Integrated MSc & PhD in Health Informatics and Clinical Research

2014

International Diabetes Federation awards certificate of Excellence to PHFI's primary care training programme

2015

Launch of MPH Programme at IIPH Gandhinagar and Hyderabad

IIPH Gandhinagar accorded University Status under the State Act

Establishment of Indian Institute of Public Health, Shillong

Bhoomi Pujan of permanent campus of IIPH Hyderabad

2016

Launch of the Permanent campus of IIPH-Gandhinagar

Launch of MPH programme through affiliation between IIPH-Delhi and Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum

2017

PhD (Full time) in Health Sciences/Public Health launched and announced at IIPH-Delhi

India State Level Disease Burden (ICMR/PHFI/IHME) Disease Initiative launched

IIPHG recognised as a Scientific and Industrial Research Organisation (SIRO) by Department of Scientific and Industrial Research, Government of India

2018

IPHS, sponsored by PHFI shortlisted for Institute of Eminence (IOE)

2019

PHFI and IIPHs are part of National Knowledge Network

Launch of MPH programmes at IIPH Shillong through affiliation with Martin Luther Christian University, Shillong

2020

Launch of IIPH Shillong Society

Governance

PHFI Executive Committee

1. Mr. S. Ramadorai
2. Prof K Srinath Reddy
3. Dr. Rati Godrej
4. Dr. Sunil Kaul
5. Dr. Abhay Bang
6. Dr. Muzaffar Ahmad
7. Dr. Abraham Joseph
8. Mr. Lav Agarwal

Governing Body of PHFI

1. Mr. S. Ramadorai
2. Prof K Srinath Reddy
3. Dr. Rati Godrej
4. Dr. Sunil Kaul
5. Dr. Abhay Bang
6. Dr. Muzaffar Ahmad
7. Dr. Abraham Joseph
8. Mr. Lav Agarwal
9. Prof. Balram Bhargava
10. Mr. Narayan Murthy
11. Dr. Lincoln Chen
12. Prof. Jim Curran
13. Mr. Gautam Kumra
14. Mr. T. N. Manoharan
15. Mr. Raj Mitta
16. Prof Peter Piot
17. Prof. (Dr.) Sunil Kumar
18. Mr. J. V. R. Prasada Rao
19. Prof. Amartya Sen
20. Mr. Harpal Singh
21. Dr. Jaime Sepulveda
22. Mr. Raman Sharma
23. Mr. Michel Sidibé
24. Mr. Prashanth Vasu
25. Prof. Partha Pratim Chakrabarti
26. Dr. A. K. Shiva Kumar
27. Prof. Shalini Bharat
28. Prof. Shiv Visvanathan
29. Dr. Madhu K Mohan
30. Dr. Montek Singh Ahluwalia
31. Dr. Mirai Chatterjee
32. Mr. Uday Khemka
33. Mr. Ashok Jaipuria

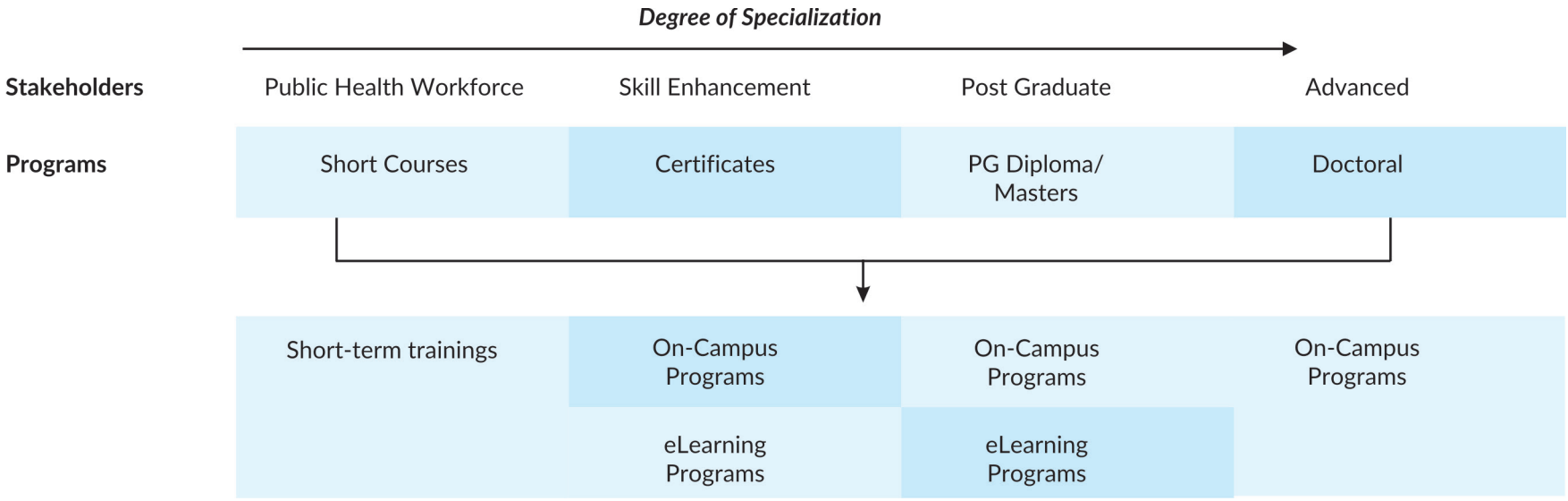
Academic Programs

PHFI's core mandate is to strengthen public health education in the country by offering high-quality, long term academic programs and short-term training programs delivered through a multipronged, cross cutting and integrated approach to education. This capacity building is central to PHFI's vision for strengthening India's public health institutional and systems capacity for better health outcomes. PHFI has purposefully sought to provide its academic offerings as a wide spectrum targeting a varied audience from the public and the private sector.

We offer multiple programs for stakeholders across the spectrum. We offer several certificate programs (in eLearning & on-campus mode) that contribute towards skill enhancement. We visualize our academic engagements across four levels of specialization; short courses, certificates, post graduate diploma/ masters and doctoral programs.

PHFI established a network of five Indian Institutes of Public Health (IIPH) - three in 2008 at Gandhinagar, Hyderabad and Delhi and fourth in 2010 at Bhubaneshwar and the fifth in Shillong in 2015. These institutes help PHFI in translating its mission of developing and strengthening the capacity of public health workforce through education, training and research and setting standards in public health education. We also operate an ancillary centre in partnership with Government of Karnataka at Bangalore since 2012.

Figure 1: PHFI Academic Programs: Spectrum



IIPH students undertaking field work

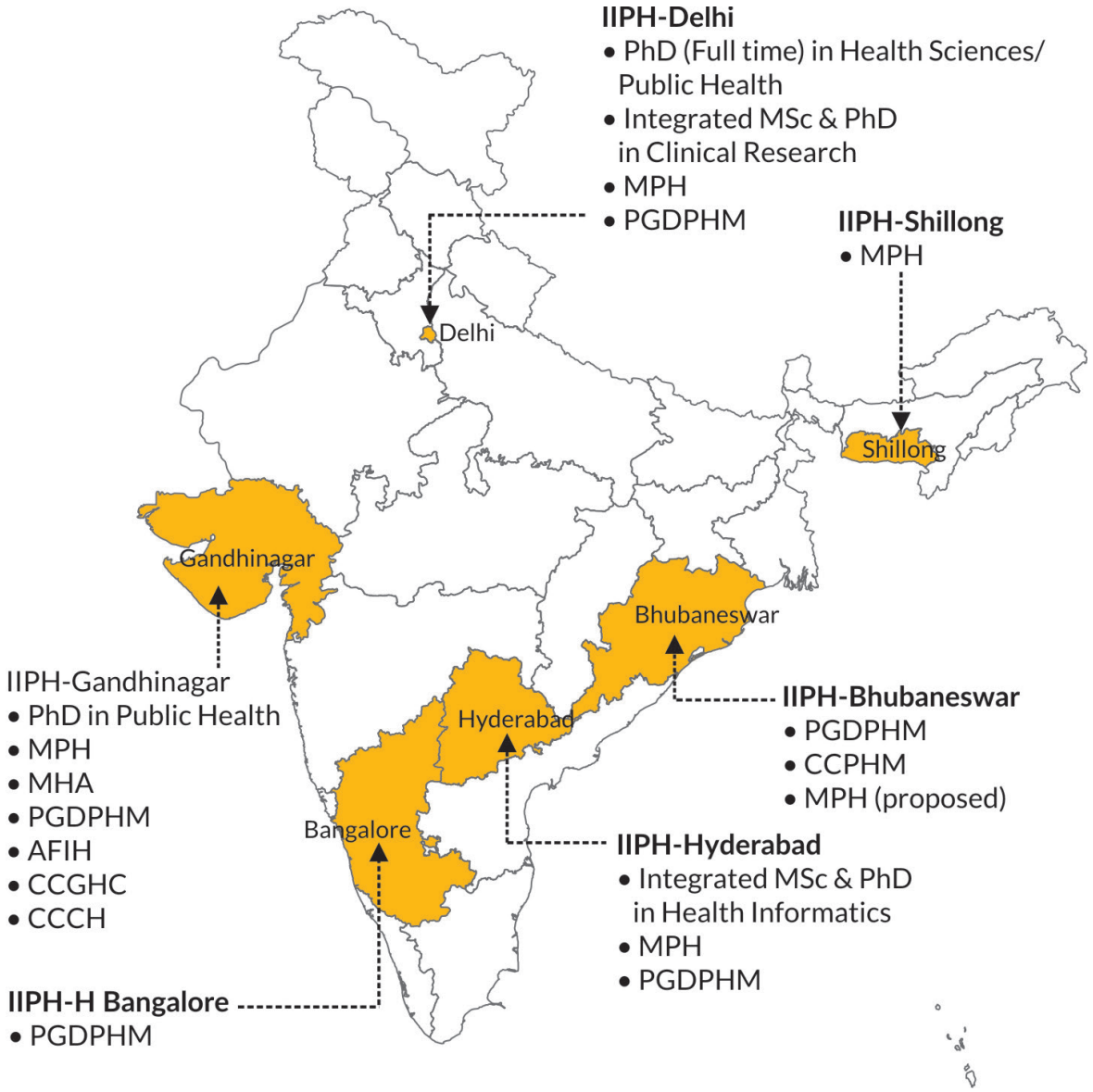
On-campus Programs

1. PhD in Public Health [at IIPH-Gandhinagar, a university under State Government Act]
2. PhD (Full time) in Health Sciences/ Public Health [at IIPH-Delhi in affiliation with Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum (An Institute of National Importance under Govt. of India)]
3. Integrated MSc & PhD in Clinical Research [offered in collaboration with Academy of Scientific and Innovative Research (AcSIR), (An Institute of National Importance established by Act of Parliament)]
4. Integrated MSc & PhD in Health Informatics [offered in collaboration with Academy of Scientific and Innovative Research (AcSIR), (An Institute of National Importance established by Act of Parliament)]
5. Master of Public Health (MPH) [at IIPH-Gandhinagar (a university under State Government Act); at IIPH-Hyderabad in affiliation with Kaloji Narayana Rao University of Health Sciences, Telangana; IIPH-Delhi in affiliation with Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum (An Institute of National Importance under Govt. of India); at IIPH-Shillong in collaboration with Martin Luther Christian University, Shillong]
6. Master of Hospital Administration (MHA) [at IIPH Gandhinagar, a university under State Government Act]
7. Post Graduate Diploma in Public Health Management [Supported under National Health Mission (NHM), MoHFW, Govt of India]
8. Associate Fellow of Industrial Health [Regulated by Directorate General, Factory Advice Service and Labour Institutes, Govt of India (DGFASLI)]
9. Certificate Course on Geriatric Health Care giving [offered with support from Gujarat State Financial Services Limited and facilitated by Gujarat CSR Authority]
10. Certificate Course in Community Health (CCCH) [offered by with support from State Institute of Health and Family Welfare Gujarat]
11. Certificate Course in Public Health Management (CCPHM) [Offered in collaboration with Department of Health & Family Welfare, Odisha]

eLearning Programs

1. ePost Graduate program in Public Health Nutrition
2. ePost Graduate program in Health Promotion
3. ePost Graduate program in Epidemiology
4. ePost Graduate program in Management of Reproductive & Child Health Programmes
5. ePost Graduate program in Public Health & Hospital Management for Nursing & Allied Health Professionals
6. ePost Graduate program in Public Health Services Management
7. ePost Graduate program in Health Economics, Health Care Financing and Policy
8. eCourse on Tobacco Control
9. eCourse in Research Methodology
10. eCourse in STI & HIV/AIDS
11. eCourse in Health, Safety & Environment Management
12. eCourse on M&E of Health Programs
13. eCourse on GIS Application in Public Health
14. eCourse in Research Ethics
15. eCourse in Effective Grant Writing in Public Health
16. eCourse in Good Public Health and Clinical Laboratory Practice and Medical Ethics
17. eCourse in Public Health Surveillance
18. eCourse on Public Health Development Program for ICDS officials
19. eCourse in Advanced Hospital Management
20. eCourse in Clinical Research Methods

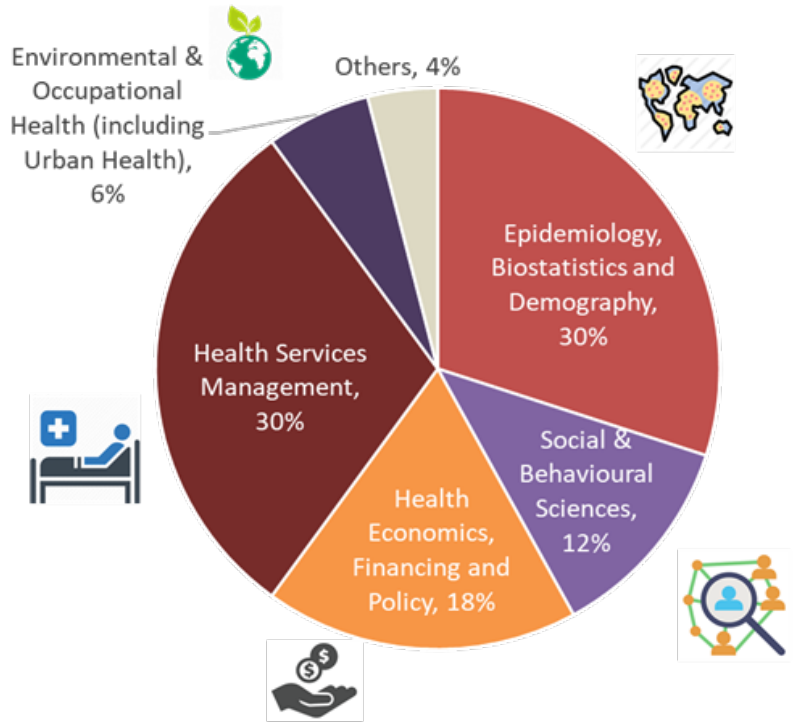
Figure 2: On-Campus Academic Programmes at Indian Institutes of Public Health



Our courses use case-based, problem-based learning approach to develop public health competencies. During the teaching session, students propose solutions to public health problems, identify learning issues and critically analyse and synthesize new information. Our courses are "Breaking the mould" by pushing the traditional discipline-based boundaries of academia, research and public health. We lay a greater focus on the importance of leadership with focus on complexities—political, economic and social for achieving global improvements in public health and creating 'change agents' for public health. We focus on transformative learning through our academic programs.

Faculty Resources

Figure 3: Departmental affiliations of faculty across IIPHs



We have a rich pool of 59 full time faculty members, 110 adjunct faculty members. We have consciously invested in the creation of a multi-disciplinary faculty pool. Conventional public health teaching in medical schools does not provide public health students with a diverse faculty pool. We have created systems to recruit faculty members from all core specialty areas of public health. Our multidisciplinary faculty strength in the core public health areas is showcased in the pie chart alongside.

Figure 4: Gender distribution of faculty members

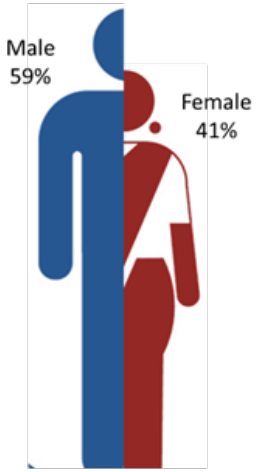
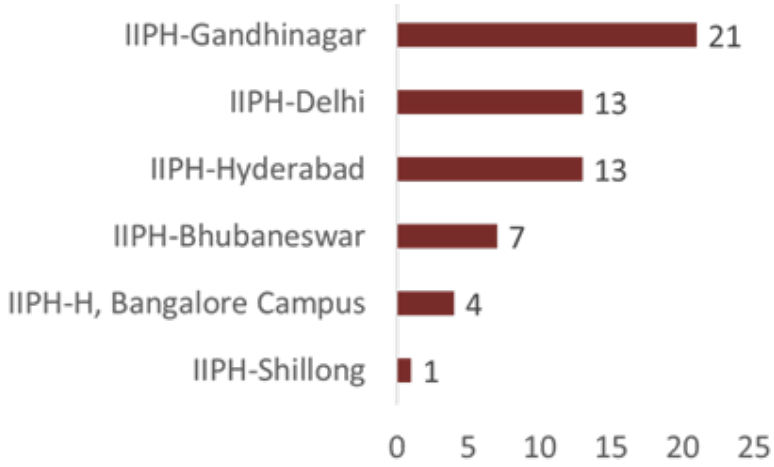


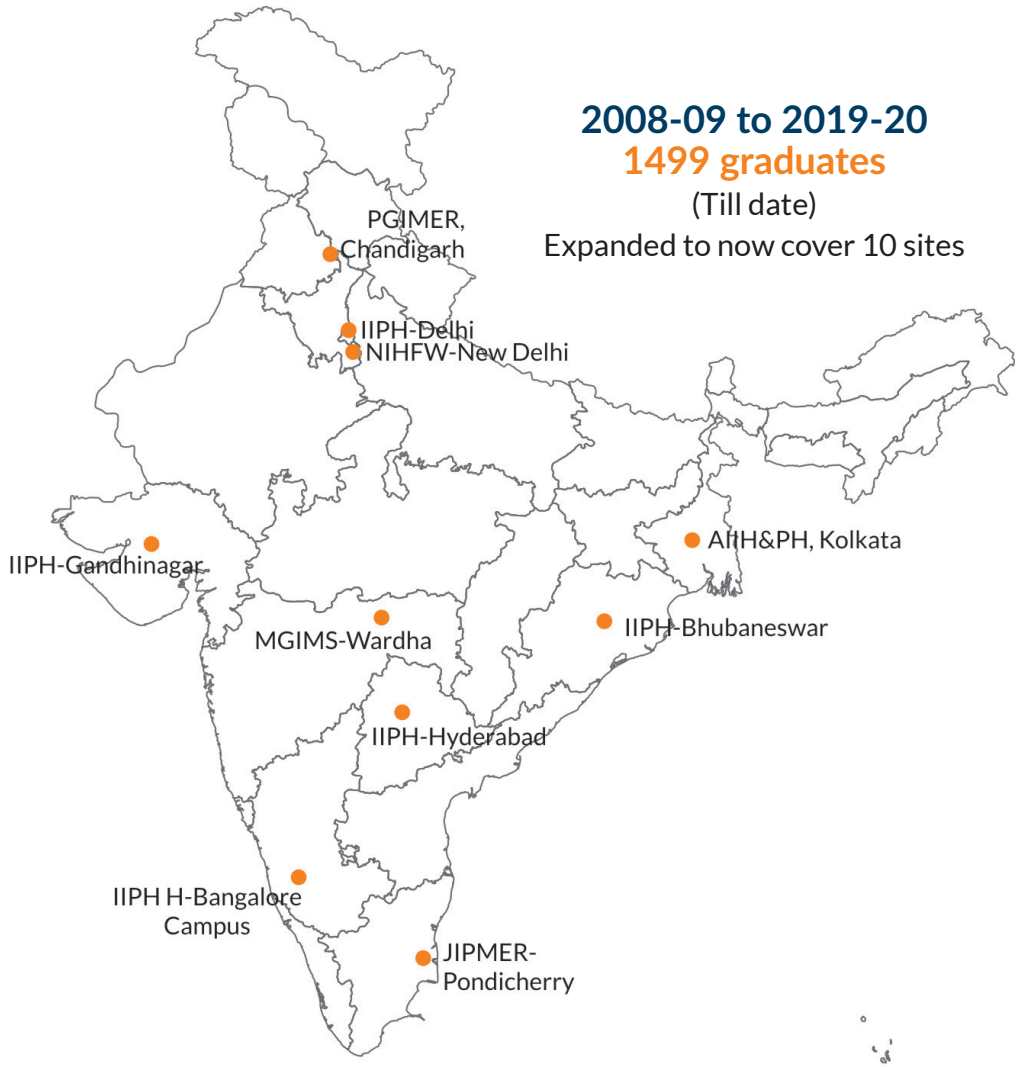
Figure 5: Number of faculty members



PGDPHM Program: A consortium of 10 Institutes to create Public Health managers

The Government of India launched the Postgraduate Diploma in Public Health Management (PGDPHM) as a flagship program under the umbrella of National Rural Health Mission (NRHM) to strengthen the limited capacity of health professionals in the domain of public health management and administration. PGDPHM consortium was constituted initially with four partner institutes - Indian Institute of Public Health (IIPH), Gandhinagar; Mahatma Gandhi Institute of Medical Sciences (MGIMS), Sewagram, Wardha; National Institute of Health and Family Welfare (NIHFW), New Delhi and All India Institute of Hygiene and Public Health (AIIH&PH), Kolkata. Shri Naresh Dayal, former Union Secretary, Ministry of Health and Family Welfare, Govt. of India inaugurated it in July 2008. PHFI provides leadership to this consortium. The program offered across PGDPHM partner institutes is uniquely identified with an NRHM context in its content. The program offers opportunities to encourage states and the central government to clearly delineate a much-needed specialized public health cadre in India. The program emphasizes on an improved public health practice. Its multidisciplinary facets are aimed at addressing the mismatch of demand and supply of health professionals and strengthening the public health system in India through adequate number of public health managers. Currently this consortium has expanded and now ten institutes offer the PGDPHM program across India. Till date, this program has produced 1499 graduates.

Figure 6: PGDPHM Partners Consortium



During the COVID-19 pandemic, the in-service PGDPHM alumni as well as students are playing an active role in drafting of state-level policies; and designing, developing, setting up, testing, staffing and operating of systems and infrastructure, including intermediate healthcare facilities. Our alumni are also involved in the planning of palliative care procedures, oxygen supply, the transportation of patients and the management of dead bodies – all this while keeping abreast of their service and academic responsibilities. Many of our PGDPHM students are medicine doctors and nursing professionals, who were pulled into the frontline across the country for handling the COVID-19 crisis. It is amazing to see how PGDPHM alumni and students got together with their local teams and how they managed the health care needs locally even when they were being pulled off over such a short time.

Apart from the on-campus programs, in-service candidates are trained through various eLearning programs as well which too contribute to developing public health management skills in nominated candidates. For instance, the **ePost Graduate program in Epidemiology** focuses on the basics of epidemiology as a cornerstone discipline in public health. This program is suited for healthcare professionals already working with health system and engaged in delivery of health services but have limited access to higher education because of personal or professional reasons. This program aims to build a pool of trained public health professionals with a special focus on application of epidemiology in public health

Another eLearning program is **ePost Graduate Program in Management of Reproductive and Child Health Programmes** which has been conceptualised to address the growing need for program managers at state and district Program Management Units to have the requisite knowledge and skills to effectively manage the RCH programs. This program aims to develop an in-depth understanding of technical and programmatic issues related to reproductive and child health programs. It also intends to strengthen the capacity to plan, manage and monitor RCH programs at the state and district level.

Additionally, **ePost Graduate Program in Public Health Services Management** is being offered to enhance the capacities of public health functionaries across all levels for timely, reliable, efficient, effective and quality public health service delivery. This program has been designed to develop in depth understanding of public health issues, analyse various health system models and policies, and health seeking pattern and behaviour of individuals and communities. These eLearning programs involve virtual lectures, group interactions, self-reading, exercises and assignments.

Public Health Cadre

Demand and supply for public health professionals needs to be driven simultaneously. PHFI not only recognises the importance of facilitating the placement of our graduates but is also engaged in creating a new market. Our academic team has undertaken mapping of public health jobs in India. Various studies have been undertaken by a dedicated team led by senior colleagues at PHFI - to identify potential career options, opportunities and challenges for public health graduates to work in both public and private health sectors in India. We at PHFI recommend institutionalising the Public Health Cadre at central, state and district levels to create more positions with clear career progression plans for the entire public health workforce.

A greater efficiency in handling the resources assigned to the health system will certainly reap dividends by improving health outcomes. Public health system is to witness one of the most significant structural reforms of the current decade. The Central Council of Health and Family Welfare, meeting under the Chairmanship of the Hon' Health Minister Dr Harsh Vardhan, has approved the creation of Public Health Management Cadres across India. This decision is a statement of the Central government's intention to implement the National Health Policy 2017 in letter and spirit. Section 11.8 of the National Health Policy document states and we quote:

> *"The policy proposes creation of Public Health Management Cadre in all states based on public health or related disciplines, as an entry criteria. The policy also advocates an appropriate career structure and recruitment policy to attract young and talented multidisciplinary professionals."*

It further reads, **"Medical & health professionals would form a major part of this, but professionals coming in from diverse backgrounds such as sociology, economics, anthropology, nursing, hospital management, communications, etc. who have since undergone public health management training would also be considered."**

Public health skills are invaluable in administrative positions and in functional roles that involve planning, design, implementation, monitoring and evaluation of public programs.

Beyond the Pandemic

We need specialised teams at the district and block levels with skills in situational assessment, health resource planning, managing surveillance systems, assuring logistics and supply-chain management, set up new laboratories for testing, estimate need for additional hospital beds while maintaining a vigilant eye for any changes in the situation. While the present times have prominently brought these issues to the fore of public consciousness, these functions are also required to be performed in non-pandemic times. Public health personnel who have received special training and possess such skills should be assigned to perform these tasks.

Our Academic Journey

- 11 on-campus programs & 20 eLearning programs [2020-21]
- 2050 graduates for on-campus programs & 6299 enrolments for eLearning programs till date
- 347 scholarships awarded for on-campus students
- 92% placements since inception for on-campus graduates
- 18681 participants trained and 756 short-term trainings conducted till date
- Rich pool of 59 full time faculty members, 110 adjunct faculty members
- Multiple national and international academic collaborations
- Regular participant feedback solicited as part of a quality improvement loop
- Academic systems and processes in place to offer state-of-the-art learning experience

Figure 6: Summary of Academic Activities

On-Campus Programs	eLearning Programs	Short-term Programs
• 11 on campus programs • 2050 graduates • 92% placements since inception • 347 scholarships awarded	• 20 eLearning programs • 6299 enrolments	• 756 short-term trainings conducted • Over 18681 participants

59 full time faculty members
110 adjunct faculty members

Multiple national and international collaborations
peer-reviewed articles on public health education
Regular feedback solicited System and processes in place

As on 30th September 2020

Our alumni Providing their Services at the Ground Level

"For me Public Health is Synonym of, "Togetherness". If we see the current situation of the world on COVID-19. We must aware and get information from reliable sources on the same once or twice a day. COVID-19 is taking so much from us, but it's also giving us something special. The opportunity to come together as one humanity, to work together, to learn together, to grow together. In India, ~700,000 babies die annually before their first birthday. One in three is malnourished. In villages, three government community health workers look after mother and child health – AAA (ANM, ASHA and Aaganwadi worker). Currently I am looking after AAA intervention (Planning & Implementation) in Mahasamund District, Chhattisgarh. After 8th rounds of Interview, I got selected in The Antara Foundation as Program Consultant. The learning sessions during my program, Internship and the Dissertation part helps me to crack the Interview. Now, after 7 months I got promoted as Program Officer with FTE (Fix Term Employment)"

Dr. Gaurav Massi,
MPH
Program Consultant at The Antara Foundation (Chhattisgarh, India)

Glimpses of **Dr. Massi's work from field**

"I did my internship and dissertation work on non-communicable diseases. It was a learning experience about how government runs NCD programs and I played a role in finding issues of Asha workers in feeling CBAC forms screening of Non communicable diseases. Right now, I am doing job at Tata Trust as Swasth Bharat prerak in Poshan Abhiyaan for Sabarkantha District of Gujarat. There I am doing work for inspiring frontline workers like Anganwadi workers and block coordinators. And at District level I am supporting administration staff for implementing different components of Poshan Abhiyaan"

Dr Sanket M Nayak,
MPH
Swasth Bharat Prerak at Tata Trust (Gujarat, India)

Glimpses of **Dr Sanket M Nayak's work from field**

"During my MPH internship I did 'A case study on immunization defaulters in West Jaintia Hills District Meghalaya' and my dissertation work was on 'Patterns of drug addiction, its determinants and treatment compliance of patients visiting selected drop-in centers in Shillong'. I was awarded the best article by the Meghalaya Professional Pharmacist Association in aid of World Pharmacy Day 2018 on 'A Case Study on Immunization Defaulters in West Jaintia Hills District Meghalaya'. I am currently working as a Research Officer at the Centre for the Study of Complex Malaria in India, at Indian Institute of Public Health Shillong"

Ms. Mattimi Passah
MPH
Research Officer at IIPH-Shillong (Meghalaya, India)

Glimpses of **Dr. Massi's work from field**

"Public health is important as it ensures everyone is aware of health hazards through educational programs, campaigns and through influencing government policies. You become the voice for individuals who have no voice and simply put, your influence on the improvement of someone's health can be a great satisfaction. At present, I'm doing my dissertation under CARE India Bihar. Never in my life I thought I'll be working in such area. Public health has taught me much more beyond studies. It has let me experience a multidisciplinary amicable office culture. It has allowed me to be critical and yet kind at the same time"

Dr Jinalben Parmar
MPH
Intern, CARE India (Bihar, India)

Glimpses of **Ms. Jinalben's work from field**

Our alumni at international universities are faring in 2020

Towards persuading my goal of an Independent Principal Investigator (PI), I have joined the PhD program of Public Health in Department of Public Health, College of Medicine, National Cheng Kung University, Taiwan. The Department of Public Health, NCKU was established in 1983 to train public health professionals in improving population health through teaching, research, and service.

Currently, I am working on PhD topic: Lifestyle diseases &behavior and their association with mortality. In the future, I will be looking forward to implementing my interdisciplinary skills for the betterment of the Indian Public Health system with my experience from Taiwan's health care system, which is often measured against the world's best.

Dr. Shikha Kukreti
MPH
Pursuing Ph.D in Public Health from Department of Public Health, College of Medicine
National Cheng Kung University (NCKU), Tainan, Taiwan

I am pursuing PhD from Uppsala University, Sweden. The PhD is fully sponsored by my organization ILRI (International Livestock research Institute), Nairobi (Kenya) and I am working with this organization as a PhD fellow as well.

The topic of my PhD is "Zoonotic disease transfer in the dairy and poultry value chain in India, and how we can influence the public health risks through interventions."

Along with this, I am also working on Antimicrobial resistance due to dairy and poultry value chains in India and managing the spread through community sensitization.

I joined ILRI as a consultant for one of their projects in Haryana and Assam and got the PhD fellowship before my contract as a consultant was over. Doing the PhD course at Uppsala is a remarkable experience so far. There is a lot of exposure in the field of public health and a lot I could learn as well. I got a big advantage due to the course in Public Health as I developed my basic research skills only due to this and could do the project work efficiently.

Dr. Garima Sharma
MPH,
Ph.D Student at Uppsala University, Sweden

Having worked for almost 5 years as a public health professional across the public and private sector in India, I was determined to pursue higher education focusing on health policy and research. Though the London School of Economics was a dream as well as an obvious choice to get world-class exposure into policymaking, my PGDPHM degree from Indian Institute of Public Health helped me to turn it into the reality. The modules such as epidemiology, biostatistics, methods of primary and secondary research etc provided my application with an edge. Having the knowledge of these core public health subjects along with the ground-level experience of Indian public health system stood me apart in a classroom full of students from diverse backgrounds as well as aided into a better understanding and quick grasp of the concepts. The case-based teaching pedagogy, as well as the top-notch faculty of IIPH-D, exposed me to international teaching standards. Even after five years of course completion, I still reach out to my professors for guidance and they have been an important part of this journey.

Dr Isha Sharma
PGDPHM
Pursuing MSc Global Health Policy, Department of Health Policy
London School of Economics and Political Science

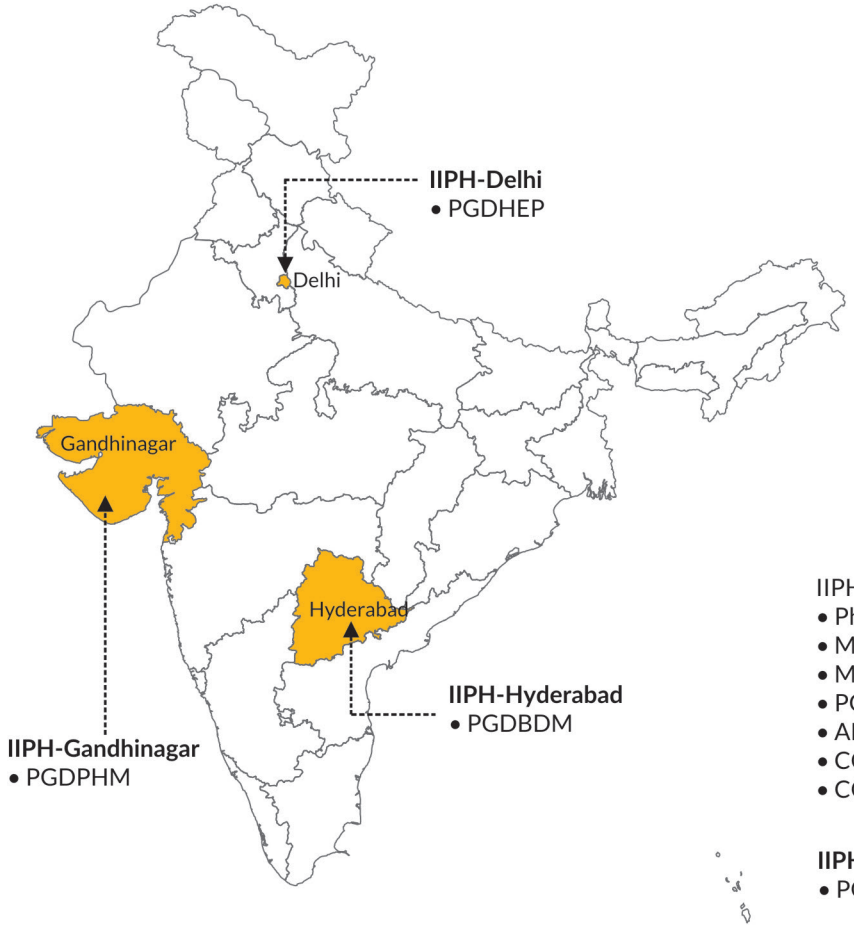
Engagement in health professional education

PHFI, along with its IIPHs, is engaged in health workforce development through health professional education and training, program and policy relevant research, capacity-building and technical assistance. Our on-campus programs, eLearning programs and short-term trainings foster the development of contemporary skills among a multi-disciplinary group of public health professionals and practitioners. We also get nominations of in-service health professionals from various states for our on-campus and eLearning programs. Our engagement in academics extends beyond the conventional offerings of academic programs and trainings. Our mandate also extends to include capacity-building, strengthening of existing institutions and accreditation. To this end, we have systematically enhanced PHFI's footprint in the 'education of health professionals' space within the country and the region.

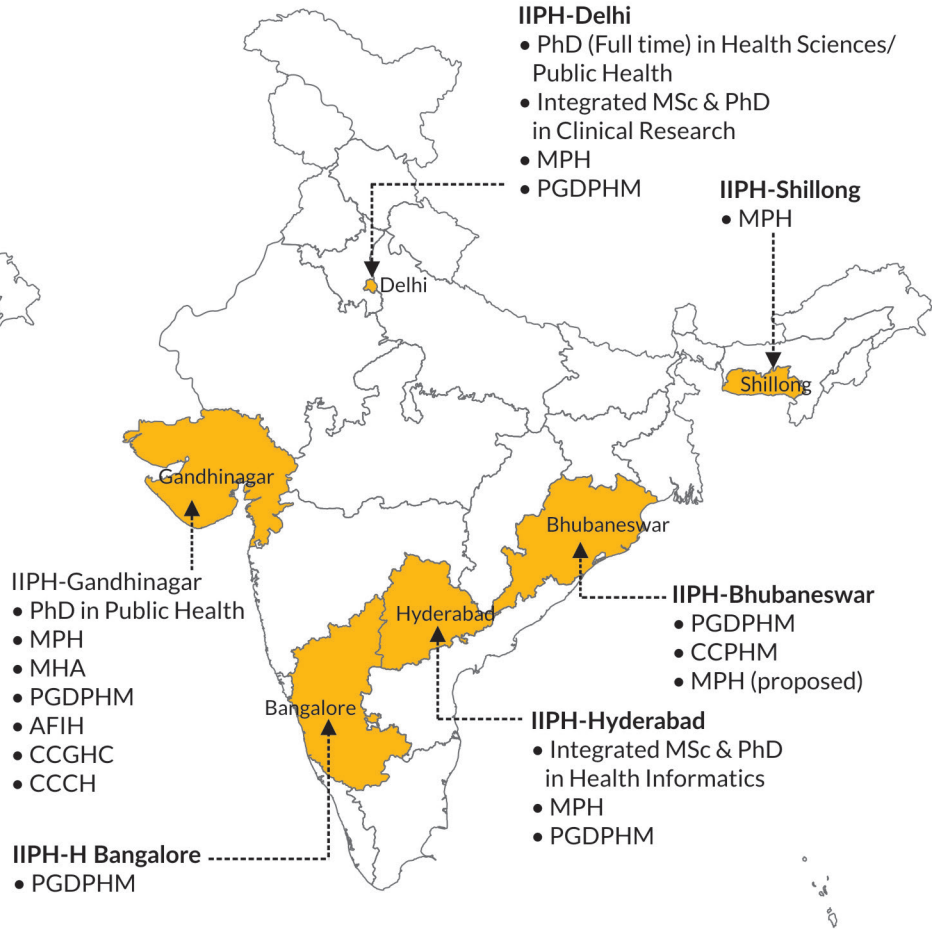
Evolution of On-Campus Programmes

2050 Graduates Till Date
- Govt. Sponsored 38%
- Self Sponsored 62%
  - 24% provided scholarships
  - 92% found placement

Academic & Research Collaborations With Over 50 Reputed Global & 25 Indian Institutions



2008 (3 Programmes)



2020 (11 Programmes)

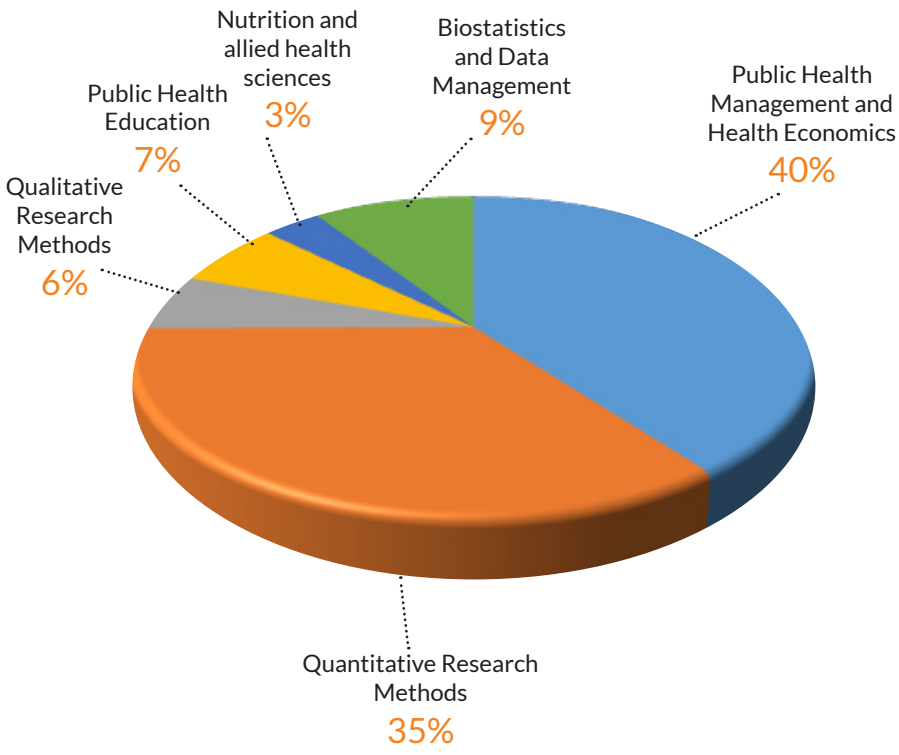
Short-term training Programmes

All IIPHs including PHFI Central Training Distribution of Domains (Nov 1, 2008 – March 25, 2020)

Training Domains	IIPH-D	IIPH-G	IIPH-H	IIPH (BLR)	IIPH-B	IIPH-Shillong	PHFI	Total PDPs in all IIPHs including PHFI Central
Public Health Management and Health Economics	140	31	62	9	24	2	33	301
Quantitative Research Methods	169	12	62	4	17	1	-	265
Qualitative Research Methods	24	14	-	3	-	3	-	44
Public Health Education	33	10	-	3	2	-	3	51
Nutrition and allied health sciences	19	-	1	-	6	-	-	26
Biostatistics and Data Management	30	3	29	1	6	-	-	69
Total	**415**	**70**	**154**	**20**	**55**	**6**	**36**	**756**

**As on 31st March, 2020 and excluding trainings of primary care physicians by PHFI*

All IIPHs including PHFI Central Training Domains (Nov 2008 - Mar 2020)



Over 18681 participants

Infosys Fellowships in Public Health

In the year 2016, INFOSYS Foundation in association with Public Health Foundation of India (PHFI) instituted Public Health fellowships called **'INFOSYS Fellowships in Public Health'.**

The objective of these fellowships is to identify and train a cohort of Masters of Public Health (MPH) graduates at the Indian Institutes of Public Health (IIPHs), to meaningfully engage with non-governmental organizations, working to improve population health. This capacity building initiative not only will strengthen and bring value to activities of the organizations where these trained graduates are placed, but also will contribute towards community development.

The fellowship follows a rigorous selection process to provide an opportunity for meritorious students to apply their knowledge and gain hands on field experience in public health through placement in a reputed organization working in the field of public health in India.

General

The INFOSYS Fellowships, 25 in number were open to the students (Indian Nationals) of MPH Program at the Indian Institutes of Public Health (IIPH) at Delhi, Gandhinagar and Hyderabad where the MPH Program is being offered. The students selected for the fellowships are called 'INFOSYS Fellows' and are entitled to: (i) Tuition fee waiver for the entire MPH Program for 2 years at the IIPH and (ii) after completion of the MPH program, placement in the identified NGO working for public health in India for a period of two years with salary support of INR 50,000/- per month in the first year and INR 55,000/- in the second year.

Out of the 25 fellowships, 10 fellowships were utilized for the students of MPH batch 2016 – 18 at the IIPH Delhi, Gandhinagar and Hyderabad and the remaining 15 are utilized for students of next MPH batch of 2017 – 19 batch.

INFOSYS Fellowships comprises of following two phases

PHASE 1

In the first phase the provisionally selected INFOSYS Fellows are expected to undergo the MPH Training in one of the Indian Institutes of Public Health (IIPHs) at Gandhinagar, Delhi and Hyderabad and complete the MPH Program successfully after fulfilling all requirements of the course. During this Phase, the INFOSYS Fellowship entitled to avail of full Tuition Fee waiver for the MPH Program.

PHASE 2

In the second phase, after successfully completing the MPH Program at the respective IIPH (Phase 1), the selected INFOSYS Fellow will have to undergo a two year field placement with one of the identified NGO. During this Phase, the INFOSYS Fellow will receive a handsome monthly stipend towards their services rendered to the NGO from PHFI.

Completion of both the Phases (1 & 2) is mandatory to avail the Fellowship.

Selection Process for the fellowship

Selection for the INFOSYS Fellowships are done through a rigorous selection process comprising of a written test followed by interview. Offer of Fellowship is made on the basis of merit obtained in the two. Selected students have to sign an agreement with PHFI.

Based on the selection process, 10 Fellows were selected in Round 1 (MPH 2016 – 18) and 15 Fellows in Round 2 (MPH 2017 – 19).

NGO Selection

NGO selection was done through invitation of expression of interest titled **"FOR SUBMISSION OF TECHNICAL PROPOSAL BY NGOs FOR THE PLACEMENT OF MASTERS OF PUBLIC HEALTH (MPH) GRADUATES OF INDIAN INSTITUTES OF PUBLIC HEALTH (IIPH), NEW DELHI, GANDHINAGAR & HYDERABAD"**. The responses received from the NGOs were scrutinized on the basis of agreed criterion and a shortlist was drawn up after ensuring that the NGOs have understood the terms and conditions as mentioned in the Expression of Interest and commit to abide by the same. Through this process, the following 9 NGOs working in the field of Public Health were identified:

1. Janaseva Foundation, Pune
2. Public Health Training Institute – Deepak Foundation, Vadodara
3. Lok Swasthya SEWA Trust, Ahmedabad
4. Society for Education, Action and Research in Community Health (SEARCH), Gadchiroli, Maharashtra
5. Society for Education Welfare and Action – Rural, Jhagadia, Dist Bharuch, Gujarat
6. MAHAN Trust, Wardha, Maharashtra
7. Child in Need Institute (CINI), 24 Parganas, West Bengal
8. Karuna Trust, Bangalore
9. Piramal Foundation, Hyderabad.

Round 1 Status Update

S.No	Selected INFOSYS Fellows	IIPHs	NGO Assigned after Matching Exercise	Current Status of fellowship
1.	Sonali Randhawa	IIPH Delhi	Piramal Foundation, Hyderabad	Completed
2.	Akanksha Shukla	IIPH Delhi	Janeseva Foundation, Pune / Piramal Foundation, Lucknow	Undergoing
3.	Subh Aastha Sharma	IIPH Delhi	SEARCH, Gadchiroli, Maharashtra	Completed
4.	Sandeep Soni	IIPH Delhi	Deepak Foundation, Vadodara,	Completed
5.	Nagma Nigar Shah	IIPH G.Ngr	Child in Need Institute, WB	Completed
6.	Manas Sharma	IIPH G.Ngr	Karuna Trust, Bangalore	Withdrawn
7.	Preeti Bhandari	IIPH G.Ngr	SEWA Rural, Bharuch, Gujarat	Completed
8.	Divya Sharma	IIPH G.Ngr	Lok Swasthya Sewa Trust, Aj'bad	Completed
9.	Thella Ramesh	IIPH Hyd	MAHAN Trust, Wardha, MH	Withdrawn
10.	Anusha Pilli	IIPH Hyd	Karuna Trust, Bangalore	Withdrawn

Round 2 Status Update

S.No	Name of Infosys Fellow	IIPH	NGO assigned for placement	Current Status
1.	Dr Sandhya AP	IIPH Hyd	Karuna Trust	Undergoing Placement
2.	Dr R Vaishali	IIPH Hyd	Karuna Trust	Undergoing Placement
3.	Dr Shriyuta A Bajpai	IIPH Hyd	Janaseva Foundation / SEARCH	Undergoing Placement
4.	Dr Shailaja Shah	IIPH G.Ngr	Lok Swasthya SEWA Trust	Undergoing Placement
5.	Dr Ajith J S	IIPH G.Ngr	SEWA Rural	Undergoing Placement
6.	Dr Ritesh Kumar*	IIPH G.Ngr	SEARCH	Withdrawn from fellowship
7.	Ms Dhanashree Apsingekar	IIPH G.Ngr	Lok Swasthya SEWA Trust	Undergoing Placement
8.	Mohit Sood	IIPH G.Ngr	Deepak Foundation	Undergoing Placement
9.	Dr Apoorva Singh Chauhan*	IIPH G.Ngr	SEWA – Rural	Withdrawn from fellowship
10.	Archana Ashok	IIPH Delhi	Karuna Trust	Undergoing Placement

S.No	Name of Infosys Fellow	IIPH	NGO assigned for placement	Current Status
11.	Sana Ansari	IIPH Delhi	Lok Swasthya SEWA Trust	Undergoing Placement
12.	Priya Lodhi	IIPH Delhi	Piramal Swasthya	Undergoing Placement
13.	Pratiksha Kashyap	IIPH Delhi	Piramal Swasthya	Undergoing Placement
14.	Pankaj Patel	IIPH Delhi	Deepak Foundation	Undergoing Placement
15.	Chandrashekhar Bohara	IIPH Delhi	MAHAN Trust / Karuna Trust	Undergoing Placement
16.	Dr Neha Satoiya	IIPH G.Ngr	SEWA - Rural	Undergoing Placement
17.	Dr Edara Sameul*	IIPH Hyd	MAHAN Trust	Withdrawn from fellowship
18.	Surabhi Bhardwaj	IIPH Delhi	Janaseva Foundation	Undergoing placement

Building Public Health Leadership for India

Dr. Nagma Nigar Shah

MPH, BDD INFOSYS Fellow (MPH Batch 2016-2018 IIPHG) Consultant- Health & Nutrition Unit, Child in Need Institute, South 24 Paraganas, West Bengal

Infosys fellow interacting at grassroot level with the respective field NGO

> *The INFOSYS fellowship enabled me with the knowledge & experience to help, develop and create Community Based Safety Nets for Better Health and Nutrition Outcomes. Strengthening SHG Network for Better Reach of Health & Nutrition Services Under Transform Rural India Initiatives.*

Dr. Sandeep Soni

MPH (Scholar) IIPH-Delhi, M.Sc (Clinical Psychology), MBA (Health Care), PDCR, BHMS

Infosys fellow interacting at grassroot level with the respective field NGO

"With the Infosys Fellowship, I gained practical experience from my knowledge during my Masters in Public Health in areas like Epidemiology, Biostatistics and Public Health Management which will help me while working at Deepak Foundation, Vadodara, which focuses on Maternal and Child Heath in Gujarat"

Dr. Sonali Randhawa

(Infosys Fellow) Piramal Swasthya, Clinical Domain, Hyderabad

Infosys fellow interacting at grassroot level with the respective field NGO

"I would like to take this opportunity to thank Infosys Foundation for this fellowship, as this have certainly raised my profile. As a part of the program, I later got accepted to work with Piramal Swasthya, Hyderabad office. In last four months of working with organization, I've had the opportunity to work in different domains of public health. I feed very optimistic in gaining hands on experience about the ground reality while working with organization. The fellowship has given be a good platform to critically analyse public health Literature, create innovative solutions and present views clearly to a range of audiences. The fellowship's main benefit came in form of covering my full tuition fees and making it easier for fresh public health graduates to learn from one of the best in the areas. I am thankful of the INFOSYS and PHFI for designing this program and giving students opportunity and confidence to work and become much clearer of the public health field"

Overview of Research at PHFI

Over the last fourteen years, PHFI has made it a priority to catalyse research to address the public health needs of India and passionately advocate for health of it's people.

The strategic goals of the research conducted at PHFI are to:

- Fill critical gaps in knowledge
- Design and evaluate health programmes for greater impact (implementation science)
- Accelerate innovative research to make transformational discoveries
- Engage other stakeholders in society
- Enable the translation of our discoveries into action

The research topics are focused on the latest developments and innovations in the area of public health at large and are aligned to Burden of Disease, National Health Mission and National Health Policy Priorities, Millennium Development Goals and Sustainable Development Goals.

> *"The simple goal of research at PHFI is translate evidence into policy to impact the population at large. While the goal is evidently simple the process is complex and profound, involving continuum of care to cater to maintaining the health of the population, preventing illness, improving the quality of life, life expectancy and rehabilitation of those diseased along with innovatively addressing the broad societal determinants. The rich and multidisciplinary research at PHFI embodies this philosophy"*
>
> **– *Prof. Dorairaj Prabhakaran,***
> *Vice-President (Research & Policy), PHFI'*

Research Thematic Areas

Women and Child Health	Health System, Policy and Financing	Mental, Behavioural Disorders and Disabilities
Public Health Nutrition	Infectious Diseases	Non-Communicable Diseases and Injuries
Environmental and Occupational Health	Social Determinants of Health	Other Areas: Violence against women, Urban Health

Highlights of Research 2019-2020

To carry out the mission of the organisation effectively, researchers and faculty at both PHFI central and at the IIPHs are engaged into research in several public health domains.

The research topics covered by our researchers and faculty span a wide range of areas of great impact on public health, including studies on non-communicable diseases; infectious and emerging diseases; environmental and occupational health hazards; maternal, child and adolescent health; health care delivery and services, health financing and development of new technologies, models and statistical methodologies.

PHFI is recognised as Scientific Research Organisation (SIRO) by Ministry of Science & Technology from 2008. Over the last fourteen years PHFI has produced an excellent output in terms of research publications in peer reviewed scientific journals with high impact factor which is given in the table below.

Publications in Peer Reviewed Journals		
	2008 - 20	2019-20
ww	3555	566
Impact Factor	7.75	7.13

In the Scimago Institutional Ranking 2020 which is based on the peer reviewed journal articles and their citations, under the Health category, PHFI is positioned 1st in Research ranking, 2nd in Societal Ranking, 10th in Innovation Ranking in India. In a 2020 study carried out by Stanford University, 4 of the PHFI Senior Researchers are listed among the top 2% of scientists from India under various categories.

Partner Institutions

PHFI works closely with major research institutions and universities globally and prides itself on creating an environment that promotes interdisciplinary teaching and research. Our research is greatly enhanced by these partnerships by building strong research collaborations that support public health research. Institutions and universities such as London School of Hygiene and Tropical Medicine, London, UK, Harvard School of Public Health, Boston, USA, Emory University,Atlanta, USA; University of Washington,Seattle, USA; Duke University,Durham, USA; Karolinska Institute, Sweden; Deakin University,Australia;University College London, London, UK and University of Edinburgh, UK are few examples.

Research Capacity Building

In addition to conducting research that improves our depth of knowledge and quality of life, PHFI and its constituent centres also train the next generation of research leaders in their fields through mentoring and teaching, thereby creating an enabling research environment.

In addition to this, some of the Senior Professors are visiting professors at various universities in India as well as International universities and have received awards and fellowship such as for Geoffrey Rose Lecture on Population Sciences at ESC 2020, Hari and Madhu Varshney Visiting Professor at Simon Fraser University, Canada, 2020.

Our researchers also work closely with Central and various State Governments and agencies such as:

- Ministry of Health & Family Welfare (MoHFW)
- Ministry of Woman & Child Development (MoWCD)
- Ministry of Science & Technology (MoS&T)
- Ministry of Environment & Forest (MoEF)
- Ministry of Human & Urban Affairs (MoHUA)
- Ministry of AYUSH
- Indian Council of Medical Research (ICMR)
- National Institute of Nutrition (NIN)
- National AIDS Control Organization (NACO)
- State AIDS Control Societies (SACs)
- National Institute of Health & Family Welfare (NIHFW)
- State Institutes of Health & Family Welfare (SIHFW)
- Various State Governments

The extraordinary breadth and depth of research excellence across PHFI, its constituent academic centres IIPHs and Centres of Excellences (CoE) are a reflection of the excellence of our researchers and faculty, and their partnerships with leading researchers and institutions worldwide.

Centres of Excellence

PHFI has successfully established five Centres of Excellence, based on various thematic areas—Centre for Chronic Conditions and Injuries (CCCI) focusing mainly on NCD related issues, The South Asia Centre for Disability Inclusive Development & Research (Disability related health and development issues), The Ramalingaswami Centre for Social Determinants of Health(social determinants of health) and Centre for Environmental Health (environmental related issues) (CEH) and Centre for Digital Health (CDH).

The major research activities carried out by these COEs are highlighted below:

Centre for Chronic Conditions & Injuries (CCCI)

Worksite Lifestyle Program for Reducing Diabetes and Cardiovascular Risk in India (INDIA-WORKS)

This study aims to test the implementation, effectiveness, cost-effectiveness, and acceptability of a worksite-based lifestyle improvement program in prevention of diabetes. The programme includes lifestyle education classes led by trained individuals from the worksite and improvements in the worksite environment that facilitates employees to engage in activities related to lifestyle modification . The programme has the potential for global scale-up to similar worksite settings.

6265 individuals were screened from participating worksites from which 2108 eligible participants were identified as participants eligible for intervention against the target of 2,000. Baseline data collection and intervention were completed in all study sites.

The intervention was delivered by peer educators through 16 weekly core classes, followed by a maintenance phase of 8 monthly classes. Currently the first and second annual follow up is in progress at various study sites. We have completed the first follow up of 1558 participants and the second follow up of 705 participants so far.

Additionally, in-depth interviews and Focus Group Discussions (FGD) were conducted with the key stakeholders of the project. Overall, thirteen FGD's were conducted with the program completers. We also conducted 16 interviews with worksite managers, 29 interviews each with peer educators and program drop-outs, and eight interviews with the implementation team members. We have completed the data processing and is currently working on the formal analysis of the qualitative data.

This project is lead by Prof. Dorairaj Prabhakaran and funded by National Institutes of Health National Heart, Lung, and Blood Institute and in collaboration with Emory University, USA

UDAY: A Comprehensive Diabetes Prevention and Management Program In India

UDAY is a comprehensive diabetes and hypertension prevention and management program in India that is being implemented in the two geographically and culturally distinct study sites, Sonipat (Haryana, north India) and Visakhapatnam or Vizag (Andhra Pradesh, south India) covering a total population of 4000000 in rural and urban sub-sites. It comprises of multicomponent interventions implemented at multiple levels of health care system and included the following: a) community-based screening and education of adults ≥30 years of age by community health workers for detection of diabetes and hypertension and associated risk factors, linking of those with diabetes and hypertension to the public health system and regular follow-up at home for improving self-management skills and risk modification; b) training of health providers including health workers, pharmacists, physicians on evidence-based management guidelines; c) implementation of quality improvement programme and diabetes registry; and d) advocacy with governments and other stakeholders to improve access to healthcare.

Thus far, 150000 individuals have been screened for the presence of diabetes and hypertension/ diabetics and people with high-risk were followed up to 8 times at their doorstep; 18500

patients with diabetes and/or hypertension were registered in facility based registries; 400 healthcare providers were trained including 10 physicians, 309 pharmacists and 100 health workers; 125 camps and events were organized in collaboration with local stakeholders to increase the awareness and regular meetings were held with stakeholders for health system strengthening which led to improved access to lab tests and antidiabetic and antihypertensive medicines.

This project is lead by Profs. Sailesh Mohan, Dorairaj Prabhakaran and K Srinath Reddy and funded by Eli Lilly & Co.

Developing and testing a Collaborative Quality Improvement (C-QIP) initiative for prevention of cardiovascular diseases in India

This proposed K43 study aims to develop, implement, and evaluate a Collaborative Quality Improvement (C-QIP) intervention (non-physician health worker, text messages for healthy lifestyle and clinical decision-support system) effect on processes of care measures and clinical outcomes among individuals with existing CVD in India using United Kingdom Medical Research Council (MRC) framework for developing and evaluating complex interventions. A growing body of research suggests several factors at the level of the patient, provider, and health system may effectively lower the impact of CVD in India, such as literacy, increased time spent with patients, and integrated health care. Maximizing CVD treatment in India must involve a cascade of processes from appropriate prescribing to longer-term adherence as well as low(er)-cost health service delivery innovations such as non-physician health workers and interactive web-based or mHealth-based clinical decision-support system for providers and patients. Multifaceted quality improvement intervention (including but not limited to non-physician health worker/case managers, team-based care, SMS reminders, interactive decision-aids for patients and providers, audit-and feedback mechanisms) have been successful in high-income countries for improving care among individuals with existing CVD, but have not been extensively evaluated in India. These interventions could be sources of innovation in CVD prevention, treatment, and control through implementation science research.

This project is lead by Dr. Kavita Singh and funded by Fogarty International Centre, National Institutes of Health, USA

A cluster randomized trial of an mHealth integrated model of hypertension, diabetes and antenatal care in primary care settings in India and Nepal (mIRA)

The project aims to enhance antenatal care (ANC) with a tablet-based electronic decision support system (EDSS), which will help frontline health workers (ANMs, staff nurses and Medical Officers) at the primary healthcare level in Telangana, India and Kathmandu, Nepal to provide evidence-based routine ANC, enhance detection, screening, detection, referral and management of GDM and PIH and anemia, and; facilitative record-keeping and reporting while linking the same across various levels of healthcare facilities and care providers. This project is a collaboration with two other institutions: The London School of Health and Tropical Medicine (LSHTM), UK and Kathmandu University, Nepal. Formative research has been completed, intervention development is in progress and the trial is expected to commence in 2021.

The current project activities comprise of three phases: formative research, intervention development and the intervention implementation and evaluation. We have conducted the formative research using quantitative and qualitative methods to understand the context for the intervention development and its implementation in the primary care settings in the state. In this phase, we carried out health facility surveys in another set of 23 health facilities (sub-centres, primary health centres, and tagged facilities) across 5 districts to assess the health infrastructure. In addition, we also conducted ANC observations at these facilities to assess the provision of ANC care interviews with the pregnant women and the healthcare providers to understand the context of the care being provided. Due to the nation-wide COVID-19 related lockdown and the consequent suspension of all field activities from 20th March 2020, we were unable to

complete our formative research in the sixth targeted district, Asifabad (in 5 additional health facilities). However, we do not expect any new findings from this district (Asifabad) in addition to what we have already obtained from the other districts. We are currently analyzing the data and have started conducting some interviews with the policymakers and health administrators at the state level to understand the policy level aspects of ANC provision and mHealth.

This project is lead by Profs. Dorairaj Prabakaran & Sailesh Mohan and jointly funded by DBT, India, and Medical Research Council (MRC), UK

Certificate Course in Cardiovascular Disease and Stroke (CCCS)

Certificate Course in Cardiovascular and Stroke (CCCS) concluded its first cycle at 50 centres in India covering 45 cities, 18 states & 2 union territories in September, 2019. A panel of National Experts (nationally and internationally renowned cardiologists) were involved in the review and finalization of the initial draft of the course curriculum provided by the academic partners. A total of 50 regional faculty (eminent cardiologists) provided training to enrolled candidates with a trainer to participant ratio of 1:20. To ensure that the implementation of CCCS Cycle-I was as per the standardized protocols set by PHFI across all centres, a strong monitoring and evaluation mechanism was employed with the support of 41 Observers across India. The course has successfully trained 1147 PCPs in the field of CVD and stroke with 941 (82%) eligible candidates.

In the ongoing cycle (July 2020 – June 2021), the course has registered 596 doctors in 35 centres spread across 14 states & 1 UT. Amid COVID-19 pandemic, the course has been delayed by 5 months.

This project is lead by Prof. Dorairaj Prabhakaran and funded by Sun Pharma Laboratories Ltd.

Prenatal and Postnatal Exposure to Pesticides and Neurodevelopment of Infants: Findings from DHANI Cohort

Pesticides play a crucial role in enhancing economic growth worldwide by increasing agricultural output and controlling vector-borne diseases. However, given their toxic nature and the potential for bioaccumulation, long-term non-regulated use of pesticides has caused many negative environmental and health consequences. Since 98% of sprayed pesticides reach a destination other than the targeted species through the air, water, bottom sediments and food, all segments of the population are exposed to the pesticides. A disproportionate share of this exposure burden is shouldered by the developing countries due to the unrestrained usage of hazardous pesticides because of their low cost and versatility. Infants and children particularly have a higher risk of getting affected by chronic pesticide exposure due to their biological makeup, behavior, and physiology. Four of the commonly used pesticide groups- organochlorine (OC), organophosphate (OP), synthetic pyrethroids (SP) and carbamates have been known to interrupt early-stage neurodevelopmental processes, affecting motor and mental capabilities of the child.

With the current study, we want to find the association of in-utero and early life pesticide exposure to the infant's neurodevelopment at 12 months of age. This study has been planned on a cohort (DHANI) of an ongoing clinical trial in Belgaum, Karnataka. DHANI (Maternal DHA Supplementation and offspring Neurodevelopment in India) is examining the effects of in-utero and early life DHA exposure (through maternal supplementation) on postnatal neurodevelopment and body-size of Indian infants (NCT01580345). Biochemical samples already collected so far at 4 points (baseline, delivery, 1 & 6 months postpartum) under DHANI would be utilized to assess pesticide exposure by QuEChERS (quick, easy, cheap, effective, rugged, and safe) method.

This study would provide data on manifestation of the effects of chronic pesticide exposure in infants. Also, the association of neurodevelopment with any particular class of pesticide residues may indicate the specific pesticide compound towards which the infants are more vulnerable. This information can further be used for restricting the usage of such compounds encourage judicious use of pesticides, good application practices, and usage of high-

quality equipment to ensure optimal growth and development of the vulnerable sections like pregnant women and young children.

This project is lead by Dr Monica Chaudhry and funded by Department of Biotechnology (DBT), India

Novel Salivary Diagnostics for Screening and Detection of Early Oral Cancer

This feasibility study is a Joint Collaborative Research Activity between Public Health Foundation of India (PHFI) and Aqsens Health Private Limited. Aqsens Health Private Limited is commercially engaged in developing healthcare applications for qualitative and quantitative research and analysis for preventive, remote, low-cost, non-invasive health screening with special focus on diseases and epidemics that impose large socio-economic impact.

As per Aqsens' request to PHFI, as a reputable scientific organization, PHFI with its clinical collaborators in India, is proposing to undertake a feasibility study for a non-invasive technique based on salivary diagnostics on the principle of luminescence, being developed by Aqsens for screening and detection of early stages of oral cancer and precancer. As a first step, this feasibility study will be primarily conducted to develop the core technology and test the obtained accuracy of the technology on early oral cancer and precancer cases and matched healthy controls. Aqsens is aiming to develop, productize, manufacture and bring the method and technology as a screening system to the Indian and Global market.

This project is lead by Dr. Krithiga Shridhar and funded by Aqsens Health Pvt. Limited

Novel Salivary Diagnostic System for Early Detection of Anaemia

PHFI in collaboration with Aqsens Health Private Ltd. is proposing to undertake a feasibility study for a non-invasive technique based on salivary diagnostics on the principle of luminescence, being developed by Aqsens for screening and early detection of anaemia. Aqsens is aiming to develop, productize, manufacture and bring the method and technology as a screening system to the Indian and Global market. The proposed feasibility study for the period of 2 years, will be primarily conducted to develop the core technology and test the obtained diagnostic accuracy of the technology, as part of the development process, on saliva and oral rinse samples to be collected from 150 anaemic participants and 150 healthy controls.

This sub- study that builds on the existing longitudinal population platform of 'The Centre for Cardio-Metabolic-Risk-Reduction in South-Asia' (CARRS) of Public Health Foundation of India (PHFI), in association with All India Institute of Medical Sciences (AIIMS), Madras Diabetic Research Foundation (MDRF), Chennai, India and Emory University, USA.

This project is lead by Dr. Krithiga Shridhar and funded by Aqsens Health Pvt. Limited

Centre for Environmental Health (CEH)

Centre of Excellence on Environmental Health

The different activities of the Centre include:

- Conduct policy-relevant research across a range of environmental health issues in India;
- Build institutional capacity in participatory action research for environmental health;
- Establish programs for education and training in environmental health for public health practitioners, community groups, and local volunteers;
- Cultivate a network of partners and collaborators to engage in multi-sectoral, cross-cultural action research, basic research and policy advocacy;
- Promote evidence informed policy-making for environmental health;
- Engage public and health professionals through media and health communication activities

In addition to the above listed activities, the centre also undertook activities to strengthen the compliance and implementation of Biomedical Waste Management in the time of COVID-19 pandemic

This project is lead by Prof. K. Srinath Reddy and Dr. Poornima Prabhakaran and was funded by Tata Sons Limited

Study on Implications of Climate Change on Health in India

The main objective of the project was to understand the implications of climate change on human health in India. The project focused on the impacts of climate change particularly on vulnerable population. The major outcome of the project is the report that contributed to the UNDP Report on Climate Change and Human Development in India. The project was completed with satisfaction and the project report was presented at UNDP stakeholder meeting.

This project is lead by Dr. Poornima Prabhakaran and funded by UNDP

Baseline Assessment to Address Air Pollution in Amritsar and Gurugram

Most of the policies pertaining to air pollution thus have followed a source based approach, i.e. identifying major sources of pollution and developing policies and programs to mitigate air pollution sector wise. Air quality management plans should include prioritized strategies for improved air quality for each city. Apart from the spatial variability, air pollution also disproportionately affects a section of society such as women, children, elderly and low income groups due to a variety of factors. The prioritization should thus consider factors such as air pollution sources and levels, health effects, vulnerable populations and socio-economic factors. An air quality management framework should be formed in such a way as to develop focused interventions to minimize the impact of air pollution and population vulnerability. The objective of this study is do a baseline assessment of addressing Air Pollution in Amritsar and Gurugram, which will feed into planning for interventions in Amritsar and Gurugram to tackle Air Pollution.

The scope of the study includes:

- Assessment of current policy framework in place for the city to address its air pollution, including clean air action plans, financial allotment, capacity assessment, training and monitoring, keeping in mind the most vulnerable groups like the poor, children, elderly etc.
- Review of the existing studies on air pollution in Amritsar and Gurugram with a focus on mapping existing solutions and capacities.
- Listing of initiatives taken to tackle air pollution in Amritsar and Gurugram with impact assessment.
- Recommend a feasible action plan along with best practices that can be implemented in Amritsar and Gurugram to address air pollution.

This project is lead by Dr. Poornima Prabhakaran and funded by UNDP

Environmental toxicants, child development and school readiness: a preliminary study with intra-familial exposures in communities affected by battery recycling facilities in Patna, Bihar.

More than half of >700 MT of the toxic metal lead (Pb) recycled each year in India is through the informal battery recycling sector. Lead, a neurotoxin, causes developmental deficits in children. Although regulations exist to prevent handling of hazardous products like batteries, informal facilities thrive due to lack of monitoring, large informal sector and limited capacity for recycling. These facilities are common in Patna; located in residential neighbourhoods; exposing families through contaminated soil, dust, and probably air and water. In this cross-sectional study, we will measure chronic lead exposure and average annual particulate matter less than 2.5 micrometer (PM2.5) in preschool children (3-6 years) in Patna. We will also use a recently-developed child development assessment tool by Save the Children to understand feasibility, reliability and performance of the tool. Chronic exposures of mothers will also be assessed. This feasibility study will help us gather pilot data, build capacity, engage with the community to build partnership for future research on children's environmental health in Bihar, one of the poorly performing state on child health and developmental indicators. In addition, health related behaviours during COVID-19 pandemic will also be asessed.

This project is lead by Dr. Aditi Roy and funded by Center for Environmental Health, PHFI under its Fellowship Programme

A Multi-Site Study on Environmental Risk Factors for Gallbladder Cancer, and Mediating Role on Reproductive Factors and Diet.

Gallbladder cancers (GBC) are highly lethal, rare malignancy of the digestive tract with female predilection. While worldwide the age standardized incidence rates (ASR) are low at 2.3 and 2.1 per 100,000 women and men respectively, it is a major public health concern in certain regions of India. Indian population based cancer registries in the northeast and east along with Delhi record top six high incidence rates of the World in 2012-14 (ASR/100,000: 17.1 and 8.8 for women and men in Kamrup Urban, Assam). The highest incidence regions for GBC in India include Assam and Bihar. Preliminary evidence suggests a role for environmental factors in gall bladder carcinogenesis but evidence is scarce globally. We plan a multi-centre case-control study to investigate exposures to pesticides and heavy metals and the risk of gallbladder cancer in the Ganga-Brahmaputra-Meghna belt (Assam and Bihar), for which the evidence is suggestive, the exposures are unique and the region has high incidence for gallbladder cancer. We will evaluate the association of other important modifiable risk factors for gall bladder cancer- reproductive history (e.g., parity) diet as well as infection and obesity- as independent variables, confounders and potential mediators in the association between pesticides and heavy metals for the risk of gallbladder cancer.

This project is lead by Dr. Krithiga Shridhar and funded by Centre for Environmental Health, PHFI under its Fellowship programme

Development of Information and Education Communication (IEC) tools on Air Pollution

As per the India State-Level Disease Burden Initiative, India has disproportionately high mortality and disease burden due to air pollution. Air pollution has become one of the greatest environmental health risks affecting the health and well-being of the population of the country. Vulnerable population groups including traffic police personnel, municipal workers, women living in rural areas and children are at a higher risk of suffering from health risks and consequences of poor air quality. Health Communication is a pivotal pathway for informing citizens about the severity of the issue of air pollution and this project focuses on developing communication packages for these vulnerable target groups with cues to action to motivate adoption of healthy behaviours and dissemination of strategies to cope with emerging health concerns. On the

occasion of the first "International Day on Clean Air for Blue Skies" on 7th September, 2020, The National Program on Climate Change and Human Health (NPCCHH), Centre for Environmental and Occupational Health, Climate Change and Health Division (CEOHCCH), National Centre for Disease Control (NCDC), Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare (MoHFW) organised a week-long awareness drive on the theme #CleanAirForAll from 7th -12th September across the country. NPCCHH organised an online Training of State Level Trainers (ToTs) for Community Level Training on Air Pollution and its Impact on Women's and Children's Health on 3rd September 2020 for all trainers across India. The overall objective of this session was to help States/UTs increase awareness among Women and Children about Air pollution, its Health Impacts and Measures to protect their health. This session was organised by NPCCHH in collaboration with WHO-India and PHFI. The session included messages from Dr. Sujeet K. Singh- Director, NCDC, Dr Roderico H. Ofrin-WHO Representative to India, Prof.K.Srinath Reddy-President, PHFI and Dr.Poornima Prabhakaran- Head, Environmental Health & Deputy Director, CEH, PHFI. The IEC materials created under this project were used by trainers to conduct awareness sessions for women and children on air pollution and its health impact across districts, states and Union Territories of India.

Training session Community Level Training on Air Pollution in Madhya Pradesh

Celebrating "International Day on CleanAir for Blue Skies" in Mizoram

The project will be delivered to various government agencies including the National Program on Climate Change and Human Health (NPCCHH), Centre for Environmental and Occupational Health, Climate Change and Health Division (CEOHCCH), National Centre for Disease Control (NCDC) and Directorate General of Health Services (DGHS).

This project is lead by Dr. Poornima Prabhakaran and funded by World Health Organization

eLearning Courses for Climate Change & Health

The key objective of the project on development of e-Learning modules on climate change and health is to increase opportunities of self-paced training on key climate change and health topics for professional staff in ministries of health and in sub-national public health and health-care organizations. The outcome would be in form of eCourses for stakeholders including policy makers, health professionals helping in building their capacity in terms of health and climate change. The project is under progress.

This project is lead by Dr. Poornima Prabhakaran funded by WHO.

Dr. Prashant Rajput, CEH team is serving as Editor for a Special issue of the Journal –Frontiers in Sustainable Cities
Dr. Poornima Prabhakaran--Chair- Research Sub-group of the WHO (Geneva) –GCHA (Global Climate and Health Alliance) CSO working group on Climate Change and Health constituted last year at the instance of the WHO-DG.. It has 13 nominated CSOs and PHFI is one of them.
Dr. Poornima Prabhakaran-Member, Technical Advisory Group constituted for evaluation of the Pradhan Mantri Ujwala Yojana (PMUY) program evaluating health benefits of the PMUY beneficiaries.
PHFI is designated Centre of Excellence for Green and Climate Resilient Healthcare facilities under the National Program for Climate Change and Human Health. We continue to work with National Centre for Disease Control, nodal agency for NPCCHH under MoHFW to handhold states in development of State Climate action plans for this domain, amongst other areas.
Ms. Surabhi Dogra, CEH conducted a Training of trainers for State and District Nodal officers of Climate Change on September 3rd 2020 on enhancing awareness on health effects of air pollution amongst rural women and children on the occasion of International Day of Clean Air for Blue Skies on 7th September, 2020. The session was presided over by WHO-Representative to India –Dr. Roderico H Ofrin , PHFI President Prof. Srinath Reddy and NCDC Director- Dr. Sujeet Singh. The training modules were developed by the CEH team.
PHFI signed an MoU to join a collaboration with National institute of Urban Affairs9NIUA), technical unit under Ministry of Housing and Urban Affairs (MoHUA) for a new initiative called Climate Centre for Cities(C-CUBED) under the Climate Smart Cities Alliance, now launched formally on September 11th 2020, by the Honourable Minister of State for Housing and Urban Affairs, Shri. Hardeep Singh Puri.

The South Asia Centre for Disability Inclusive Development & Research

Study of impact of exposure to Ultraviolet Radiation (UVR) & aerosol exposure on ocular health in India Phase II

The objective of the study is to assess the association between the exposure of Ultra Violet Radiation (UVR), and aerosols with cataract, dry eye, pterygium in adults and VKC in children in urban areas Vishakhapatnam & Hyderabad, India. It is first of its kind study to assess the association of Environmental parameters and ocular Health in the coastal and Non coastal Regions in India. Study participants are examined for the ocular conditions like cataract, dry eye, pterygium. Visual acuity, Anthropometric measurements, Blood pressure and Random Blood sugar levels is also measured. The evidence generated will be used to strategize the Health education to promote use of UVR protective devices for prevention of Ocular Diseases in India. In addition, a wide range of Ocular disease burden data will be generated (eg: Cataract, Dry Eye, Pterygium, DR).

This project is lead by Prof. GVS Murthy and funded by Indian Council of Medical Research (ICMR), New Delhi.

The Ramalingaswami Centre for Social Determinants of Health

Over the past year the Ramalingaswami Centre on Equity and Social Determinants of Health advanced its goal of carrying out cutting-edge research. It also positioned itself to carry out teaching and training, and contributed to policy development, both nationally and internationally.

The ongoing major projects are:

Equity, social determinants, and health outcomes

Reproductive health has seen considerable expansion and greater policy focus since the 1990s. In this project, we deepen investigation into two areas of prior research that impinge on the larger issues of quality of care and effectiveness: the importance of attention to antenatal risk; and respectful maternal care. We pay particular attention to multiple dimensions of inequality in the context of the work on respectful maternal care.

The project is aligned with the National Health Mission, and in particular, its focus on maternal and reproductive health. The project supports public health in the country by providing in-depth analysis to support improvements in respectful maternal care; has developed a tool for antenatal care support that can be used at the state level; and will provide fresh insights for advancing health equity to improve the health of the most disadvantaged women and girls. During the past year, in-depth qualitative research was conducted in teaching hospitals and lower level urban clinics. These data are currently under analysis. In addition, both qualitative and quantitative data collection was done in two districts in health facilities and in the community. These data are currently under analysis. A stream of publications from this work are expected over the next two years. The geographical Area covered by the project is Karnataka

The Project is lead by Prof. Gita Sen and funded by Bill & Melinda Gates Foundation

Regional Mentor Institute (RMI)

The Centre won a major international bid and was appointed a Regional Mentor Institute (RMI) by WHO's Alliance for Health Policy and Systems Research. The RMI's remit is to advance thinking and work on gender and intersectionality in health policy and systems research. The Centre has been mentoring early career research fellows from the SEARO region over two years and is developing an online course that can be freely accessed. During the past year, the selected fellows have been through multiple rounds of in-person and online teaching modules. Intensive mentoring of each fellow to help them develop research proposals and carry through to publication is under way.

This project is lead by Prof. Gita Sen and funded by WHO-AHPSR

Migrants on the margins: Intersecting labour, economic, gender, and health disadvantages

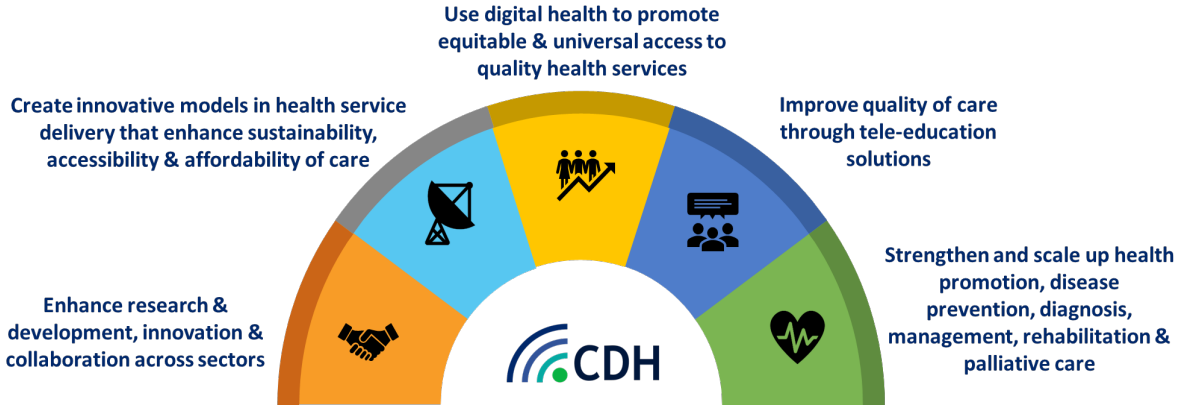
The three primary objectives of this mixed-method study are to (a) examine nationally representative data for patterns of women's temporary migration, work, income, and health, (b) to explore how these factors intersect in the individual experiences of purposively selected participants, and (c) to identify and describe the larger contexts in which health is produced. The study findings will make a scholarly contribution to the literature on temporary migration, gender, and health, as well as a practical contribution in the form of recommendations to address the needs of this marginalized population.

This project is lead by Ms. Abha Rao and funded by Azim Premji University

Centre for Digital Health

PHFI established a **Centre for Digital Health** in April 2020 to facilitate harmonisation of its research initiatives currently undertaken, and advance new and potentially transformational initiatives across the PHFI universe. The unit explores applications of digital health technology in public health, and strives to lead the nation's effort in transforming healthcare. It aims to bring together players in the public and private sector as well as civil society organizations. PHFI's evidence based, insightful research that is regional in perspective and global in outlook, combined with committed professionals of multi-disciplinary expertise, is the backbone of this centre. It is an intersection between PHFI's research, training and knowledge of public health and the network of partners who are leaders in technology. Through this it is intended to expand, upscale and implement some of the existing health technology tools (e.g., DSS, CADT) and systems (e.g., literacy and referral pathways, data repository systems) that have been developed at PHFI.

Some of the upcoming projects include **PHFI Master Class** (nationwide virtual clinical grand rounds & journal clubs in cardiology & endocrinology funded by an educational grant from Sun Pharmaceuticals), **MedPlus** (professional development program and research course for medical students and young physicians funded through participant course fee), **paediatric cardiology parent information portal** (funded by Saloni Heart Foundation), **Digisahayam** (assisted telemedicine solution to improve health access for urban underprivileged funded by Star Health and Allied Insurance as part of their Corporate Social Responsibility) and e-CCMH (adaptation and digitization of Certificate Course in Management of Hypertension in collaboration with the American Heart Association).



Highlights of Research at Other Divisions Across Different Domains

Global Disease Burden, Women and Child Health, Infectious Diseases, Health Systems, Policy & Financing

Burden analysis of major diseases and risk factors in India

The State-Level Disease Burden Initiative in India was launched in 2015 as a collaboration between the Indian Council of Medical Research, Public Health Foundation of India, Institute for Health Metrics and Evaluation and a number of other key stakeholders in India, including academic experts and institutions, government agencies and other organizations, under the aegis of the Ministry of Health & Family Welfare. About 300 scientists and experts representing close to 100 institutions across India are engaged with this collaborative work. The project 'Burden analysis of major diseases and risk factors in India' is part of this Initiative to provide further scientifically sound estimates of mortality, disease burden and risk factors in the states of India and in districts where possible. Detailed analyses of the state level burden of air pollution, malnutrition, mental disorders, and road traffic injuries, and district level burden of under-five child mortality and child growth failure were reported in 2019 and 2020 in The Lancet journals.

This project is lead by Prof Lalit Dandona and funded by University of Washington

Improving CRVS in Bihar: coverage, quality and cause of death

This project will generate a systematic ground-level understanding of the barriers and facilitators of various aspects of Civil Registration and Vital Statistics (CRVS) in the community and the health facilities which is not readily available for Bihar that are essential for informing development of appropriate health policies and systems. The improvement in coverage of CRVS in India is currently hindered by the slow progress made in the state of Bihar. Relevant action in Bihar to improve the CRVS coverage would translate into national gain. Improving the CRVS quality in developing country setting has gained global attention, and with India home to 18% of the global population, and Bihar being one of the most populous Indian state, lessons learnt from this work would contribute to this global effort to improve CRVS.

This project is lead by Prof Rakhi Dandona and funded by Oxford Policy Management, UK

Improving CRVS in Uttar Pradesh: coverage, quality and cause of death

This project will generate a systematic ground-level understanding of the barriers and facilitators of various aspects of Civil Registration and Vital Statistics (CRVS) in the community and the health facilities which is not readily available for Uttar Pradesh that are essential for informing development of appropriate health policies and systems. The improvement in coverage of CRVS in India is currently hindered by the slow progress made in the state of Bihar. Relevant action in Uttar Pradesh to improve the CRVS coverage would translate into national gain. Improving the CRVS quality in developing country setting has gained global attention, and with India home to 18% of the global population, and Uttar Pradesh being the most populous Indian state, lessons learnt from this work would contribute to this global effort to improve CRVS.

This project is lead by Prof Rakhi Dandona and funded by Sambodhi Research and Communications Private Limited

Iterative learning and synthesis of new evidence with feedback loops to inform decisions and innovations in Bihar

Detailed assessments were undertaken to document the quality of antenatal care services made available to pregnant women in a sample of public sector health facilities in Bihar, and to

document the burden of illness in newborns and treatment seeking patterns for it during the first month of life. The findings have implications on addressing neonatal mortality and stillbirth by focusing on improving the quality of interventions in addition to coverage of interventions.

This project is lead by Prof Rakhi Dandona and funded by Oxford Policy Management, UK

Measurement, Learning and Evaluation of the Technical Support Unit (Phase 2) to the Government of Uttar Pradesh

The goal of this study was to evaluate the impact of interventions on neonatal mortality and stillbirth in Uttar Pradesh. Though the findings suggest improvements in coverage of service interventions over time, the state is unlikely to reach the SDG neonatal mortality target. More specificity in interventions is needed to address the causes of neonatal deaths by the age at death, and the gaps identified in the referral system for deliveries and newborns are to be addressed to facilitate further reduction of the neonatal mortality in the state

In part 2 of the project, as a follow-up of the previous work in the state, contributions to the intervention design will be made to implement the recommendations that facilitate accelerating the rate of neonatal mortality reduction in the state.

This project is lead by Prof Rakhi Dandona and funded by Sambodhi Research and Communications Private Limited

A randomized controlled trial to compare two different doses of maternal B12 supplementation on infant neurodevelopment and Vitamin B12 deficiency

High prevalence of B12 deficiency in mothers in the antenatal period and in their infants has been documented. Multiple case series document the neurological consequences of severe deficiency and their reversal with B12. Trials on this subject are limited and those available have either used an ineffective dose or for a short duration. The randomised controlled trial is aimed to compare the efficacy of two different doses of maternal Vitamin B12 supplementation in preventing infant B12 deficiency and adverse neurodevelopment. The multi-centric trial is at a pay-for-service hospital catering to middle income populace from India and a public hospital catering to lower income groups from Nepal. From the commencement of the trial, for the first year all the ethical approvals to undertake the study from Institutional Ethics Committees and local governments have been received. Recruitment and training of study staff to calibrate and standardize them has been completed. Study protocol has been finalized followed by the preparation of the study tools and electronic database. Data Management Plan, Algorithm and Dummy Tables have been finalized as per the protocol and approved by the trial oversight committee. The first Trial Oversight Committee has also been organized at PHFI to inform and update on the progress of the trial. In the second year of the trial a successful capacity building workshop has been successfully organized on "Planning, conducting and reporting pilot and feasibility trials'' on 17th and 18th February, 2020. An online webinar was conducted on 23rd September 2020 on 'Assessing Validity and Reliability of Tools in Clinical Trials'. Finalization and approval of Data Management Strategy with double data checking and error code generation is being regularly done at PHFI since first year, of which results are also being shared with trial sites at regular intervals. Regeneration of data codes for capturing new and evolving information is also being done often for the trial site data. Data Entry, Cleaning and Synthesis has been completed in Electronic Database at Public Health Foundation of India for Paropakar Maternity Women's Hospital (Nepal) for 172 CRFs. 370 CRFs along with follow-up for Sitaram Bhartia Institute of Medical Research (India) (till 25th September 2020) has been entered and cross verified. Data cleaning has also been completed for approx. 40% (for both the trial sites) of the entered data at PHFI. Fortnightly data and in-person trial monitoring visits are being conducted at the Indian trial site. A second TOC meeting was organized defining and enumerating Serious

Adverse Events and Adverse Events. One manuscript emanating from the protocol has been published in BMJ Open and a second manuscript explaining the context of Patient Public Involvement in the study is submitted for peer review led by PHFI. We have also initiated work on a manuscript titled "Running Field Trials During Pandemic': Lessons from India and Nepal".

This project is lead by Dr. Manu Raj Mathur and jointly funded by DBT, India, and Medical Research Council (MRC), UK

Exploratory randomized trial of face to face and mobile phone counselling against usual care for tobacco cessation in Indian primary care

The aim of this study is to evaluate the clinical effectiveness and cost effectiveness of an intervention of a face-to-face counselling coupled with mobile phone intervention versus routine care among tobacco users visiting primary health care settings in India. The hypothesis was that 'mHealth' will be a feasible, affordable and cost effective tobacco cessation intervention in India.

In the project proposes to recruit 250 tobacco users as study participants from 10 primary care clinics in the state of Odisha, India. The total duration of the project will be 18 months. The two components of the intervention include a single 10 minute counselling session delivered by a cessation advisor and a mobile phone intervention offering regular calls and messages every three weeks over six months of the project duration. The intervention will then be tested through randomized trial designed to assess the feasibility of recruitment and the follow up of tobacco users to the study. Successful development of the intervention, adequate recruitment to the trial and follow up at six months will be the main success of this study.

The Primary outcome will be the 6 month "self-reported tobacco abstinence" confirmed by a salivary cotinine test. The secondary outcomes will include (i) self-reported motivation and intention to quit; and (ii) Cost-effectiveness as cost per disability adjusted life year (DALY) averted. The main outcomes of interest in this development grant relate to the acceptability and feasibility of delivery of the intervention within primary care in India.

The results will provide valuable insights into bridging the gap between need and services received for tobacco cessation interventions in primary care in India. It will also provide proof of concept to further test mHealth model for cessation across different regions at a later stage through a full randomized control trial.

Under this project, the designing, translation (in 3 languages: English, Hindi and Odia) and printing of the counselling flipbook has been completed. The flipbooks have also been delivered to the study site in the state of Odisha. Development of the text, audio and video messages on the basis of formative research analysis has been done in consultation with our message development vendor. All the developed messages have been translated into the regional language i.e., in Odia and reviewed by the research team. Selected messages have been shared with MKCG Medical College and Hospital (Coordinating site in Odisha) for commencement of the validation study. Study tools have been developed by the research team and shared with the coordinating site for the validation study of the developed messages.

The Project is lead by Dr. Raj Mohan Panda in collaboration with University College London and funded by the Joint Global Health Trials Initiative MRC/DfID/Wellcome Trust.

Research Programme on Innovations for Effective Delivery of Primary Health Care

Primary Health Care remains the Achilles heel of India's health system. Rural health services are weak in many states and urban primary healthcare systems are yet to evolve. The wide range of primary healthcare services promised under the CPHC component of Ayushman Bharat will not be delivered if innovations do not speedily emerge to transform the design and delivery of primary healthcare services. These innovations will be principally driven by technology enabled non-physician health care providers delivering frontline services and primary care physicians skilled in the several elements of comprehensive

primary health care. This thrust to build capacity and competence in rural and urban primary healthcare services also calls for a research agenda to develop, test, deploy and evaluate innovations that strengthen service delivery.

With the support of Dr. Reddy's Lab, a few research activities in the area of Health Care Technologies, Public Health Nutrition, Adolescent Health care and Data management and Analysis are being conducted by the PHFI team of researchers addressing the effective delivery of primary health care, aimed to:

- To catalyse impactful innovations in primary healthcare
- To enable research for design, development and evaluation of innovative models of effective service delivery for common conditions that are encountered in primary healthcare settings.

This project is lead by Prof. K Srinath Reddy and funded by Dr. Reddy's Lab

Activating Social Platform of Women (SHGS) to Improve Health and Nutritional Status In Uttar Pradesh

The present partnership between UNICEF & PHFI focuses on capacity building and community mobilization of SHG (Self-Help Groups) members across thematic areas of nutrition (IYCN), routine immunization, sanitation and ending child marriage. The project is layering health and nutrition interventions on women's self-help-group platforms (SHGs) to increase knowledge, enhance skills and promote improved practices for mother and child health and nutrition outcomes. About 420 SHG based change agents WADA Sakhi are at forefront in mobilizing families and communities through SHG collectives.

In the year 2020-21 (February-October 2020), PHFI has both deepened and expanded behavior change strategy of working with SHGs. Key milestones stones achieved till October 2020 are

Integrating Health and Nutrition agenda in SHG operations

- Ten meeting modules for Women Activists for Development Action (WADA)meetings have been designed. Meeting toolkits in form of (a) playing cards (b) Poshan Thali (C) Flash cards (d) Board games has been conceptualized, designed and printed
- 100% WADAs are trained on Modules 1-3, 90% WADAs on Modules 4-7. Designing of Meeting Modules 8-10 and corresponding toolkits have been completed.
- MIS report shows average 8053 SHG meetings are conducted every month by WADAs on health and nutrition agenda. About 74,935 SHG members participate monthly in WADA meetings. An average 9.4 member participate in SHG Health & Nutrition meetings.

Use of innovative Toolkit to improve learnings in SHG meetings

- All 420 WADAs & 24 BRPs from project districts had been provided and trained on use of toolkits comprising modules; Flash cards, Nutrition Cards, Poshan Thali and Sanitation Games.

Convergence between Village Organization (VO) and Frontline workers (FLWs)

- A convergence platform had been created between federated SHG body of village organization(VO) and frontline workers at community-ASHA, AWW and ANM (AAA). The linkages activity comprises of joint monthly meetings between VO and AAA; compilation of beneficiary list from SHG households; and mobilization of SHG members to improve their access to entitlements to health and nutrition services. Cumulatively, 2841 FLWs reported attending 2265 VO meeting during Jan-Sept, 2020. 90% of the VOs report convergence with FLWs. On an average, 1.25 FLWs participate in monthly VO meetings.

Digital integration for Creating evidence for communication activities

- Mobile mentoring App: A mobile based monitoring and mentoring application was developed and commissioned in September 2020 for program staff to support WADA activities. The application has five features: mentoring checklist to measure quality

of meetings facilitated by WADAs; SHG checklist to measure coverage and reach of communication activities; eligible women checklist to assess knowledge and practice of pregnant women and mothers of less than 2 years children; and Village organization checklist to measure and support VO activities. The application has been downloaded by project staff in six districts and ToT had been conducted on the mobile application

- Dashboard: A comprehensive dashboard has been developed to showcase the concurrent activities from the field and milestones achieved in the project. The dashboard has features such as- project overview, concurrent data from mentoring checklist app (regularly gets updated), surveys conducted, repository of resource materials, gallery and media coverage. The dashboard could be accessed at http://phfi.smilingbrains.com/#/home

PHFI has also been providing technical support (design of communication materials, capacity building and implementation oversight) to various public health campaigns of Government of Uttar Pradesh in the six project districts namely, Banda, Bahraich, Chandauli, Ambedkarnagar, Sonbhadra and Mirzapur.

This project is lead by Prof. Dileep Mavalankar and Dr. Samresh Sengupta and funded by UNICEF

Health Financing

Driving health progress during disease, demographic, domestic finance and donor transitions (the "4Ds"): Policy analysis and engagement with six transitioning countries

The global health landscape is undergoing a rapid and profound set of transitions that threaten to stall or even derail progress in health improvement. In particular, there are four major, inter-linked transitions in diseases, demography, development assistance for health (DAH) and domestic health financing, the "4Ds" of global health transition. All countries, including India, need an overarching, "joined up" strategic approach to transition, in which they model the likely shifts in disease burden and demography, how these shifts will affect health financing needs, and the mechanisms for meeting these needs (both the financial and the delivery mechanisms). The project will focus on the state of Uttar Pradesh (UP) to understand the inter-linked transitions described above. The four key components to the research are: 1) A benefit incidence analysis to determine if the poor preferentially benefit from donor programs;2) Demographic and epidemiological modeling to project the changing needs of the population between 2019-2030;3) A costing study to determine how much it will cost to deliver universal health coverage that addresses the major contributors to UP's disease burden; and4) A study to determine if UP has the capacity to finance universal health coverage given these disease and demographic transitions; 5) A study to determine how donors target their support towards pockets of poverty within the state of Uttar Pradesh

Barriers and Opportunities to improve financial protection for the poor through the Prime Minister Jan Arogya Yojana in Uttar Pradesh, India

High out of pocket health expenditures by households is major problem in India: 62.6% of total health expenditures are borne by households. This has huge implications on poverty reduction and universal health coverage (UHC) in India. The government of India recently launched the Prime Minster Jan Arogya Yojana (PM-JAY) to provide financial protection for its poor and vulnerable populations. Uttar Pradesh (UP) is the most populous state in India and home to over 60 million poor people. UP performs poorly on its health and development indicators with a high burden of avertable diseases, poor health infrastructure, and low per capita government health spending. The state has a large number of beneficiaries of the PMJAY due to its high poverty incidence. The overall success of the PM-JAY will depend on the program's performance in UP to a great extent.

Given the past poor performance of the health sector in UP, this mixed method study aims to: (i) understand the key challenges around implementation and financing of the PM-JAY in UP and (ii) determine whether the PM-JAY meets the actual needs of the poor and marginalized populations in the state. The project is intended to identify barriers in the implementation of PMJAY and opportunities available for course correction for further scale up and for effectively utilizing funds in a resource-scarce state.

These projects are lead by Dr. Sakthivel Selvaraj and funded by Duke University.

Infectious Diseases, Health System Support

NACO-PHFI-TSU Project

Public Health Foundation of India (PHFI) has been managing the Technical Support Units (TSUs) in five states, namely Gujarat, Jharkhand, Rajasthan, Uttarakhand and Uttar Pradesh since September 2018. The TSUs provide evidence-informed technical assistance to their respective State AIDS Control Societies (SACS) to ensure they meet their HIV prevention, care, support and treatment deliverables. PHFI has a team of around 80 professionals in the five states and work in close coordination with their respective SACS. The team assists the states in strategizing the HIV program and monitors the implementation of the program by different kinds of prevention, care, support and treatment facilities across the state; the maximum being the Targeted Intervention (TI) projects reaching out to the most-at-risk and HIV-prone key populations (KP) namely the female sex workers, men who have sex with men, transgendered persons, injecting drug users, single male migrants and long distant truckers. The other facilities included Integrated Counselling and Testing Centres (ICTCs), Care and Support Centres (CSTs), Anti-Retroviral Therapy (ART) Centres, Opioid Substitution Therapy (OST) Centres, Blood Banks, Laboratory and Diagnostic facilities, etc. The team also provides mentoring and supportive supervision to these facilities. The total number of KPs reached is around 11 lakhs. Over the last two years, PHFI has achieved good performance on its mandated work and has taken additional relevant work in the states such as strengthening service delivery for prevention of Tuberculosis and Hepatitis, support to the KP

Field orientation on implementation of HIV prevention program for delegates from Namibia by Rajasthan TSU team

in the COVID-19 situation. During the national lockdown, the TSU teams have taken the initiative to help the KP by providing free masks, sanitizers and liquid soap. At few places they have also helped in distribution of dry ration by coordinating with different government and non-government stakeholders. The TSUs have also taken up the responsibility to keep in touch with KP virtually during the lockdown to help them cope with their mental stress, which had helped them to speak their mind and to express their grief, which has been well perceived in the field by the key communities.

Sensitization session at Central Jail, Sri Ganganagar, Rajasthan facilitated by TSU team

This project is lead by Dr. Preeti Kumar and funded by National AIDS Control Organisation (NACO).

The Partnership for Sustained Impact-III

The project is aimed to provide techno managerial support to the National AIDS Control Organization (NACO) and select states to ensure adequate coverage and quality of key prevention interventions under the 4th phase of the National AIDS Control Program (NACP IV).The key objective of the project is to provide technical assistance to strengthen National AIDS Control Program (NACP) at different levels through: Planning, Monitoring and Supportive Supervision; Training and Capacity Building; Development of Strategic and Operational Guidelines

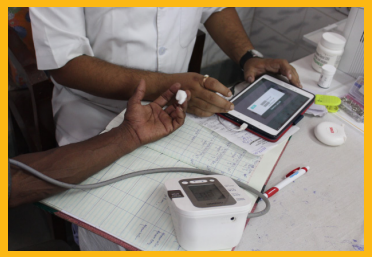
The project is being implemented in collaboration with NACO, State AIDS Control Societies, Technical Support Units, Targeted Interventions (NGOs) aimed to strengthen the capacities of the targeted interventions and TSUs to implement the program. The project is expected to help in evidence based decision making in program planning, strategy development and implementation

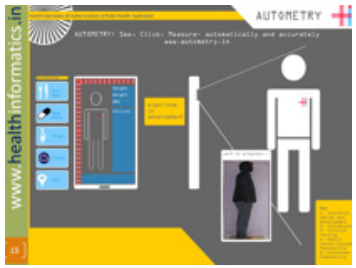
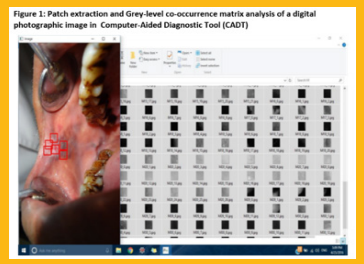
Some of the key achievements so far are: Development of Quarterly Score Card for Targeted Interventions (TIs), by typology for improved monitoring; Compilation and analysis of TI quarterly score card data and follow up with the States; Quarterly comparison of service uptake on major indicators; Development of the prison SIMS reporting format & streamlining reporting; Monitor the roll out of the differentiated Prevention Model in 88 TIs across the country; Development the IEC material for Key and Bridge populations; Participation in the PMC meetings of State Technical Support Units (TSUs) for improving state roll out of NACP; Formulation of the outreach strategy to strengthen the service uptake in the wake of COVID 19 pandemic.

This project is lead by Dr. Preeti Kumar and funded by Bill & Melinda Gates Foundation

Affordable Health Technologies

The National Health Policy 2017 and Ayushman Bharat programme envisage creation of a digital health technology eco-system that serves the needs of all stakeholders and for enhancing the public and private healthcare systems. PHFI has done extensive work in developing affordable health care technologies and has a conception to end cycle. Our researchers conceive ideas that are of immediate importance to public health, evaluate them through large pilot studies and then scale them up through a wide range of research methods and implementation science.

Name	Description	Key Impact	Status
Swasthya Sahayak 	Point of care management system to facilitate screening and healthcare for the last mile. The technology allows following a life cycle approach for improving access and availability of health care for underserved population	Reduces the turnover time for full diagnostic cycle and leads to significant reduction in cost of care. Improves the support for Telemedicine services	• More than 3.25 lakh patients screened • More than 1100 users across 6500 villages in India
mPower (mHealth) 	Clinical Decision Support System (CDSS) for providing standardized, evidence-based care for screening and management of Non-Communicable Diseases	Reduces the errors in chronic disease management and leads to better health over longer duration	• Used by 56 Govt hospitals in Tripura & Mizoram • More than 2,00,000 patients enrolled
MNAT 	Mobile based toolkit for ASHAs to measure height, weight & MUAC for new born children	Digital anthropometric measurements of infant and young children under 5 years of age and growth monitoring	• Pilot with 15 ASHAs in New Delhi is complete

Name	Description	Key Impact	Status
AUTOMETRY 	Augmented Reality based Web/ Mobile application to automatically measure height, weight, BMI with a single photo– and potential for providing automated location specific dietary advice	Reduces the turnover time for identifying and advising on diet	Technology under validation
CADT for Cancer 	Uses iterative machine-learning algorithm and grey-level textural features, on high-quality digital photographic images (10MP+) of clinical sites to classify suspected oral lesions	Improves probability of identifying early stage oral cancer	Phase 1 validation completed Phase 2 improvements proposed
DAS Simple 	DAS Simple– Disability Assessment and Support made Simple. Augmented Reality based Web/ Mobile application to automatically measure physical range for motion in Disability assessment	Reduce error rate in evaluating disabilities	Technology is ready and is being validated

Health Promotion & Advocacy

Evaluating the implementation of the Peer Educator Intervention for improving adolescent health in India's National Adolescent Health Programme

This implementation science research involves the evaluation of peer educator (PE) component of the Rashtriya Kishor Swasthya Karyakram (RKSK programme), using mixed methods, in high priority districts (HPDs) of two Indian states i.e Madhya Pradesh and Maharashtra. The study aims to:

- Evaluate the Process (to understand implementation, causal mechanisms and context) of PE Programme (here on referred to as the intervention) under the RKSK, in two Indian states.
- Evaluate the effect of the PE intervention on primary outcomes at adolescent (knowledge, attitudes, life skills, practices), impacts on PE (leadership and communication skills) and on AFHCs (trends in attendance numbers).
- Provide specific guidance to MoHFW, GOI, and more generic guidance to other countries, on modifying, scaling up and sustaining the PE intervention.

The outcomes of this research are expected to inform both implementation science for adolescent health and provide evidence informed programme and policy recommendations for India. The study will provide research evidence needed to effect real and practical changes to improve adolescent health. The outcomes of this research is expected to provide a basis for the Ministry of Health and Family Welfare, Government of India to develop a National Scale-up strategy for improved PE programme within Rashtriya Kishor Swasthya Karyakram (RKSK), to reach a larger number of adolescents, more equitably and in a sustainable manner. Apart from its applicability to India, the outcomes of this study will be relevant to other countries in the South East Asia Region, which are adopting the RKSK framework to design their own adolescent health programmes. The study will add to the global evidence on PE intervention (what works, for whom, in what context) through this Implementation Science Research.

This project is lead by Dr Monika Arora and funded by Medical Research Council, UK

Implementing a Settings Based Health Promotion Intervention for Prevention and Control of Non-Communicable Diseases (NCDs), including Tobacco Control

This three years' interventional research is implementing behaviour change interventions for prevention and control of NCDs, addressing key NCDs behavioural risk factors (unhealthy diet, physical inactivity, tobacco and alcohol use). The

Project PaTHWay: Promoting Health and Well Being; Launch event

intervention is targeting varied population across schools, colleges and workplaces in two cities of India (i.e Pune and Bengaluru). The programme is targeting approximately 2000 school students of grade 6-8th, from 20 schools, including both public and private, approximately 850 college students and 760 employees, from both the cities through classroom-based interactive activities (teacher led, peer facilitated), intra-school activities, parent's engagement, community outreach activities. The participatory action research (PAR) with college students aims to reduce the consumption of tobacco and alcohol and to promote a tobacco and alcohol-free college campus and to assess the effectiveness of a tobacco cessation intervention within the ecosystem of a workplace.

This project is lead by Dr. Monika Arora and funded by AXA Business Services

Implementation of Comprehensive school diabetes education in India: i-PROMISe

Rapid urbanization has led to an epidemiological transition towards the growing burden of non-communicable diseases (NCDs). Risk factors are associated with lifestyle and behaviours that get etched at early age. The study objectives are: To develop a comprehensive multi-component health literacy intervention following the socio-ecological model to create an enabling and supportive environment for students to adopt a healthy lifestyle to prevent NCDs; To test the effect of the intervention on knowledge, attitudes, and practices related to diet and physical activity as well as anthropometric outcomes (with a sub-group) among school-going adolescents through mixed methods approach (qualitative and quantitative)

This study is a group-randomized trial to test the effectiveness of comprehensive (i-PROMISe PLUS) intervention among students studying in grades 6 and 7 in co-educational private schools in Delhi, India. Schools are randomly selected from the list of schools governed by the Directorate of Education (DoE), Government of National Capital Territory (NCT) of Delhi. Selected schools were then randomized into two study arms (Intervention & Comparison). The unit of randomization was school. The anticipated sample size is n=1430 students.

i-PROMISe modules (year 1 intervention) were developed following HBM where teachers' and students' perceptions and feedback were gathered through a qualitative approach including Focus group discussions (FGDs) and in-depth interviews (IDIs). In addition to this module, i-PROMISe PLUS intervention (to be implemented in year 2) based on the Socio-Ecological Model will be to influence the environmental (social norms, role models, opportunities) and interpersonal factors (knowledge, values, beliefs, skills) to improve the dietary and physical activity-related behaviour. Students will be followed for two academic years. It is expected that the level of knowledge and skills about the importance of a healthy diet and being physically active will be enhanced among target groups and will lead to the adoption of healthy lifestyles. It is envisaged that the school environment will become more supportive and will provide opportunities to practice skills gained in adopting a healthy lifestyle at the end of this programme.

This project is lead by Dr Monika Arora and funded by TAKE Solutions Ltd in collaboration with World India Diabetes Foundation (WIDF)

Assessing determinants related to Electronic Nicotine Delivery Systems (ENDS) use among school going adolescents and implications for tobacco control in India.

Despite the existing tobacco control policies in India, the tobacco industry is innovating and promoting products such as Electronic Nicotine Delivery Systems (ENDS) in the market. With a huge proportion of the young population using social media and the internet in India, easy access to e-cigarettes, the country is very likely to experience ENDS as a challenge to its tobacco control initiatives. The objectives of this mixed-methods study are to:

- Study the intra-personal, socio-contextual and environmental determinants of ENDS use among school-going adolescents (grades 8, 9 and 11) in three urban Indian cities.
- Study the correlates of actual ENDS use, intentions and susceptibility to use ENDS among these adolescents.

- Study the challenges and opportunities for scaling-up action to control ENDS

This study will be cross-sectional in design and implemented over a period of eight months in selected schools located in three urban cities (Delhi NCR, Hyderabad, Ahmedabad) representing North, South, and West zones respectively in India. This study will involve qualitative Focus Group Discussions (FGDs) and quantitative self-administered surveys with school-going adolescents; and qualitative in-depth interviews with Government officials and other relevant stakeholders. This study would supplement the findings of the previous qualitative study on ENDS undertaken by HRIDAY, and together, these studies are expected to generate the much-required research evidence related to ENDS use among youth in India.

This project is lead by Ms. Radhika Srivastava and funded by HRIDAY

Development of a technical paper on Protecting youth from industry manipulation and preventing them from tobacco and nicotine use.

World No Tobacco Day (WNTD), commemorated annually on May 31, highlighting the health and other risks associated with tobacco use, and advocating for effective policies to reduce tobacco consumption. The theme for WNTD-2020 was "Protecting youth from industry manipulation and preventing them from tobacco and nicotine use". The project focused on activities to commemorate WNTD, 2020, supporting the WNTD theme 2020. Project activities included: writing a background paper highlighting the tactics used by the tobacco industry in India and its impact on youth susceptibility to use tobacco and tobacco behaviour of youth. A series of webinars were also organised where the youth were sensitised and trained to collate tobacco industry tactics focussing on tobacco advertisement, promotion and sponsorship(TAPS) occurring on social networking sites. A total of 53 youth participated in collation of these violations and collated 939 posts (photos or vedios) and 1412 hashtags related to TAPS violation. Analysis of these violations collated by youth is under process.

This project is lead by Dr Monika Arora and funded by WHO Country Office for India

eCourse on Tobacco Control

eCourse on Tobacco Control was launched at PHFI in 2011 as a capacity building initiative for those looking to gain a comprehensive understanding for tobacco control issues and cessation in India. The course faculty include several reputed national and international experts. This three month course aims to build capacity of participants to improve their knowledge and understanding of tobacco control strategies, best practices, research and tobacco cessation skills. The course also aims to enhance their skills and proficiency in designing and implementing tobacco control programmes. Course content is designed with an objective to prepare participants to function effectively as tobacco control professionals. During the 12 weeks programme, students learn 8 Core modules and 3 Elective modules which they can choose from over eight different options based on their educational and professional background.

This project is lead by Dr Monika Arora

ePost Graduate Programme in Health Promotion

ePost Graduate Program in Health Promotion aims to build health capacity of the participants to enhance their skills and proficiency in designing and implementing health promotion interventions and programmes. This course has been designed to suit the needs of students wishing to gain employment in health promotion, public health, community development, program delivery, research and evaluation or to cater to those who want to upgrade their knowledge in the public health field. The course structure consists of four core modules: 1) Basic Public Health Skills; 2) Theories of Health Promotion; 3) Planning, Developing and Implementing Health Promotion; 4) Evaluation in Health Promotion and four elective modules: Reproductive, Maternal, Neonatal, Child and Adolescent Health (RMNCH+A); Tobacco Control; Non-communicable diseases (NCDs) and Oral Health. The course faculty includes several reputed national and international experts.

This project is lead by Dr. Monika Arora

Research Fellowships

DBT/Wellcome Trust India Alliance Fellowships

Researchers at PHFI and IIPH have secured Research Fellowships in public health funded by DBT/Wellcome Trust India Alliance that promote independent research career but require a Fellowship supervisor to acquire skills, training and resources to complete their projects (Early Career Fellowship) & fellowships for those in the process of establishing themselves as independent investigators (Intermediate Fellowships).

Hyperglycaemia in pregnancy and risk of chronic diseases in infants: Extension and expansion of an existing cohort (Intermediate Fellowship)

MAASTHI is a cohort study in the public health facilities in Bangalore, India. The objective of MAASTHI is to prospectively assess the effects of glucose levels in pregnancy on the risk of adverse infant outcomes, especially in predicting the possible risk markers of later chronic diseases. The primary objective of the study is to investigate the effect of glucose levels in pregnancy on skinfold thickness (adiposity) in infancy as a marker of future obesity and diabetes in offspring. The secondary objective is to assess the association between psychosocial environment of mothers and adverse neonatal outcomes including adiposity. We have assessed gestational diabetes mellitus, haemoglobin status, blood pressure, anthropometric markers, depressive symptoms, dietary habits, physical activity and also socio demographic factors, tobacco and alcohol consumption.

The recruited pregnant women at public hospitals and their offspring are followed for a period of 4 years. The study is being conducted at several public hospitals in Bengaluru city. The research aims to harness life course perspectives on development of NCDs and contribute towards early prevention. So far, 2962 women have completed OGTT. Blood samples of 2965 women have been stored for future analysis. The incidence of GDM within the MAASTHI cohort was found to be at 14.3% and 45% were anaemic. At birth follow up has been completed in 2863 (96.6%) mother-child dyads. The number of follow-ups done at 14 week, one year, two year and three years are 2267(76.5%), 1897(75.1%), 1043(75.1%), 658(75.4%) respectively. Follow up of the mother and child is in progress, currently we have entered into the 4th year follow-up and due to COVID crisis most follow-ups are being done telephonically by the research assistants.

Implementation of the cohort study in public health facilities, and the findings of it could directly inform the potential impact of scaling up stronger screening and management guideline in the country in the future. The results can position the issues of maternal glycaemic control and weight management (both underweight and obesity) to the core of policy agenda.

This project is lead by Dr Giridhara R Babu.

Dietary diversity and nutritive value of indigenous foods in addressing food security and nutritional status of vulnerable tribal communities of India (Intermediate Fellowship)

The aim of this study is to develop a feasible strategy for engagement with local indigenous tribal communities to generate evidence about their indigenous food resources. This information will be used for improved utilization of indigenous and traditional foods for better health and nutritional status of vulnerable tribal communities. Four tribal groups of Jharkhand, India, namely Santhal, Ho, Munda and Sauria Paharia (a particularly vulnerable tribal group) are being studied as part of this study.

The intention is to have a cohesive, systematic effort to understand the food environment of indigenous tribal communities comprising of complex multi-species agroforestry systems; enumerate their traditional ecological knowledge and bio-cultural heritage , document the nutrient composition of indigenous foods; assess their dietary consumption and contribution to overall nutrient intake and effect on nutritional status; and identify culturally acceptable and sustainable strategies to promote indigenous

food systems. Further, the findings in the form of policy recommendations can be extensively used to strengthen already existing strategies to combat under nutrition in the tribal communities. The research highlights the intricate and inter-dependent linkages between dietary diversity, nutrition and health by utilizing data from different disciplines like ecology, agriculture, nutritional biochemistry and economics apart from nutrition and health. This approach is likely to facilitate delineation of some of the causal mechanisms of malnutrition in specific food environments, and ways of leveraging indigenous food sources for affordable and sustainable diets to fill nutrition gaps and guide interventions based on traditional ecological knowledge.

Data collection on three tribal communities have been completed. The study protocol and some of findings from one of the communities have been published. The project team is also assessing the impact of COVID-19 pandemic on food systems and diets of tribal communities of Jharkhand.

This project is lead by Dr. Suparna Ghosh-Jerath.

Maternal DHA supplementation and offspring neurodevelopment in India (DHANI-2) (Early Career Fellowship)

Docosahexaenoic acid (DHA) is a structural component of human brain and retina and maternal DHA supplementation has been suggested to be linked with cognitive development of their offspring. Since Indian diets are largely devoid of DHA and have a high dietary n-6 to n-3 ratio, plasma DHA levels are low. We therefore implemented a large scale randomized controlled trial to examine the effects of in-utero and early life DHA exposure (through maternal supplementation from mid-pregnancy through 6 months postpartum) on postnatal neurodevelopment (motor and mental) and body-size of Indian infants.

The primary objective is to assess the impact of maternal DHA supplementation on offspring neurodevelopment and will be assessed at the age of 6 and 12 months using the Development Assessment Scale for Indian Infant (DASII).The secondary objectives are to assess the impact of maternal DHA supplementation on infant morbidity patterns through 12 months and to assess the biochemical composition in maternal blood, maternal breast milk and blood sample of newborn at specified time period.

The overall DHANI study is a double blinded, randomized, placebo controlled trial where 957 pregnant women of 18-35 years of age have been assigned to receive either 400 mg of DHA or a placebo daily from ≤20 weeks of gestation through 6 months postpartum. Results from this study will provide the first high quality evidence on whether a prenatal and continued as postnatal DHA supplement improves the neurodevelopment of 1 year old infants born to supplemented mothers. If successful, we will work to ascertain the best ways to translate the findings to the existing infrastructure and delivery mechanisms of national child development and nutrition programs like the Integrated Child Development Scheme, Anganwadi workers, ASHAs etc

Progress so far: Data collection and the final MAC meeting were completed in 2019 and the feedback received was used in conducting rigorous analyses and writing up the results. The biochemical analyses was completed for around 700 blood samples from mother and child dyads. The remaining 200 samples plus the breast milk from 3 time points are under process. 5 research papers have been published in peer-reviewed scientific journals and a few more are in pipe-line.

The project is lead by Dr. Shweta Khandelwal.

Evaluating causal relationship between regional body fat distribution and lipid profile in Indian population (Early Career Fellowship)

The aim of the present study is to examine whether regional body fat distribution is causally associated with lipid levels in Indian population. We will first identify the genetic variants associated with adiposity and lipid traits to derive instrument variables based on allelic scores and then use them as proxy for exposures and outcomes in examining the causal pathways using bi-directional Mendelian Randomization approach. The objectives of the study are listed below:

- Identify genetic variants associated with regional body fat distribution and lipid levels

in Indian population for developing reliable instrumental variables (IVs) based on allelic risk scores.

- Examine causal relationship between regional body fat distribution and levels of lipids and apolipoproteins using bidirectional Mendelian Randomization (MR) approach using IVs based on allelic scores.

We will be generating genome-wide data on intensively phenotyped “CARRS cohort study” participants using a recent GWAS chip named Global Screening Array (~640,000 markers) to identify India specific markers. We will also utilize the available cardio-metabochip data (~200,000 markers related to cardiometabolic traits) on well-phenotyped data from “Indian Migration Study” in order to validate the loci of interest. Therefore, this will collectively help in deriving allele scores to be used as genetic proxies for the traits to be examined on the causal pathway i.e. body fat distribution (exposure) and lipid levels (outcome).

The genome-wide resource that would be generated through this fellowship grant will address multiple research questions and will ensure long term research activities in genetic epidemiology in India. The findings from the proposed study will provide evidence for the causality between increased regional adiposity and raised levels of lipids. This will help in formulating public health interventions and clinical management of the high risk patients and will address the growing burden of cardiometabolic disorders.

This project is lead by Dr. Gagandeep Kaur Walia.

Effectiveness of the ‘Care for Stroke’ Intervention in India, a Smartphone-enabled, Carer-supported, Educational Intervention for Management of Disabilities following Stroke. - Randomized Controlled Trial (Early Career Fellowship)

Investigating the "care for stroke" intervention for its clinical and cost-effectiveness will provide insights for planning, implementation, and the potential scalability of the intervention, especially in countries with limited resources. Given the methodological quality of the available evidence, there is a pressing need to conduct a rigorous (randomized, controlled, sufficiently powered) clinical trial to demonstrate the effectiveness of the ‘Care for Stroke’ intervention. The overall goal of this research is: to evaluate the effectiveness of a Smartphone-enabled, caregiver-supported educational intervention ('Care for Stroke') for the management of physical disabilities following a stroke in India.

The overall plan for the third year was to ensure an interrupted ethical and scientific conduct of the trial and come up with at least one collaborative proposal for submission. We have recruited about 180 participants and have achieved the set target for the third year as planned. The COVID situation has impacted the conduct and progress of the trial however we have been able to progress without any delay. We have established collaboration with the London School of Hygiene and Tropical Medicine’s, and Centre for excellence in disability called the International Centre for Evidence in Disability (ICED). Collaborative research proposals have been submitted with new collaborators from The University Sains Malaysia (USM) and The Stellenbosch University in South Africa. The collaborative proposals have won awards from MRC-UK and NIHR-UK respectively. The MRC Grant looks at Developing a scalable solution for caregivers of stroke survivors and health system strengthening in Malaysia. The NIHR grant looks at Strengthening the health system for achieving universal health coverage for stroke care in South Africa.

This project is lead by Dr Suresh Kumar Kamalakannan.

Epidemiology of comorbid cardiometabolic conditions and depression in Indian population (Early Career Fellowship)

Aim of the study is to examine longitudinal patterns of association between cardiometabolic conditions and depression and their associated determinants in adult Indian population. The study seeks to fill a gap in understanding of epidemiology of depression and its comorbidity with cardiometabolic conditions in India. There is limited evidence on direction of association between these conditions along with limited understanding of associated risk factors. Understanding of comorbidities and

associated risk factors will better inform disease management interventions. Additionally, a consolidated resource will be created for exploring research questions around biological and psychosocial mechanisms behind these comorbidities in India.

2700 adult participants will be selected from population-based cohort, Centre for cardiometabolic Risk Reduction in South-Asia (CARRS) surveillance study from Delhi and Chennai based on presence/ absence of cardiometabolic conditions and/or depression. They will be followed up longitudinally twice during the course of this fellowship. Information will be collected on traditional risk factors such as lifestyle factors along with psychosocial risk factors. Biomarker assessment will be done using blood samples. As a secondary analysis, findings will be compared with data from an independent dataset of migrant Indians.

This project is lead by Dr Aastha Aggarwal.

An adaptation and evaluation of a psychosocial intervention for self-harm in youth (ATMAN) (Early Career Fellowship)

The study is conducted to adapt and evaluate a psychosocial intervention for self-harm in youth. The overarching objective of the study is to design a scalable intervention which addressed two key questions: what should be its content (eg, the 'active' elements); and how should it be delivered (eg, the number of sessions). We anticipated the design of a theoretical map which elaborated the pathways through which the components of the intervention would lead to the desired goals of reducing the recurrence of self-harm and improved functioning.

This is a mixed method study that will be conducted in two phases. Various methods in the study included literature review, focus group discussions (FGDs) (4- 2 with youth and 2 with professionals), and in-depth interviews (IDIs). Recruitment for IDIs and FGDs with youth occurred from a major municipal general hospital (Sion hospital) in Mumbai, the most populous city in India with a population of 20.7 million. For the professionals FGD, therapists working clinically with self-harming youth were invited. We could identify a range of psychopathology from depression, premenstrual dysphoria, personality problems and adjustment disorder with no difference in psychopathology in the two age groups (14-19 years and 19-24 years).

The phase-I will consist of adapting the intervention and testing its feasibility and acceptability in youth who self- harm through a series of formative (in-depth interviews, intervention adaptation workshops) and pilot studies over a span of 18 months.

In phase-2, a randomized controlled trial (RCT) to test the effectiveness of intervention over enhanced usual care alone in reducing intensity of youth's suicidal thoughts and behaviour, the recurrence, range and severity of self-harm and the distress due to psychopathology. Counsellors will deliver the intervention in a personalized manner, using decision rules to guide the use of specific modules to address the priority concerns of the youth.

This study will address an area of need by adapting an evidence-based intervention to suit the need of youth with self-harm, the deliverable of the current research, that can be delivered by non-specialist counsellors. This intervention will have a far-reaching impact in self-harm and suicide prevention programs in all low-resource context that characterize the circumstance of most youth in South Asia settings, and will have significant policy related implications in India.

This project is lead by Dr. Shilpa Aggarwal.

The Department of Science & Technology Fellowships

The Department of Science and Technology, Government of India, aims to attract talent for study of science and careers with research through various schemes and Programmes. INSPIRE Faculty Scheme offers research awards to young achievers and opportunity for independent research in the near term and emerge as a future leader in the long term. The Women Scientist Scheme is aimed at providing research opportunities to women scientists and technologists. Researchers at PHFI have been successful in securing these fellowships which

help them with opportunities to carry out research independently and emerge as future research leaders.

Estimation of community level cause specific mortality using in-hospital deaths at selected sites in India (INSPIRE Fellowship)

Data used in the study were retrieved from the death registration system of Ahmedabad Municipal Corporation for period of 2001-2016. As this death registration system is not using International Classification of Disease (ICD), causes of deaths were coded in broad categories using the tenth revision of International Classification of Diseases (ICD-10).

Total 610816 death records from 2001-2016 from Ahmedabad Municipal Cooperation were included in this study. We observed that throughout the study period, more than 60% deaths have vague cause of deaths during the years 2001- 2016 for hospital deaths. In study period, it was observed that on an average within the middle age group (15-60), the unspecified cause of mortality was enlisted in about 55% and about 70% deaths in the elderly age group (60+). The distribution of mortality for causes of deaths across various age-group with respect to the place of deaths show that the number of unidentified causes leading to in hospital deaths decreased only 3% in 2001-16.

Diseases of Circulatory System being the major group of diseases constituting 15% of total medically certified deaths. It accounts for 16% and 12% respectively in males and female deaths in total medically certified deaths. Neoplasms being the second leading cause accounts for 8% and 7% respectively in males in female deaths in total medically certified deaths.

Most of the unspecified causes leading to death occurred at homes (66%) as compared to hospitals (62%). The analyses for the place of death represents that most of the vague causes lie in the middle aged group (15-60) years in hospitals and in elderly group (60+) at homes followed by Diseases of circulatory system (26%, 13%) and Neoplasms (16%, 10%) for the age group (15-60) years at both home and in hospitals.

This project is lead by Dr. Ashish Awasthi.

Is high sensitivity C-Reactive Protein (hsCRP) associated with depression in pre-diabetes and diabetes subjects participating in a worksite-based lifestyle modification program in urban India? (INSPIRE Fellowship)

Individuals with type 2 diabetes mellitus (T2DM) are twice as likely to have comorbid depression compared to the general population. Chronic low-grade systemic inflammation, as measured by high-sensitivity C reactive protein (hsCRP), could be a biological link between the two disorders. Elevated hsCRP is associated with pre-diabetes and diabetes, and emerging evidence suggests that elevated hsCRP may also be associated with depressive symptoms.

This study aims to determine if high systemic inflammation (measured by hsCRP) is positively associated with depressive symptoms in individuals with pre-diabetes and diabetes in the Indian population. Second, does an intervention involving lifestyle modification (health education, improved diet and physical activity training) lead to reductions in mean hsCRP levels and depressive symptoms over a three-year period.

In the past year, 446 individuals meeting the inclusion criteria (age ≥ 18 years; waist circumference: ≥ 90 cm (men)/ ≥80 cm (women); glycated haemoglobin ≥ 5.7% and BMI ≥ 23 kg/m2) and exclusion criteria (pregnant or breastfeeding, or having conditions that will impede participation) have been recruited from 5 worksites. The lifestyle modification intervention package has begun to be rolled out in four worksites. Preliminary baseline analysis is summarized below:

Mean age (sd) of participants: 45 (10.2); % males: 73.7; % diabetes: 25.3; % mild or sedentary activity at work: 82.2. Depressive symptoms were measured using the 8-item Patient Health Questionnaire (PHQ-8) in 405 participants. 8.9% participants had a PHQ-8 score ≥10 (score cut-off for 88% sensitivity and specificity for diagnosed depression). hsCRP levels have been quantified

in 104 participants till date. Mean PHQ-8 score increased with increasing hsCRP category (2 in hsCRP <1 mg/L vs 3.7 in hsCRP 3-10 mg/L) and increasing stress levels at work (2.95 for very low stress vs 7.23 for very high stress). Mean PHQ-8 score was also higher in pre-diabetes compared to diabetes participants (3.4 vs 2.8), and % pre-diabetic participants with PHQ8 ≥10 (9.3%) was twice more than participants with diabetes (4.4%).

This project is lead by Dr. Debarati Mukherjee.

Estimating India specific TB natural history parameters (DST Women Scientist Scheme)

Despite being a curable disease, tuberculosis (TB) is the leading cause of death alongside HIV globally amongst infectious disease according to a WHO report. India was reported as one of the highest TB burden countries, contributing to nearly a quarter of the world's TB burden, in spite of having the largest TB control program in the world (The Global Plan to End TB: 2016-2020). Disparities of socio-economic status of the Indian population coupled with a very complex healthcare system, only add to the complexity of the TB situation in India. A more comprehensive and evidence-based understanding of India's TB epidemic is therefore essential for addressing the disease burden in India and globally. This will also serve in aiding the End TB strategy goals. In order to achieve this, we need more robust methods that are complementary to the existing approaches, to better understand the TB epidemic in India. Modelling could play a crucial role in the planning and evaluation of TB control programs as conducting surveys or trials in diverse population groups is neither ethically nor logistically possible nor cost-effective. Mathematical models could account for complex nonlinear dynamics of TB transmission as well as the existing disconnect between public and private healthcare sectors in India. As important inputs, model requires parameters reflecting our knowledge of TB natural history; model findings can depend sensitively on these parameters. However, the use of natural history TB parameters from existing studies, have so far been mostly been drawn from Dutch, English, Swiss and American populations.

Mathematical models for TB transmission were built-in discussion with leading TB epidemiologist and TB program managers. The model was calibrated with empirical data to estimate relapse rates. The data obtained will lay the foundations for developing mathematical models that are more specific to the TB epidemic in India: such models will aid in building more focused control strategies. The findings of the models will be shared with the Department of Science and Technology, Govt. of India.

This project is lead by Dr. Surabhi Pandey.

Research Studies & Projects at IIPHs

Indian Institute of Public Health, Delhi

Design and scale up of alternate models for responding to the critical shortage of medical specialists in select states

This project is an attempt to design and facilitate the adoption of alternate model(s) for responding to the critical shortage of medical specialists in select states. This project is a step towards implementing the initiatives of the national health policy document. PHFI will help implement the National Health Policy by catalyzing the NBE and CPS programs through District Hospitals.

We believe that there is an immense latent potential in utilizing District Hospitals (DHs) as a site for training medical specialists which can lead to acquisition of a formal higher education qualification as a specialist. The District Health Model of the National Board of Examinations (NBE) and the College of Physicians and Surgeons (CPS) model are two models that can be adopted in select states. As per the Union Budget 2017, the Government of India proposes to roll out DNB courses in big District Hospitals; strengthen PG teaching in select ESI and Municipal Corporation Hospitals; and encourage reputed Private Hospitals to start DNB courses. The National Health Policy 2017 proposes recognition of educational options linked with National Board of Examination (NBE) that offers DNB; and College of Physicians and Surgeons (CPS).

If successful, this project will increase the production of specialists through adoption of alternate models for responding to the critical shortage of medical specialists. The participating DHs will witness a strengthening of their capital infrastructure as well as the staffing of specialists. The presence of Post-Graduate trainees around the year will have a domino effect that may lead to higher utilization/ access of services.

This project is lead by Prof. Sanjay Zodpey and funded by Bill and Melinda Gates Foundation

Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culpritvessels in STEMI Patients with Multivessel Disease after primary PCI

Value of Gated-SPECT MPI for Ischemia-Guided PCI of non-culpritvessels in STEMI Patients with Multivessel Disease after primary PCI is a multicountry randomised control trial. IIPH-D is involved in data management and statistical analysis of the study. The database has been designed using the CRDR platform and the recruitment and follow-up phase is ongoing.

This trial will impact in clinical decision making in patient management of those undergoing primary PCI for ACS.

This project is lead by Dr Niveditha Devasenapathy and funded by IAEA, Vienna

Digoxin in patients with rheumatic heart disease-a randomised placebo-controlled trial

This is a multisite India based double blind randomised controlled clinical trial involving 1800 adult patients with rheumatic heart disease comparing Digoxin versus placebo. Both groups will receive routine evidence based therapy for heart failure. This study is proposed to be conducted at 10 clinical sites across India, with All India Institute of Medical Sciences-Delhi being the nodal centre. The principal research questions addressed by this trial are the following: In patients with rheumatic heart disease, (i) Does digoxin use increase mortality? (ii) Does digoxin use reduce the incidence of worsening heart failure?.The primary outcome is all-cause mortality. IIPH-D will be providing overall Data management and statistical support for the trial. The following would be the responsibility of the DMSU. (1) Designing of Case Report Forms(CRF) (2) Designing and validation of e-CRF in CLINION (3) Generation and implementation of randomisation sequence (4) Data processing (5) Preparation of Interim Report for DSMB (6) Final analysis of the study data.

The database development is in progress. Study will be initiated after January 2021. This study will answer an important question of use of inexpensive drug for management of patients with rheumatic heart disease which is an important public health problem in India

This project is lead by Dr Niveditha Devasenapathy and funded by Indian Council of Medical Research (ICMR), New Delhi

Enhanced doctor- patient communication with better nuanced health care delivery in women and patients with Rheumatoid arthritis-- "Brave Bones: My Story; My Voice

This project would elicit different arthritis and osteoporosis patients' own illness narratives and transform these stories into culturally appealing audiovisual format by employing a mix of traditional, and modern techniques. It intends to build upon the power of patients' illness stories to communicate with key stakeholders. The narratives would employ ethnographic techniques and the scientific knowledge of biomedicine. By getting involved in co-creating these audiovisual narratives, the patients can introspect upon their illness experiences and give voice to own challenges and expectations. These narratives would be shared with care givers and physicians to appreciate the nuances of arthritis patients' care difficulties and care needs. Further, new patients can recognize the features, problems, appreciate the basic biomedical underpinnings of arthritis and learn various coping mechanisms to build resilience from their experienced peers. This project would span three years. In the first two years, it would engage with arthritis patients in diverse health care facilities (public, private; primary, and specialty clinics) in Odisha.

Our target audience includes patients with rheumatoid arthritis, osteoarthritis, and osteoporosis. We intend to engage with these patients as the magnitude of these diseases is quite significant especially in women leading to poor physical and mental health outcomes. The project enables, nuanced understanding by doctors of patient vulnerabilities, through ethnographic interviews and films made from patient experiences.

This project is lead by Dr. Shifalika Goenka and funded by Wellcome Trust, UK

Public Health Ethics in India- Establishing Linkages and Synergies

The following activities are being undertaken to faclitate a platform for networking and developing a course on public health ethics:

- Linking global (international) and Indian experts in Public Health Ethics
- Connect with Indian experts in Ethics, Philosophy, sociology, law, from Delhi university, and other universities with the aim of initiating processes which would motivate students of Humanities students to look at meaningful public health questions.
- Create a common platform to create a synergy towards the larger goal of sensitization, training and debate on the ethical aspects of various public health challenges in India.
- Form a smaller committee of national and international leaders in the field, who would brain storm together towards new research ideas on larger grants and funding ideas; this will also enable experts to interact with us and decide on their relationship and possible mentor role
- Through interaction with academia in humanities, - formative assessment (is there a need, is there a demand, if yes, then more) about a an internship program in public health and humanities at PHFI
- Create a platform for interaction and organize brain storming meets and seminars- webinars with different humanities experts on topics of interest in public health

This project is lead by Dr. Shifalika Goenka funded by Wellcome Trust, UK.

Development of Health Communication Strategy for Sagar Division of Madhya Pradesh (PHASE 1 Assessing the Knowledge, Attitude and Self-Reported Practices related to Common Illnesses and Health Service Delivery of health services in Sagar Division of Madhya Pradesh)

The project aimed to conduct knowledge, attitudes & self-reported practices research study among community members of both rural and urban populations of Sagar division of Madhya Pradesh. The outcomes of phase I of the project would feed into phase 2 of the project i.e., development of health communication strategy for Sagar division. We conducted phase 1 of the study and have submitted the final report which has been accepted by the AIGGPA. The study will be beneficial in designing the health communication strategy for Sagar division, the first such strategy in the division which has poorer health indicators than those of the state.

Focus Group Discussion with the women of rural community to understand where do they avail health services and their perceptions about health services

This project is lead by Dr. Anjali Singh Kulkarni and funded by Atal Bihari Vajpayee Institute of Good Governance and Policy Action (AIGGPA); State Health Resource Centre, Government of Madhya Pradesh

Development of eLearning Program on Maternal Infant and Young Child Nutrition

Improving the skills and knowledge of health, nutrition and development professionals working in maternal and child health is critical to attain nutrition targets and achieve the Sustainable Development Goals (SDGs). This course provides an updated knowledge on adolescent, maternal, infant and young child nutrition (Adolescent and MIYCN), for those who are new or as a refresher course for those with years of experience. The course is developed in collaboration with Alive & Thrive using global and national guidelines and standards.

This project is lead by Dr Jyoti Sharma and funded by IPE- Global

Indian Institute of Public Health, Hyderabad & Bengaluru

Assessment of Vulnerability and Threshold of Heat-Related Health Hazards in Four Cities of India

The overall aim of the project is to examine the heat related health hazards in population of four cities of India. The objectives of the study are:

- To conduct vulnerability assessment for heat wave in four cities of India through household survey.
- To explore opportunities and challenges of heat wave adaptation and document innovations on heat wave mitigation during summers.
- To determine temperature thresholds of heat-related health hazards in four cities of India through scientific analysis of multi-sectoral data on morbidities & mortalities.

The study findings will help in designing appropriate strategies and interventions at community level. The threshold analysis will help to generate more robust evidence to inform the state- and region-wise Indian weather warning system, so that people can be warned of the forthcoming hazardous heat situations with more accuracy and also take up measures to tackle the issue.

Recently, we modified out study tools to capture the impact of COVID-19 on heat related issues and measures.

This project is lead by Dr. Lipika Nanda and funded by National Disaster Management Authority (NDMA), Government of India

Indian Health Outcomes, Public Health and Economics Research Centre (IHOPE)

The overall aim is to develop a Centre for Health Outcomes Research and Economics (CHORE) titled "Indian Health Outcomes Public Health and Economics Research Centre (IHOPE)" utilizing the DBT/Wellcome Trust India Alliance Clinical Research Centre grant. The key objectives include: Generate new knowledge and disseminate the best practices in clinical research, health economics and public health in vision sciences through big data; Create a pool of trained clinician-scientists with expertise at the intersection of the above domains and Develop a training centre for clinicians to assess and perform research, evaluate cost-effectiveness, and analyze big data

This project is lead by Prof. GVS Murthy and funded by DBT/Wellcome Trust India Alliance in collaboration with L V Prasad Eye Institute (LVPEI), Hyderabad

Ambient and Indoor Air Pollution in Pregnancy and the risk of Low birth weight and Ensuing Effects in Infants(APPLE) A cohort study in Bangalore, South India

We followed a cohort of 519 pregnant women. Among the total study participants 297 underwent pollution assessment twice during pregnancy in the second and third trimester. We have completed 430 at birth follow ups, 285 six months and 133one year follow ups so far. We reported the mean, standard deviation, minimum and maximum values for the indoor, ambient and net exposure for the particulate matter and carbon monoxide. The majority of the women were Hindus (62%) and were aged between 18 to 25 years (64.9%). A majority (41.7%) of the pregnant women had completed high school education and 45% of the study participants belonged to the lower socio-economic status. Nearly 22% of them reported their spouse smoking status. Nearly one- fourth of the houses were semi pucca (house roof or wall material are not made of concrete, stone cement or timber). Nearly 96% of the participants use LPG as the primary fuel, nearly 17% of them use solid biomass fuel as a secondary fuel. Nearly 73% of the participants reported having no ventilation in their kitchen. Nearly 44% of them use incense sticks, 34% of them use Frankincense as a part of their prayer. Majority of the residences are located within 500mtrs from the main road. Nearly 26% of them reported having open

garbage and construction activity near their residence. We have not found any significant association between pregnancy exposures to air pollution level on birth weight. But we did find significant association between the pregnancy exposures to air pollution on infant adiposity adjusted for several potential confounders.

This project is lead by Dr. Giridhara R Babu funded by Department of Science and Technology

Effect of One Full Meal a Day in Pregnant and Lactating Women; FEEL

Aim of the study was to assess the impact of one full meal (OFM) provided to pregnant women in improving health and pregnancy and infant outcomes as assessed by improving the weight gain, mean haemoglobin in mothers and weight for length in the infants. Secondary objectives were to understand the perspectives of pregnant and lactating mothers regarding OFM and to understand the barriers, facilitators and contextual factors in implementation of OFM.

The study population comprised of registered pregnant women with the age above 18 yrs providing voluntary consent and residing in the study location for the next one year, excluding women not willing to provide informed consent, planning to migrate and having co morbid conditions. The calculated sample size was 1201 at 95% Confidence Interval (CI) and 80% power and with 1.2% for refusal to participate and 1.2% for loss to follow-up the sample size was calculated, employing Openepi version 3.01. Ethical approval was obtained from Institutional ethics committee of IIPHH Bengaluru. The project was implemented from April 2018 to march 2020

- The quantitative study showed that there was an increase in the average weight and haemoglobin levels of pregnant women and birth weight in the newborn. Participants from all four districts gained weight throughout the trimesters.
- Among the 1257 participants, the majority (85.65%) of the participants have consumed more than 75 days OFM in their entire pregnancy period, and only 14.35% participants consumed OFM less than 75 days in their whole pregnancy period.
- The average weight gain of 9.6kgs was found in mothers who consumed OFM over 75 days compared to women who have taken meals less than 75 days, i.e. Average weight gain 9.5 kgs.
- The average increase in haemoglobin was high among the participants who consumed OFM more than 75 days compared to those who consumed meals less than or equal to 75 days. Overall, a 0.52% increase in haemoglobin levels was observed amongst the participants from the first trimester to the third trimester.
- There was a statistically significant association between the numbers of days OFM consumed by the participants and improvement in the weight and haemoglobin values of mother and birth weight of the newborn. However, the length of the newborn did not show association with OFM consumption.

Qualitative study findings:

- The facilitating factors are free nutritious food, the opportunity for mental wellbeing and psychological support, Stakeholders are interested and motivated to continue the program.
- The barriers identified are food beliefs, cultural beliefs, caste system, family restrictions and distance from the home issues with the availability of potable water, toilet facility and lack of infrastructure are other barriers.
- Community leaders and local authorities who understand the importance of the program usually encourage women to go to AWCs to have meals and community people extend their help by giving their fresh grown vegetables for a lower price. Self-help groups, Balavikasa Samiti and Panchayats may contribute to the scheme.

This project has provided insight on the existing scheme and its effectiveness in improving the maternal and child health and an opportunity to inform the policy makers through research findings, the need for involvement of Gram panchayat members, community leaders in

motivating beneficiaries. It also focused light on the infrastructural issues at Anganwadi centres (Child care centres) and need for the modification along with the basic drinking water and toilet facility.

This project is lead by Dr Giridhara R Babu and funded by Department of Women and Child Development, Govt. Of Karnataka

Project 'No Fever'

The project "NO-Fever" plans to pilot community engagement through corporate employees of Dr. Reddy's Lab and IIPH-Hyderabad for control of Dengue in Greater Hyderabad Municipal Corporation (GHMC) area in selected cluster and provide technical, training, monitoring support to the Volunteers from DRL employees and support implementation and evaluate impact by setting up a control room for the duration of the project. The Project will have following objectives:

- To improve awareness through innovative use of technology and social media platforms.
- Surveillance, and monitoring the disease occurrence and facilitating control measures via established linkages with key stakeholders and innovative use of information technology.
- To devise and test containment strategy for preventive, promotive and early management related interventions to control Dengue and Chikungunya in select geographies
- To generate evidence on burden of dengue and its contribution to COVID-19 associated adverse disease outcomes

The project has been able to enroll over 95 adult volunteers, 17 Resident welfare associations and 25 Student volunteers till 30 September 2020. 5 webinars for adult volunteers have been conducted for generating awareness regarding Dengue fever, it's interaction with COVID19, and on measures to control Aedes mosquitoes, by preventing breeding sites, using temephos, Attractive toxic sugar baits, insecticide impregnated window nets etc. All volunteers have been provided with mosquito control kits. 2 webinars have been conducted for student volunteers and 2 webinars training sessions have been conducted for General Physicians. In addition to this, the project is also involved with Dakshas in training of General practitioners and physicians at Basti-davakhanas in management of undifferentiated fever, specially in context of COVID 19 pandemic.

This project is lead by Prof. GVS Murthy and Dr. Rajan Shukla and funded by Dr Reddy's Laboratory Ltd.

Implementation Science of Dakshata Program

We conducted implementation research of the Dakshata program, a strategic initiative of Government of India based on the Safe Childbirth Checklist (SCC) for improving the quality of care during childbirth. Using 5 work pages we conducted extensive desk review of program documents and reports, interviews with all relevant stakeholders, and government officials.

Dakshata program was implemented with intensive support from JHPIEGO as a technical partner. The project found that the program substantially improved the labour room infrastructure and essential resources, increased confidence and competencies of service providers, and improved the quality of intra-partum care in Rajasthan. The practices showing direct and immediate effect on maternal health outcomes were better adapted. Mentoring, periodic assessments and direct supervision from district and state were the main contributors to successful implementation. Ensuring availability of Dakshata-trained staff, and instilling ownership at all levels is essential for sustained program.

This project is lead by Dr. Samiksha Singh and funded by JHPIEGO India office

Extended follow-up of the participants of IARC-India HPV vaccination study to evaluate the effectiveness of one, two and three doses of quadrivalent HPV vaccine in preventing cervical neoplasia and corresponding substudies

HPV vaccination is now widely recommended for the prevention of cervical cancer and is implemented in 80 countries world-wide;

three doses of the vaccine over 6 months was recommended since 2006 to girls and young adult women. However, the World Health Organization recently recommended that two doses (at 6- or 12-month intervals) will be adequate to vaccinate healthy, non-HIV infected girls below 15 years, based on some early, but robust, evidence. Although several countries have changed their vaccination protocols to two doses for girls aged 9-14 years, as recommended by WHO, some countries still continue with three doses anticipating long-term eviden overall goal of the extended phase of the research study is to assess the long-term clinical efficacy of two doses and a single dose of the HPV vaccine, not only in girls aged 9-14 years but also in those aged 15-18 years at recruitment. Proof of the efficacy against long-term clinical outcomes will strengthen the evidence base for the current recommendation of two doses for adolescent girls and will contribute to the evidence base if two doses may be effective for those aged 15-18 years and one dose may be efficacious for cervical cancer prevention in pre-adolescent and adolescent girls. The public health implication of either of the findings will be immense, as this will allow many of the resource-limited countries to introduce the vaccination program at a substantially lower cost and improve compliance and access to vaccination.

The extended phase of the study will generate additional data to validate the existing outputs in terms of the efficacy of fewer than 3 doses of HPV vaccine against incident and persistent HPV infections. Follow-up of the vaccinated as well as the unvaccinated girls for 5 more years will provide substantial evidence regarding the efficacy of less than 3 doses of the vaccine to prevent cervical premalignant lesions, the most important endpoint for any HPV vaccine study. The study will also address important issues related to the screening of the vaccinated women. During this extended 5-year period, many of the participants in the present study will reach 25 years of age and will be eligible for screening. Screening of these women with HPV testing will allow us to evaluate the performance of HPV screening in the vaccinated women, regarding which very little information is available in the literature.

Essentially the outcomes of the project will be looking for long-term efficacy to prevent persistent HPV infection and cervical pre-malignancies and assessment of HPV screening of the vaccinated population. The follow up will be primarily based on communicating with the participants through mobile phones taking advantage of the much improved telecommunication services in India. This study will set a novel example of using the M-health platform to improve cervical cancer control activities in a resource-limited setup.

This project is lead by Dr Usha Rani Poli and funded by The International Agency for Research on Cancer

Gestational diabetes in Uganda and India: Design and Evaluation of Educational Films for improving Screening and Self-management (GUIDES)

The Objectives of this activity is to evaluate the effectiveness of the intervention (i.e. combined package of GDM films) in improving timely detection, glycaemic control, and adverse perinatal outcomes of GDM

We have completed pilot and actual qualitative study of the project which aimed at assessing socio-cultural (individual, family, community) and health system which restricts timely screening and effective management of GDM in India. Based on the findings of qualitative study educational films were developed, scripts were reviewed by expert review panelists and video shooting was done in the month of January 2020. Initial videos share by Medical Aid films were reviewed and suggestions were given.

Five videos for pregnant women have been finalized, videos for healthcare providers is under production. For conducting the trial, 30 maternity units were identified and assessed in urban Bengaluru, Karnataka (15 for intervention and 15 for the control group) which includes Urban Primary Healthcare Centres, Maternity homes and Referral hospitals in four zones of Bengaluru city. The questionnaires were pretested among pregnant women, and based on the observations, necessary corrections were made in the study

questionnaires. Questionnaires were designed to capture the information on general aspects, household composition, socio economic status, obstetric history, GDM screening at followup, perinatal outcome at 6 weeks after delivery. To collect the quantitative data, a mobile application is under development, which will be hosted in an android based tablet and synced to the website after data collection. Options are available in the app for generating reports in real time. The trial is registered at Clinical Trials Registry- India (CTRI) (registration number: CTRI/2020/02/023605). Insurance providers for indemnifying the study team has been identified

Impact on public health in India

- Improving the health of women, particularly in terms of reducing the prevalence of subsequent type 2 diabetes, will impact on economic productivity
- Improving the care of women with GDM will help to address gender inequalities, and as the risk of GDM-associated complications is highest among women from more disadvantaged communities, our intervention will also impact on and socioeconomic inequalities
- Expanding the growth of national film industries

This project is lead by Dr. Giridhara R Babu and jointly funded by DBT, India, and Medical Research Council (MRC), UK

Evaluation of Dakshata program in Rajasthan and Andhra Pradesh

The project evaluated Dakshata program - A national program to build capacity of health providers to improve quality of care in labour rooms and wards, using WHO safe childbirth checklist

The project used mixed methods and repeated surveys to evaluate the effect of the Dakshata programme on a) adherence to maternal and newborn health evidence-based provider practices, and b) in-facility 24 hour peri-natal mortality; It also assessed the adoption of monitoring practices and improvement in accountability, sustainability and scalability of the Dakshata program. The results were shared with the respective sates, implementation partner and the national government.

This project is lead by Dr. Samiksha Singh and funded by Children's Investment Fund Foundation

Evaluation of SCSL project

This project evaluated the SCSL project which is the first large scale quality improvement (QI) collaborative across public and private hospitals in India to be based on an insurance platform. The implementation is in two states of India- Telangana and Andhra Pradesh. The evaluation estimated the effect of SCSL on key care practices, morbidity and neonatal mortality among neonatal intensive care unit admissions. It described the feasibility of using a government-sponsored health insurance network to drive quality improvements in network facilities. The resources and mentoring support for both clinical and administrative processes are essential to improving quality of care. The findings suggest that high level of political commitment and a certain level of quality assurance is required prior to introducing the Quality Improvement collaborative approaches. The QI approach shall be modified and adapted specific to the local context. The SCSL project in current form and context did not improve adherence to best practices or newborn outcomes.

This project is lead by Dr Samiksha Singh and funded by London School of Hygiene and Tropical Medicine

Advanced Collaboration for Early Childhood Development and Empowerment

PHFI has partnered with UNICEF in India to establish an Advanced Collaboration for Early Childhood Development and Empowerment (ACECD) with an aim to form national and international collaborations and networks to further the agenda for ECD in India. The collaboration aims to provide policy support, build capacity, conduct research and evaluations, design and implement programmes, and support governments for comprehensive and equitable interventions for Early Childhood Development,

Orientation of ASHA supervisors on ECD during HBNYC training for Telangana

taking a multi-sectoral approach at multi-level interactions, through a sustained institutional structure. The collaboration aspires to be the knowledge hub and resource centre with physical enterprise and a virtual pool of experts working together.

The project also extended support for capacity building for secondary hospitals for COVID-19 care in Telangana.

This project is lead by Dr. Samiksha Singh and funded by Unicef- Hyderabad

Regional Resource Hub for Health Technology Assessment in India (HTAIn)

This study aims to take responsibility in evaluating a wide range of health technologies and programs offered by the public sector and to inform policy decisions through economic evaluations. The resource hub dons an advisory role to the health sector authorities and is envisioned to provide scientific evidence-based results through proficient assessment of health data in support of public decision making. The Resource hub comprising of dedicated professionals in the field of public health draws upon the experience of its experts to conduct research for evidence-informed policy at the national level. The RRH-HTAIn targets to build HTA capacity in a developing country like India and would also foster collaborations with central and state governments, regional organizations, HTA units, and other institutes to coordinate policy advice and evidence-based research support.

The Regional Resource Hub currently works on the project entitled “Cost-utility analysis of Total Knee Replacement as compared to standard treatment practices for knee osteoarthritis among all age groups and among all severity groups based on all Kellgren Lawrence classification grades”. The research team at present is involved in the systematic literature review to understand the clinical and cost-effectiveness of TKR over standard treatment practices as well as in formulating a questionnaire for the pilot study to understand the present scenario.

The research team is also involved in the preliminary phase of formulating research questions on Statins as lipid-lowering drugs for cardiovascular disorders and also on Improving efficiency on vaccine management systems through the Electronic Vaccine Intelligence Network (eVIN). A study on the Global burden of disease with a focus on the DALY and different health state values is also under progress. This study aims to focus on the mortality patterns to further understand its contribution in detail.

This project is lead by Dr. Lipika Nanda and funded by Department of Health Research, Ministry of Health and Family Welfare

Indian Institute of Public Health Bhubaneswar (IIPHB)

Diagnostics for Health Systems Transformation in Odisha

Indian Institute of Public Health, Bhubaneswar (IIPHB) in collaboration with Health Systems Transformation Platform (HSTP), Tata Trust and under the stewardship of the Government of Odisha has undertaken a comprehensive health system research in the state titled 'Diagnostics for Health systems transformation in Odisha'. This partnership was result of a MoU signed between Government of Odisha, Tata Trust and HSTP in order to suggest policy options to strengthen the health systems of Odisha based upon in-depth understanding and rigorous analysis of health care situation of Odisha.

The Aims and Objectives of the project were:

- To focus on enhancing understanding and generation of important evidence, which will form a basis to plan the most relevant health systems design for Odisha.
- To identify the bottlenecks around awareness of various ongoing government health initiatives (preventive and promotive), & insurance schemes to design robust awareness mechanisms which will improve health services utilization, strengthen preventive services and establish a sustainable mode of communication between the government and people.

IIPHB completed the research and the final report has been shared with all stakeholders, under the thematic areas: health financing; organization and delivery of services; human resources for health (HRH) and health in difficult-to-reach areas.

Followed by this the IIPHB team has made presentation in a meeting on 20th August 2020 chaired by the Additional Chief Secretary and participated by all Directors and senior officers in Department of Health and Family Welfare and National Health Mission, Odisha. This meeting was also attended by the representatives of Tata Trust and HSTP. All the stakeholders appreciated the findings from this research which can provide valuable inputs to design appropriate strategies for improving Odisha's health systems.

This project is lead by Prof. Subhash R Salunke and funded by Tata Trust

Effectiveness of Fortified Mid-Day Meal In Reducing Iron-Deficiency Anaemia Among School Children In Dhenkanal, Odisha

Iron-deficiency anaemia and other micronutrient deficiencies (MND) amongst school-aged children is widespread in India, including its administrative state- Odisha which causes widespread cognitive under-development and learning difficulties in children in addition to their ill health. The efficacy of micro-nutrients fortified school-served meals in reducing iron-deficiency anemia has been demonstrated in randomized controlled trials by others in stricter research settings. But, the current study aimed to assess its effectiveness in real-world school settings. A World Food Programme-supported project was undertaken by Department of School and Mass Education, Government of Odisha to fortify Mid-day Meal (MDM) of the school-going children on a pilot basis in the district of Dhenkanal. Indian Institute of Public Health (IIPHB) was assigned the responsibility of evaluating its impact. Using a quasi-experimental pre-post non-equivalent group with control study design, IIPHB assessed the impact of Mid-Day Meal (MDM), the school-served lunch fortified with multiple micro-nutrients using fortified rice kernel (FRK) and micro-nutrients powder (MNP). The usual school system resources were used with minimal additional input for fortification. Changes in two outcomes-anemia prevalence and haemoglobin levels between pre and post phases were estimated using Difference-in-Difference analysis. The estimation controlled for inter-arm differences in socio-economic status, and iron and deworming tablet consumptions. All public schools of eight randomly assigned blocks of Dhenkanal district bisected into FRK and MNP interventions, and four matched control blocks of Angul district, Odisha, made up the three study arms. Six to 14-year-old school children (n=

1764 and 1638 for pre and post, respectively) were sampled from who blood specimens were collected. Factoring in the changes in control and adjusting for potential confounders, proportion of children without anaemia and mean haemoglobin improved by 2.06 (1.57, 2.57) times and 0.13 (0.05,0.20) g/dl in MNP, and 1.64 (1.3, 2.06) times and 0.21 (-0.08,0.48)g/dl in FRK arms. Despite MNP intervention showing a slightly greater impact on anemia, between-intervention differences were statistically insignificant. Multi-micronutrients-fortified MDM was found to have the potency to effectively improve anaemia status among Indian school-aged children.

The project was lead by Dr. Ambarish Dutta and funded by World Food Programme

Indian Institute of Public Health Shillong (IIPHS)

Regional Resource Hub (RRH) for Health Technology Assessment in India (HTAIn).

The RRH for the northeast region has been established at the Indian Institute of Public Health Shillong. The goal of RRH is to establish the regional hub to undertake economic evaluation studies, cost-effective analysis of different health schemes or health technologies, devices and interventions. The HTAIn aims to evaluate the available evidences regarding cost and clinical effectiveness of health interventions that will help in reducing out of pocket expenditure and maximizing healthcare coverage. HTA is a method of synthesis that considers evidence regarding clinical effectiveness, safety, and cost-effectiveness. Some of the completed projects involve cost-effectiveness analysis of hypothermia detecting devices, economic evaluation for i-stat device. One of the proposed projects for 2021 is cost effective analysis of thiamine supplementation of post-partum mothers to prevent mortality due to infantile beri-beri. In addition, projects assessing health schemes implemented by the north eastern states, are ongoing.

This project is lead by Prof. Sandra Albert and is funded by The Department of Health Research (DHR), Ministry of Health & Family Welfare (MoHFW), Government of India.

Cost-effective analysis of hypothermia measuring devices

Training Division

Training Division, PHFI, is involved in building capacity of healthcare professionals in various disciplines, both in India and abroad, by way of contact based courses, online courses and workshops. There are more than 30 capacity building courses / workshops being conducted with the objective of upgrading skills, knowledge and core competencies of healthcare professionals. The Capacity Building Courses are being conducted in over **600 centres** across **121 cities** in **28 states** and UTs. Till date, a network of over **32,000 healthcare** professionals have been trained with a completion rate of over **90%.** Training Division is also working with **12 State Governments** who have adopted these initiatives for training of their medical officers.

> *"Training Division, PHFI is playing a major role in capacity building of Healthcare Professionals both in India and abroad since 2010. The programs have been adopted by 12 plus state governments and expanded to more than 10 countries across the globe and won all the prestigious skill building awards"*
>
> ***– Dr. Sandeep Bhalla,***
> *Director, Training, PHFI*

Geographical Coverage of Training Centres

PHFI Training Division Capacity building initiatives*		
Courses		Workshops
Contact based	Online Courses	
Evidence based Diabetes management	Obesity prevention and management	Occupational health
Diabetic retinopathy	Cybersecurity in Healthcare	Public health management
Gestational diabetes	Applications of Artificial Intelligence in in Healthcare	Maternal and child health nutrition
Cardio – Diabetes	Patient Safety and communication	Patient safety and communication
Common Mental Disorders	Occupational Safety & Health	Health program management
Thyroid Disorders	Medical ethics and Medico legal issues	Monitoring and evaluation of healthcare programs
Women's Health	Disaster Management	COVID-19
COPD and Asthma	Integrated Geriatric Care	Barefoot Counselling
Palliative Care	Anti -Microbial Stewardship	
Healthcare Quality	Diabetic Foot	
	Healthcare Technology	
	Workplace Safety Training	

** In view of current pandemic situation, many courses are being conducted in online mode*

Activities done since April 2019

Training Division Courses under implementation:

1. **Certificate Course in Evidence based Diabetes management (CCEBDM) Cycle VI** (May 2019- June 2021),enrolled 2422 participants in 73 Cities at 137 Centres in 20 States and 2 UTs
2. **Certificate Course in Gestational Diabetes Mellitus' (CCGDM) Cycle VI** (August 2020- November 2020) enrolled 163 participants from 17 States, 2 UTs, 76 Cities across the country in 7 Regional Centres PAN India.
3. **Certificate Course in Common Mental disorders** (June 2020 – October 2020) enrolled 143 participants from 64 districts from 17 states in 7 Regional Centres pan India
4. **E-learning Certificate Course in Evidence Based Diabetic Retinopathy** (July 2020 – December 2020)enrolled 71 participants in a self-paced E-learning model delivered through the Learning Management System (LMS) platform.
5. **Occupational Health Program- Care & Compliance of Unorganized Sector Worker's Perspective for the Primary Healthcare Professionals (OHP- CAPH):** A 3-day Workshop for Healthcare Professionals from 6th to 8th March 2020 at ICMR-

NIOH Ahmedabad campus, The first batch of the workshop was comprised of 25 medical officers nominated by various state government like Govt. of Maharashtra, Govt. of Gujarat and Govt. of Madhya Pradesh.

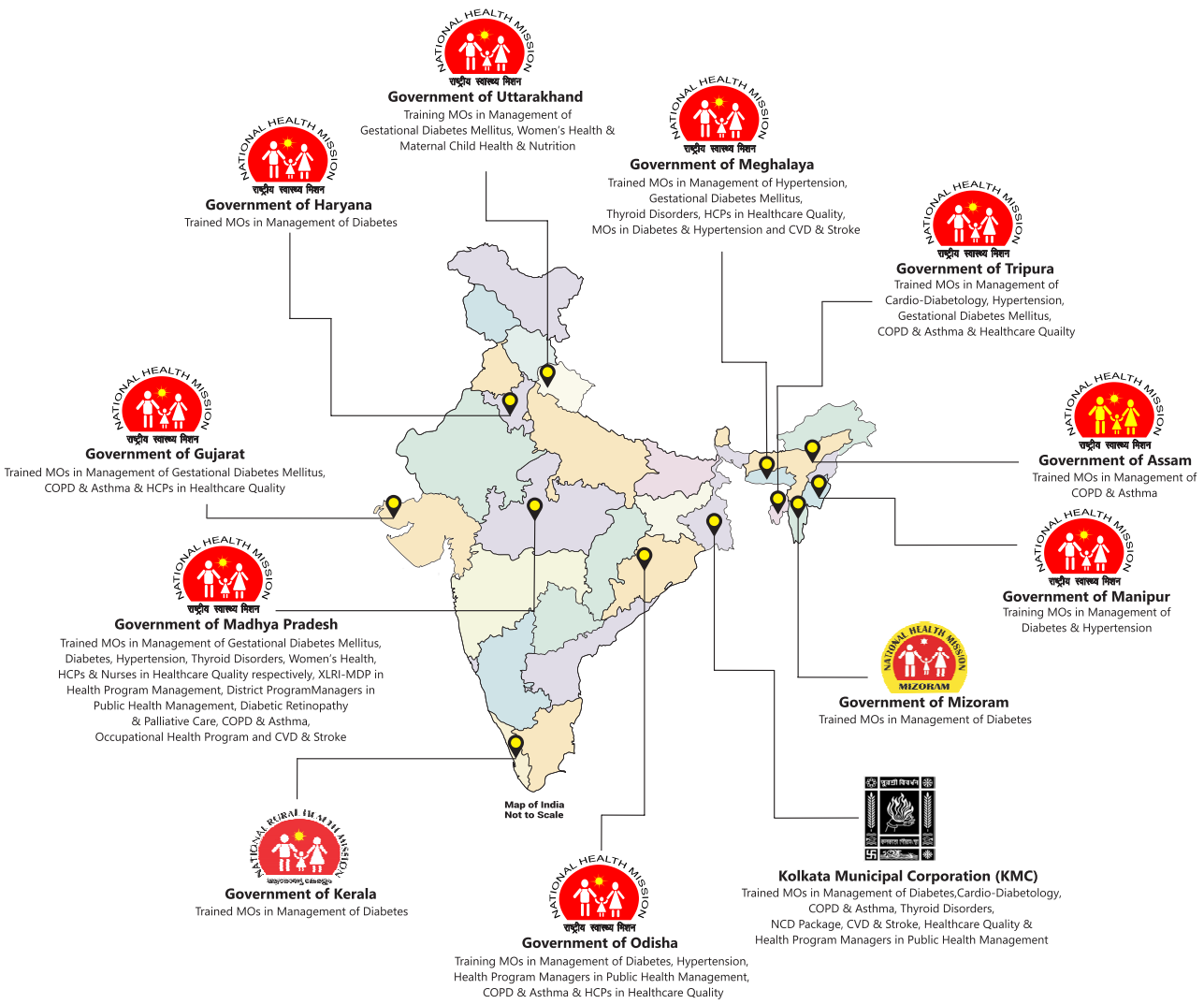
6. **Certificate Course in Prevention and Management of Diabetes & Cardiovascular Disease (ACMDC)-** After three successful years, the fourth cycle of the ACMDC was launched on 18th August 2019 as an on-job training program with six study modules spanning over six consecutive months from August 2019 - January 2020 with once a month contact session. These sessions were conducted on a designated weekend at 09 regional centres (08 states & 1 UT) across India

Government/ PSU Collaboration

1. Training Division, PHFI partnered with **Global Development Centre (GDC) at Research and Information Systems for developing countries (RIS)** and conducted the GDC Fellowship Programme in Public Health Management for International Delegates conducted in Feb-March 2020.
2. PHFI has signed five years MoU with **Department of Health & Family Welfare, Government of Madhya Pradesh** and acting as a **skill building partner for the state** for training of Medical Officers nursing, para-medical cadre and health program managers as follows:

Sl. no	PHFI projects with NHM, Govt. of Madhya Pradesh	Centers	Number of Participants
1	Certificate Course in Evidence Based Diabetes Management (CCEBDM) – 3rd batch started.	10	300
2	Certificate Course in Management of COPD & Asthma (CCCA)	5	150
3	Certificate Course in Diabetic Retinopathy (CCDR)	4	100
4	Certificate Course in Palliative Care (CCPC)	4	100
5	Certificate Course in Management of Thyroid Disorder (CCMTD) – two batches	7	150
6	Certificate Course in Women's Health (CCWH) – 2 batches	7	150
7	Certificate Course in Health Care Quality (CCHQ)	2	60

3. **State Institute of Health and Family Welfare (SIFHW), Govt. of Odisha** has adopted the CCEBDM model of training division of PHFI for training 200 medical officers in diabetes and 200 medical officers in courses nominated from CHCs, PHCs and other health facilities at 10 different training centres all across the Odisha State. NHM Odisha has also sanctioned to train 90 MOs in COPD & Asthma, of which the first batch of 18 MOs are undergoing this training in an online mode at present in view of the pandemic. Odisha Government also nominated **85 participants** consisting of doctors and hospital managers for healthcare quality to undergo healthcare quality training. Also, 6 batches of Patient safety & communication course has been sanctioned by the state in which 180 healthcare professionals will be trained.
4. PHFI has signed three years MoU with **National Health Mission (NHM), Government of Tripura** and acting as a **skill building partner** for the state for training of Medical Officers in various disease prevention and management. PHFI has completed training of two batches of Advanced Certificate Course in Prevention and Management of Diabetes & Cardiovascular Disease (ACMDC), Certificate Course in Gestational Diabetes Mellitus (CCGDM) and one batch of Certificate Course in COPD & Asthma (CCCA) for training of Medical officers. A certificate Course in Healthcare Quality (CCHQ) was also conducted for training of



AYUSH professionals. Through these training programs, more than 300 medical officers and healthcare professionals were trained.

5. **NHM, Manipur adopted CCEBDM course** for the training of their medical officers. 23 participants were enrolled in each course and it was launched in January 2020 in the presence of Shri **V. Vumlunmang (Principal Secretary, H & FW Services, Govt. of Manipur) and Dr. K. Rajo Singh (Director, H & FW Services, Manipur).**
6. **Training Division signed multiple MoUs with Kolkata Municipal Corporation** for the implementation of Certificate Course in Healthcare Quality (CCHQ) and Training workshop in Public Health management.
7. **NHM Meghalaya** nominated a batch of 33 Doctors and nurses for CCHQ
8. **NHM Tripura,** nominated 20 AYUSH medical officers to undergo CCHQ training
9. **NHM Gujarat** nominated a batch of 29 Doctors and nurses for CCHQ
10. **NTPC** nominated 27 Hospital Administrators and Nurses for training in healthcare quality
11. Training Division also conducted **Safety First of Employees (SAFE)** Workshop for NTPC to ensure NTPC healthcare worker's self-protection in the wake of emerging newer infections like coronavirus and increased incidences of mob violence and stress at workplace.
12. Need Assessment Survey of public health facilities at Kanchipuram and Vadodara for **Larson & Turbo Public Charitable Trust (LTPCT)**

13. Organizing of SCOPE School India 2019- In collaboration with World Obesity Federation on10th November, 2019, New Delhi on topic: Current Status and Response to the Global Childhood Obesity Pandemic.
14. Evaluation of Project ECHO India Initiatives being conducted. The goal for this evaluation is to measure the effectiveness of the ECHO model in improving access to specialty care among rural and urban community residents in India.

New Projects launched:

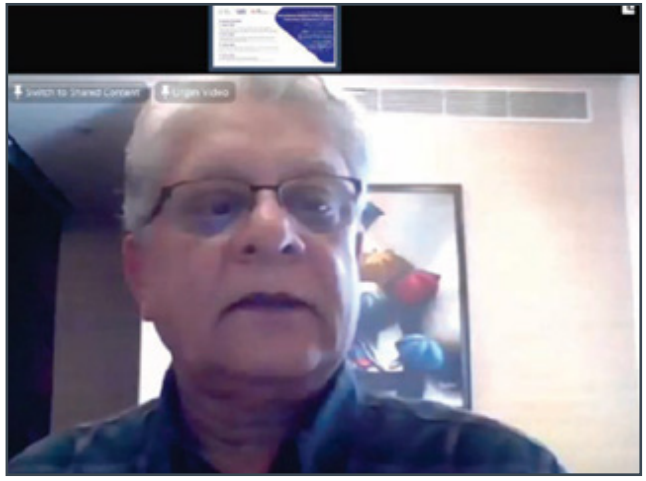
Sl. no	Course	Participants enrolled	Partners
1	Certificate Course in Cybersecurity in health care (CCCH)	42	InnovatioCuris
2	Certificate Course in Integrated Geriatric Care	210* Enrolment in progress	
3	Certificate Course in Patient safety and communication (CCPHC)	30	Association of Healthcare Providers India
4	Certificate Course in Applications of Artificial Intelligence in Healthcare	76	InnovatioCuris
5	Certificate course in Obesity prevention and Management (CCOPM)	72* Enrolment in progress	Chellaram Diabetes Institute, World Obesity Federation
6	Certificate Course in Disaster Management (CCDM)	51	
7	Certificate Course in Medical Ethics and medico-legal issues	Curriculum being finalized	
8	Certificate Course in Healthcare technology	Under rollout.	Association of Healthcare Providers India, Indian Institute of Science, Indian Institute of Space Science and Technology
9	Certificate Course Antimicrobial stewardship (CCAMS)	90* Enrolment in progress	DSPRUD (Delhi Society for Promotion of Rational Use of Drugs)
10	Workplace safety Training	Under roll out	Ibhar Technologies Pvt Ltd
11	Certificate course in palliative care	Under roll out	Pallium India
12	Certificate Course in Occupational Safety & Health (CCOSH)	Curriculum being finalized	
13	Pfizer funded project on COVID-19 trainings for Doctors, healthcare workers and community	9 batches with 4 batches for Indian Doctors, 3 batches for Healthcare workers, one batch for community and one batch for International doctors.	
14	London School of Hygiene and Tropical Medicine funded project on assessing the impact of COVID-19 on primary healthcare services and antibiotic provision by rural healthcare providers in India and co-designing a multi-stakeholder intervention.	Pilot Testing going on	LSHTM, PHFI,Institute of Development Studies, Brighton, UK
15	Barefoot Counselling	Curriculum being finalized	MIND India
16	Certificate Course in Common Neurological Disorders	Curriculum being finalized	
17	Diabetic Foot	Under rollout	Chellaram Diabetes Institute & Leicester Diabetes Centre

Glimpses of Training Division activities

First batch of GDC fellowship program with RIS for South Asian and African delegates

Signing of 5 years, skill building partnership MoU with NHM, MP in presence of Commissioner Health and JD- Training, Govt of MP

Launch of online Certificate Course in Cyber security in Healthcare by Lt. Gen (Dr.) Rajesh Pant (National Cyber Security Coordinator, Government of India, PMO), Prof K. Srinath Reddy and Surgeon R. Admiral Dr. V.K Singh (Retd.)



Ambassador Amar Sinha, Chairman, Interim Advisory Council of GDC at RIS giving opening remarks during COVID-19 e- workshop for International delegates

Shri V. Vumlunmang, IAS (Principal Secretary, H & FW Services, Manipur) during CCEBDM launch in Imphal, Manipur

MoU signing by Mr. Atin Ghosh, Deputy Mayor, Kolkata Municipal Corporation for training workshop on Public Health Management

MoU signing between SIHFW, Govt. of Odisha and Training Division, PHFI for 6 batches of Patient Safety training course

MoU signing with Healthcare Sector Skill Council for Joint capacity building activities

Hosting of Scope School India in collaboration with World Obesity Federation on Current Status and Response to the Global Childhood obesity pandemic

Sensitization and orientation workshop for adoption of PHFI training courses by Ministry of Health, Government of Rwanda at Kigali

CCEBDM Cycle-6 National Expert Meet for curriculum development

Group Photograph of Batch 1 of OHP-CAPH workshop (Includes dignitaries from WHO-India, ICMR-NIOH, PHFI, ESI Hospital, Maulana Azad Medical College & Nominated Primary Care Physicians from Government of Gujarat, Madhya Pradesh & Maharashtra)

Contributions in the Area of Prevention & Control of COVID-19

Technical Support

PHFI and the five Indian Institutes of Public Health (IIPHs) located across the country continues to provide technical support to Central and State Governments on COVID-19. The senior technical leadership, researchers, faculty and students are providing their full support as India fights Corona.

Shri. JVR Prasada Rao

Member of the National ICMR Task Force on COVID19 and a member of the Global Advisory Board of West Bengal Government on COVID 19 chaired by Prof Abhijit Banerjee

Prof. K. Srinath Reddy, President, PHFI

- National COVID Technical Taskforce convened by ICMR.
- Honorary Advisor on Health to the Governments of Odisha and Andhra Pradesh with Cabinet Rank in both states.
- Post-COVID strategy paper for the health system, by the National Security Council Secretariat.
- Executive Group of the Steering Committee of WHO's SOLIDARITY Trial
- Member, Group of Experts for COVID-19 Response under the CM of Punjab
- Technical Expert, Government of Haryana
- Member of the Committee on "Impact of COVID-19 pandemic on "human rights and future response" by The National Human Rights Commission.
- Presented recommendations to the Covid-19 pandemic to the Parliamentary Standing Committee on Health

Prof. Subhash Salunke, Director – IIPHB and Senior Advisor – PHFI, IIPH Bhubaneswar

- National COVID Technical Taskforce convened by ICMR.
- Technical COVID Support to Government of Odisha
- Technical support to Government of Maharashtra
- Technical and managerial support on COVID19 to Govt. of Manipur

Prof Sanjay Zodpey, Director – IIPH Delhi

- Part of the National Task Force for COVID-19 at ICMR of the Epidemiology and Surveillance research group.
- Technical Advisor for COVID-19 related activities for Nagpur Division.
- Member of the working group which is working on execution of specific tasks related to population based studies and prophylaxis studies to generate evidences of AYUSH interventions in dealing with the COVID 19 crisis, which will be initiated by Ministry of AYUSH and will be implemented by RCs, academic institutes and other partners in different parts of the country.
- Co-chair of National Technical Working Group on Collaboration between NTEP and Corporate Hospitals and Laboratories, constituted by Ministry of Health and Family Welfare, Government of India

Prof. Sandra Albert, Director – IIPH Shillong

- Member of the Working group on Epidemiology Survey and Documentation constituted by the Interdisciplinary AYUSH Research and Development Task Force on COVID-19.
- Prof Sandra Albert is a member of the State Level Medical Expert Committee constituted by the Government of Meghalaya
- Technical team members at IIPH Shillong Dr Rajiv Sarkar, Badondor Shylla and Uniqueky Mawrie are members of the technical support group of the State response team for COVID-19, Government of Meghalaya

Prof GVS Murthy, Director – IIPH Hyderabad

Technical support to the Government of Telangana

Dr Jayaram, Registrar – IIPH Hyderabad

Technical Support to Government of Telangana: The technical team at the Indian Institute of Public Health, Hyderabad is assisting efforts of the Government of Odisha. The students are actively engaged and have been recruited as epidemiologists at the district level.

Prof. Dileep Mavalankar, Director, IIPH Gandhinagar

- The technical team at IIPHG led by Dr Dileep Mavalankar is supporting efforts of the Government of Gujarat.
- Participated to undertake the COVID 19 Intra Action Review (IAR) for Gujarat and document

Dr Preeti Kumar, Vice – President, Health System Support

- Technical Support to Punjab

Dr. Giridhara R Babu, Head -Life Course Epidemiology, PHFI, IIPH – Bengaluru Campus

- Member of Epidemiology and surveillance, & Research group constituted by ICMR National Task Force for COVID-I9
- Member, Karnataka State Government Technical Analysis Committee: COVID19
- Consultation to Andhra Pradesh, UP, Telangana, Punjab and Maharashtra

Research, Implementation & Capacity Building on COVID 19

Statistical/ Mathematical Modelling using COVID-19 data:

Biostatisticians from PHFI have developed statistical/mathematical models using the COVID-19 data. Dr. Siddhartha Mandal developed a prediction model for progression of mortality due to COVID-19 and how public health interventions would affect the disease pattern. The results for the predicted deaths were submitted to NITI Aayog. Dr. Surabhi Pandey developed a model to predict the infection rates by taking in account the disaggregated rural and urban population, migration of labourers from urban to rural areas and impact of lockdown.

Health technologies

Various health technology **initiatives** were also undertaken at PHFI in response to COVID-19 pandemic.

- **Reusable Low Cost Half face mask Respirator** that has several unique features. This is Patented Technology tested and ready for mass production
- **DREAM-H (Digital Real-time Advanced Medical Modular logistics system—for Home Care)** as a portable, modular, multi temperature controlled ruggedized, stackable box to be fitted on to a two-wheeler to carry medicines, vaccines, blood/ swab samples, digital handheld devices and other consumables needed for health care to the point of need the home. The technology is currently tested and ready for mass production
- **MITH. AI (H)** enabled COVID 19 Rapid Home screening and held device with thermal sensor for identifying fever; pressure sensor for measuring heart rate, respiratory rate, recording lung sounds; lidar sensor for quantifying WASH status; regular camera with flash for facial/ home recognition, telemedicine module; icon based user interface and edge AI engine for rapid home testing. Currently this is tested and ready for mass production
- **Three dimensional Mass disinfection with UV LED light + hot air + disinfectant spray on a backpack**
- **COVID-19 Contact Tracing App** for use by Health volunteers
- **Swasthya Sahayak COVID-19 test** for use by frontline workers

Name	Description	Key Impact	Status
DREAM H 	DREAM – H is a portable, modular, multi temperature controlled ruggedized, stackable box to be fitted on to a two-wheeler, to carry blood samples, blood samples, temperature sensitive medicines for home health care	Primary healthcare products available at home	Technology tested and ready for mass production
MITH.AI HH 	MITH.AI H is a device with thermal sensor for identifying fever; pressure sensor for measuring heart rate, respiratory rate, recording lung sounds; lidar sensor for quantifying WASH…	Comprehensive non- contact device to screen with automated GPS tagging analytics	Technology tested and ready for mass production
MASK 	Unique features: 1. it is reusable – 100 times or more; 2. three part design and 3. rear airflow directed design, leading to a vent matrix to channel air flow and trap particles	Low cost reusable face mask respirator that can use widely available materials as filters	Patented Technology tested and ready for mass production

Research & Implementation activities

Technical Support to AIIA for Implementing Population based Prophylactic study related to COVID-19

An outbreak of pneumonia in December, 2019 in Wuhan, China, is now spreading to many countries across the globe. This pandemic (as declared by WHO) has been determined to be caused by a novel coronavirus. It is named as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Despite worldwide efforts to contain it, the pandemic is continuing to spread for want of a clinically-proven prophylaxis and therapeutic strategy. In India, the disease till date has affected over 37000 people and over 1200 deaths. As a preventive measure, there has been a lot of deliberations from the Government of India to push AYUSH ministry guidelines, which suggest a range of home remedies to boost immunity. In this context, the All India Institute of Ayurveda (AIIA), New Delhi is planning on conducting a prophylactic trial to evaluate the effect of commonly used Ayurveda interventions in preventions of COVID-19 among the population. While AIIA will be the principal agency for implementing the study, it has requested for technical support from IIPHD. So IIPHD will work in collaboration with AIIA to provide technical assistance through all phases of the study.

We are providing technical assistance to AIIA for implementing COVID-19 related studies.

This project is lead by Dr. Tanica Lyngdoh and funded by All India Institute of Ayurveda

Technical Support and Facilitating the Implementation of Population-based prophylactic studies related to COVID-19

An outbreak of pneumonia in December, 2019 in Wuhan, China, is now spreading to many countries across the globe. This pandemic (as declared by WHO) has been determined to be caused by a novel coronavirus. It is named as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Despite worldwide efforts to contain it, the pandemic is continuing to spread for want of a clinically-proven prophylaxis and therapeutic strategy. As a preventive measure, there has been a lot of deliberations from the Government of India to push AYUSH ministry guidelines, which suggest a range of home remedies to boost immunity. In this context, Minitry of AYUSH has under its various Councils and Institutions across the country implemented research projects on the same. WHile these Institutions will be the principal agency for implementing the study, AYUSH Ministry has requested for technical support from IIPHD. So IIPHD will work in collaboration with the Ministry to provide technical assistance through all phases of the study.

This project is lead by Dr. Tanica Lyngdoh and funded by Ministry of AYUSH

World Heart Federation (WHF) COVID-19 and Cardiovascular Disease Survey

This study aims to describe cardiovascular outcomes and identify cardiovascular risk factors associated with poor in-hospital prognosis among patients with COVID-19. Participants will be recruited in any hospital where COVID19 patients are hospitalized. We will invite all WHF members (Scientific Societies and Foundations) from 100+ countries to take part in this study. Assuming that 35 members identified at least 2 hospital sites, recruiting an average of 75 patients each, we will be able to recruit 5,200 participants. This global cohort study will provide insights into the cardiovascular outcomes and cardiovascular risk factors among hospitalized patients with confirmed COVID19. By providing comparable data from countries around the globe, the study will inform the delivery of care for patients with COVID19, with underlying cardiovascular conditions or with cardiovascular complications.

This project is lead by Prof. Dorairaj Prabhakaran and funded by World Heart Federation, Geneva with collaborating partners World Heart Federation, Geneva, All India Institute of Medical Sciences, New Delhi, DMC Ludhiana, Apollo Hospitals, Hyderabad.

Re-designing Health Systems During COVID-19 and Beyond- Mixed Health Systems for UHC

The speed and rapidity of the COVID-19 pandemic has deeply challenged the capacity of every health system to cope with enormous increases in demand. In many countries this has resulted in unexpected and new partnerships between private providers and the state to augment capacity gaps, contain spread, develop preventive vaccines, and share innovations in diagnosis and treatment. Yet, there continues to be a lack of integrated forums for government,non-state providers and researchers to support rapid learning. There is a growing realisation that strategies to accelerate progress towards universal health coverage (UHC) will require new kinds of collaboration between governments and the private sector.

Redesigning Mixed Health Systems for UHC during COVID-19 and beyond' – is a mutual learning series co-convened by members of HSG's Private Sector in Health Thematic Working Group and the Knowledge to Policy (K2P) Center at the American University of Beirut to identify ways that research evidence can jointly help both governments and the private sector respond to the COVID-19 challenge and also ensure that lessons learned contribute to strengthening future health systems and achieving universal health coverage. The ultimate goal is to better engage non-state actors in sharing best practices and current constraints and to find the best solutions for the most vulnerable populations.

The first phase of the mutual learning series will comprise three virtual round tables that will aim to support mutual learning about lessons emerging from new forms of public-private engagement; identify challenges to be addressed; and define ways that research can contribute to both private and public stakeholders in addressing these challenges during the crisis and as countries sustain and rebuild their health systems. These workshops will result in the creation of a shared engagement plan for how to take forward a mutual learning agenda to effectively engage the public and private sectors in re-designing and re-building heath systems to achieve UHC.

The COVID-19 pandemic has resulted in unexpected and new partnerships between private providers and the state to augment capacity gaps. Governments and non-state actors are creating new ways to collaborate for the public good. Yet, there continues to be a lack of integrated forums or clear mechanisms for engagement for government, private providers and researchers to support rapid learning. The health systems research community can play a major role in supporting the evolution of future healthcare systems with more effective participation of the private sector in meeting health and health care needs. These joint mutual-learning workshops aim to address the following question: How are governments and non-government sectors collaborating in response to the COVID-19 crisis, what are evolving mechanisms for engagement and lessons for future efforts to build health system capacity for universal health coverage (UHC)?

The purpose of this series was to identify ways that research evidence can help governments, non-state actors and civil society respond to a challenge like COVID-19 and also apply lessons learned to engage beyond this emergency in strengthening future health systems to achieve UHC. By the end of the mutual learning series we hope that participants will have committed to our shared action plan of interventions and evidence exchange. The conclusions and recommendations will be published, and presented at Health Systems Global's next virtual symposium, HSR2020, in November 2020.

This project is lead by Dr. Priya Balu and funded by Amref Health Africa

Demand driven health policy and systems research (HPSR) to inform the response to COVID-19

The aim of this programme is to develop new HPSR, largely within LMIC settings, that directly responds to knowledge gaps identified by national stakeholders. This knowledge is expected to inform both a) how the given country could better respond to COVID-19, b) the development of learnings that could be useful to other LMICs.

Knowledge gaps were identified by a wide range of LMIC-based stakeholders, both policymakers and researchers.

Specific tasks under this project are:

- Submission of a research protocol for a study expected to examine measures or initiatives already in place, rather than propose putting in place new interventions or measures.
- Attendance at meetings between countries in each individual thematic area to facilitate cross-pollination of ideas
- Development of an intermediate report, including brief summary of relevant work and findings to date.
- Development of a final report that is expected to directly inform policy in-country
- Development of a manuscript for publication

The project is lead by Dr. Preeti Kumar and funded by World Health Organization(WHO)

In addition to the projects focusing COVID-19 Prevention and Control mentioned above, many activities have been carried out under the ongoing projects such as:

The Health Promotion & Advocacy team is undertaking COVID-19 activities as part of the project"Implementing a Settings Based Health Promotion Intervention for Prevention and Control of Non-Communicable Diseases (NCDs), including Tobacco Control". This includes both COVID-19 relief operations as well as activities on prevention and management aspect using social media platforms. The relief operations were organized for the unprivileged families, senior citizens from the old age home, street children from the Pune city, health care providers, medical staff and Swachata karamcharis at NIMHANS. The activities including; distribution of cooked meals, grocery kits, distributions of masks, sanitizers, face shields and PPE kits. Apart from the relief operations, series of virtual activities with school and college students of Pune and Bengaluru are being organized: online competitions like poster-making, video-making, mask making at home, activities on World No Tobacco Day, World Heart Day, virtual talks by experts.

The team has also undertook series of social media activities on prevention and management aspect of COVID-19 as part of ongoing 'Project PaTHWay: Promoting Health and Wellbeing', with students and teachers from schools and colleges. Apart from this, a study was undertaken to generate evidence to support policy and practice to address tobacco use during and beyond the COVID-19 pandemic. Under the project iPROMISe (PROMoting Health Literacy in School), interventions were translated for different virtual platforms during the time of virtual classes.

Centre for Environmental Health under their ongoing project "Environmental toxicants, child development and school readiness: a preliminary study with intra-familial exposures in communities affected by battery recycling facilities in Patna, Bihar", is also assessing the health-related behavious during COVID-19 pandemic

In order to strengthen the compliance and implementation of Biomedical Waste Management Rules 2016 and its amendments, Centre for Chronic Disease Control (CCDC) along with Centre for Environmental Health (CEH)–Public Health Foundation of India (PHFI) and Health Care Without Harm (HCWH) has developed the Pictorial Guide. It is a compilation of important strategies that are key to appropriate management of biomedical waste (BMW) in India. These include presentation of the important elements of BMW management in an illustrative format thus aiming to overcome the barriers in understanding the comprehensive rules and facilitating implementation by healthcare workers on the ground. It has been developed through consultations with the healthcare representatives from both public and private sector besides content experts. The pictorial has been endorsed by the Ministry of Environment Forests and Climate Change. Given the ongoing COVID-19 crisis, the guide has dedicated sections on COVID-19 waste management based on the recent guidelines developed by the Central Pollution Control Board. Individual sections of the guide can also be printed and displayed as appropriate in different parts of a healthcare facility as a ready-to-use guide to waste disposal.

The implementation research team at PHFI supported UNICEF in Lucknow in various COVID prevention activities through the WADA SAKHIS – the frontline workers, students network and various other means.

II. Risk Mitigation Activities for COVID-19--Hello Didi initiative to Reach SHG Women with Right & Timely Messages; Mask Campaign for improving mask usage among SHG members; Tele-counseling of people in Home Isolation by COVID-19 survivors

III. Generating Evidence for BCC Activities

IV. Providing Tele-Mental Health Support during COVID-19--Capacity Building of Mental Health Counselors; Design of Mobile Application for feedback

V. Providing Technical Assistance & Implementation Support to the Public Health Campaigns through SHG Platforms

Indian Institute of Public Health Delhi, apart from the main objective of the study to understand the nutritive value of indigenous foods of tribal communities of India,it also assessed the impact of COVID-19 pandemic on food systems and diets of tribal communities of Jharkhand. This includes exploring the pathways of impact of COVID-19 on farming and dietary consumption pattern and impact of COVID-19 on informal markets. Specific attributes of the food systems of the tribal communities that offer resilience with regards to diets and food security are also being explored. Presently, a telephonic survey is being conducted with the three tribal communities to assess the impacts of COVID-19 on food systems, diets of these tribal communities. The District Commissioners and Civil Surgeons in the two districts of Jharkhand where the study was undertaken were informed. Block level sensitization workshop for over 190 ASHAs, AWW, Poshan Sakhis on Infant and Young Child Feeding Practices and importance of indigenous foods in complementary feeding were conducted in the district of Godda as part of this study. We plan to share the findings of the COVID-19 and food systems survey with the district commissioners' office.

IIPH Hyderabad has partnered with UNICEF-HYDERABAD to undertake the project Advanced Collaboration for Early Childhood Development and Empowerment. The project has extended support for capacity building for secondary hospitals for COVID-19 care in Telangana that included engaging and training stakeholders from non-health departments such as TS Police, TS Railway police, AP Police, Hyderabad Metro, RWAs, Auto drivers. The project is extended to provide support in resuming RMNCH+A services and ECD interventions during COVID-19, engage Panchayati Raj institutions for local management of COVID-19 pandemic.

As part of their ongoing project "Project No Fever", involved with Dakshas in training of General practitioners and physicians at Basti-davakhanas in management of undifferentiated fever, specially in context of COVID 19 pandemic. The physicians are also trained for Management of Dengue and COVID 19 co-infection.

Under the project "Assessment of Vulnerability and Threshold of Heat-Related Health Hazards in Four Cities of India", targeting the Slum and Non-slum population of four Cities (Ongole, Karimnagar, Kolkata and Angul), the team has included the COVID-19 related questions in their research to understand how Covid-19 had an impact on extreme heat related issues and measures. The lockdown, social distancing measures, salary/profit cuts, unemployment, etc. due to the COVID-19 pandemic had created a tough situation for Indians as the normal measures taken to deal with extreme heat every year were affected. The changes in daily lives of people also brought changes to how they are impacted by extreme heat. Therefore it was necessary to modify the questionnaire to get quantifiable data on how COVID-19 had an impact on extreme heat related issues and measures. Questions of response to extreme heat during COVID-19 were thus placed strategically in several sections of the second draft questionnaire to extract the required information.

Training Division at PHFI "Know COVID- NO COVID"

In the need for credible technical information about COVID-19, the Training Division at the Public Health Foundation of India conducts a series of e-workshops "Know COVID- NO COVID" to provide credible information on the pandemic- COVID-19 to various target audiences. The network of more than 28,500 Primary Care Physicians enrolled under different PHFI training courses were offered technical guidance through webinars along with the healthcare professionals from other national level organizations and state governments.

e-workshops were conducted for the following groups:

- e-workshop for PHFI network of Primary Care physicians (PCPs), PSUs, Medical Associations conducted in the month of April (2 series of 6 webinars each)
- e-workshops for Healthcare workers comprising Physicians, Dentists, Allied Health Personnel and Nurses conducted in the month of April (1 series of 4 webinars)
- e-workshop for Community conducted in the month of April (1 webinar)
- In collaboration with Global Development Centre (GDC) at Research and Information System for Developing Countries (RIS), PHFI also conducted 4-series of webinars on COVID 19 including one on Occupational Health and Safety in times of COVID during the month of April-May-June for international participants from Asian & African Countries with different topics and themes during each webinar.
- Webinar conducted for IRS Officers and other Employees of their Dept. in Delhi-NCR Region on Post COVID-19 Scenario.
- e-Workshop Series on Post Lockdown: Healthcare Facility & Systems Preparedness and Response for COVID-19: A Joint Initiative of PHFI and Lions Club of India through Lions Coordination Committee of India Association (LCCIA).
- Webinar conducted for Income Tax Appellate Tribunal Fraternity on Post COVID-19 Scenario
- Letter of Appreciation received from Government of India, Ministry of Law & Justice, Income Tax Appellate Tribunal (ITAT) for webinar conducted on Post COVID-19 Scenario in collaboration with Income Tax Appellate Tribunal Fraternity, New Delhi.
- Dekho Apna Desh: Unlocking travel & tourism safely & responsibly during COVID-19: A healthcare perspective webinar series hosted by Ministry of Tourism in collaboration with Public Health Foundation of India: The webinar was hosted by Ministry of Tourism and the typical viewership was more than 2000 people who registered live. People from more than 60 countries logged in for the webinar. The webinar sits as repository on the Ministry website allowing later viewing for thousands of people. Letter of Appreciation received form Secretary, Ministry of Tourism, Government of India, New Delhi
- Webinar conducted for international healthcare professionals: e-Webinar Series on Clinical Management of suspect and confirmed COVID-19 cases and co-morbidities: A Joint Initiative of Public Health Foundation of India and Lions Club of India through Lions Coordination Committee of India Association (LCCIA)
- Webinar on e-Workshop Series on Post Lockdown: Healthcare Facility & Systems Preparedness and Response for COVID-19 conducted for NHPC Healthcare Professionals in collaboration with NHPC Ltd.
- Letter of Appreciation received from Joint Commissioner of Income Tax, New Delhi for webinar conducted on Post COVID-19 Scenario in collaboration with IRS Family, Delhi-NCR region
- Webinar on e-Workshop Series on Elderly Care Issues and Challenges conducted for Primary Care Physicians and Healthcare Professionals: A Joint Initiative of Public Health Foundation of India and Lions Club of India through Lions Coordination Committee of India Association (LCCIA)

Sl. no	Name of Webinar	Dates	Numbers trained
1	E-workshop for PHFI network of Primary Care physicians (PCPs)	6th to 11th April – 6 webinars	186
2	E-workshop for PCPs from PSUs & medical associations	10th to 15th April – 6 Webinars	386
3	E-workshop for International participants	15th to 18th April – 4 webinars	234
4	E-workshops for Healthcare workers	19th to 22nd April – 4 webinars	261
5	E-workshop for Community	14th April – 1 webinar	206
6	E-workshop for International participants in collaboration with GDC and RIS	25th to 28th April – 4 webinars	338
7	E-workshop for International participants in collaboration with GDC and RIS on "Occupational health & safety in the context of COVID 19"	9th to 13th May – 5 webinars	217
8	E-workshop on COVID-19 for NTPC Health care personnel	18th May to 21st May – 4 webinars	237
9	E-workshop for International participants in collaboration with GDC and RIS on "Post Lockdown: Healthcare Facility & Systems Preparedness and Response for COVID-19"	6th to 9th June – 4 Webinars	175
10	Webinar on Post COVID-19 Scenario for IRS Officers and other Employees of their Dept. in Delhi-NCR Region	13th June – 1 Webinar	232
11	e-Workshop Series on Post Lockdown: Healthcare Facility & Systems Preparedness and Response for COVID-19: A Joint Initiative of PHFI and Lions Club of India through Lions Coordination Committee of India Association (LCCIA)	13th to 17th June – 5 Webinars	317
12	Webinar on Post COVID-19 Scenario for Income Tax Appellate Tribunal Fraternity	20th June – 1 Webinar	271
13	Dekho Apna Desh: Unlocking travel & tourism safely & responsibly during COVID-19: A healthcare perspective webinar series hosted by Ministry of Tourism in collaboration with Public Health Foundation of India	27th June – 1 Webinar	850
14	e-Webinar Series on Clinical Management of suspect and confirmed COVID-19 cases and co-morbidities: A Joint Initiative of Public Health Foundation of India and Lions Club of India through Lions Coordination Committee of India Association (LCCIA)	11th to 12th July – 2 Webinars	129
15	e-Workshop Series on Post Lockdown: Healthcare Facility & Systems Preparedness and Response for COVID-19 for NHPC Healthcare Professionals	13th to 16th July – 4 Webinars	137
16	e-Workshop Series on Elderly Care Issues and Challenges: A Joint Initiative of Public Health Foundation of India and Lions Club of India through Lions Coordination Committee of India Association (LCCIA)	15th to 18th August – 4 Webinars	325
17	The e-Workshop series on COVID-19 is organized by Global Coalition for COVID- 19 Medical Care (GCCMC), Association of Healthcare Providers (India) & Public health foundation of India (PHFI)	5th Dec to 13th Jan 2021	350

Other COVID-19 related activities:

- Community Mobilization and Social Messaging (a series of simplified messages/ infographics based on authentic national and international technical guidelines in the context of COVID-19 is being regularly circulated to the 28,000 PCPs trained till now and put up on the PHFI App and our course websites
- Association of Healthcare Providers (India) & the Training Division of Public Health Foundation of India (PHFI) has extensively worked on and prepared a document titled – "Post Lockdown Lifting – Resumption of Hospital Services." This document provides a comprehensive set of action plans and key guidelines to be followed in the context of continuous hospital preparedness. It specifically addresses the action plan for resuming of services, in the safest and most effective manner to safeguard both patients and healthcare workers. Link to the document. https://phfi.org/wp-content/uploads/2020/05/Post_Lockdown_Lifting-Resumption-of-Hosptial-Services-compressed.pdf
- This document has been disseminated to various hospitals, Medical Associations and Primary Care Physicians both Private and Government across the country. Even International Society for Quality in Health Care (ISQua) has added this document on their COVID resource page at https://www.isqua.org/COVID19-research-page.html
- Health and Safety Measures for Police Personnel on COVID-19: The document is prepared by the Training Division of Public Health Foundation of India (PHFI) for Biju Patnaik State Police Academy, Bhubaneswar, Odisha which outlines the hazards associated with policing duty, the risks involved and the risk mitigation measures that should be followed to protect police personnel against COVID- 19. Download PDF

The live webinar series have Q&A rounds and the queries of the participants are answered by the Experts. A total of 1039 Healthcare professionals have been trained from across the country. Participants from National Health Mission, Government of Gujarat, Manipur, Madhya Pradesh, Odisha, Kolkata Municipal Corporation (KMC), National Thermal Power Corporation (NTPC), Gas Authority of India Limited (GAIL), Meghalaya Diabetes association, Clinical Cardio Diabetic Society of India (CCDSI), Physicians Association of Navi Mumbai, National Hydro Power Corporation (NHPC), GVK Emergency Management and Research Institute, Delhi Pharmaceutical Sciences and Research University (DPSRU), Power Grid Corporation of India, NTPC Vidyut Vyapar Nigam Limited and various other organizations have been trained in these webinars.

The 4 International webinar series conducted in collaboration with Global Development Centre (GDC) at Research and Information System for Developing Countries (RIS), on COVID-19 and related topics was attended by more than 780 International Healthcare Professionals from 31 countries that include Afghanistan, Australia, Bangladesh, Bhutan, Burkina Faso, Canada, Ethiopia, Germany, Ghana, Hong Kong, Ivory Coast, Kenya, Malaysia, Maldives, Mozambique, Myanmar, Nepal, Nigeria, Oman, Pakistan, Russia, Rwanda, Singapore, South Africa, Sri Lanka, Thailand, Turkey, Uganda, United Kingdom, USA and Zambia.

Training Division Response to COVID-19

As the National lockdown took place, the Training Division took up various initiatives for training of Healthcare professionals in an online mode to cater to the their demand through structured robust initiatives in COVID-19, post lockdown opening of healthcare services, occupational health and various online courses below. Series of e-workshops "Know COVID- NO COVID" to provide credible information on the COVID-19. Participants from National Health Mission, Government of Gujarat, Manipur, Madhya Pradesh, Odisha, Kolkata Municipal Corporation (KMC), National Thermal Power Corporation (NTPC), Gas Authority of India Limited (GAIL), Meghalaya Diabetes association, Clinical Cardio Diabetic Society of India (CCDSI), Physicians Association of Navi Mumbai, National Hydro Power Corporation (NHPC), GVK Emergency Management and Research Institute, Delhi Pharmaceutical Sciences and Research University (DPSRU), Power Grid Corporation of India, NTPC Vidyut Vyapar Nigam Limited and various other organizations have been trained in these webinars.

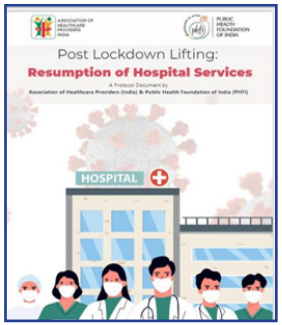
The 5 International webinar series conducted in collaboration with Global Development Centre (GDC) at Research and Information System for Developing Countries (RIS), and Lions Club of India through Lions Coordination Committee of India Association (LCCIA) on COVID-19 and related topics was attended by 1456 **International Healthcare Professionals from 39 countries** that include Afghanistan, Australia, Bangladesh, Bhutan, Burkina Faso, Costa Rica, Egypt, Ethiopia, France, Ghana, Ivory Coast, Kenya, Kuwait, Liberia, Malawi, Malaysia, Maldives, Mexico, Morocco, Mozambique, Myanmar, Nepal, Netherland, Nigeria, Oman, Pakistan, Russia, Rwanda, Saudi Arabia, Somalia, South Africa, Spain, Sri Lanka, Taiwan, Uganda, United Arab Emirates, United Kingdom, USA and Zambia.

Technical Reports

1. Post Lockdown Lifting – Resumption of Hospital Services – The document is prepared by Association of Healthcare Providers (India) & Training Division of Public Health Foundation of India (PHFI) which provides a comprehensive set of action plans and key guidelines to be followed in the context of continuous hospital preparedness and resuming of services, in the safest and most effective manner to safeguard both patients and healthcare workers. Link to the document: https://phfi.org/wp-content/uploads/2020/05/Post_Lockdown_Lifting-Resumption-of-Hosptial-Services-compressed.pdf.

   This document has been disseminated to various hospitals, Medical Associations and Primary Care Physicians both Private and Government across the country. International Society for Quality in Health Care (ISQua) has added this document on their COVID resource page at https://www.isqua.org/covid19-research-page.html

2. Health and Safety Measures for Police Personnel on COVID-19- The document is prepared by the Training Division of Public Health Foundation of India (PHFI) for Biju Patnaik State Police Academy, Bhubaneswar, Odisha which outlines the hazards associated with policing duty, the risks involved and the risk mitigation measures that should be followed to protect police personnel against COVID- 19. Link to the document: https://phfi.org/wp-content/uploads/2020/06/Training-Manual-COVID-19_BPSPA.pdf



Letters of Appreciation

Lt General (Dr) Rajesh Pant,
PVSM AVSM VSM
National Cyber Security Coordinator
Tel. : 011-2374-7965

Government of India
National Security Council Secretariat
2nd Floor, Sardar Patel Bhavan,
Sansad Marg, New Delhi - 110001

सत्यमेव जयते

Foreword

There are three areas where health sector can be impacted: First is the data breaches and ransomware attacks on healthcare data. As we know, among all the data, healthcare is the most sensitive and sought after by malicious actors.

Second is the manipulation of connected devices. The topic of IoT and connected devices security, directly apply to the medical devices. Healthcare is a domain where attacks on such devices can be life threatening, especially when there are implantable devices. As we have the new Medical Device Regulation Act 2017 in India, we should also consider cyber security aspect in the devices which have a communication interface.

Third is the manipulation of health system including the building management. The building management systems are very weak when it comes to security. There is a proposed act DISHA, Digital Information Security Healthcare Act, which might address some of the legal aspects of security in the healthcare setting.

My specific advice to healthcare providers is to have a dedicated Chief Information Security Officer, with two separate cells for IT and other on cyber security. So, that implementation and testing is not done by the same team. Also, allocate budget for cyber security, which is 10% of the IT budget. Hence, similar to physical hygiene for COVID-19, cyber hygiene should also get utmost importance for the health sector.

I have always propagated that sectoral cyber security training is a need of the hour as every sector needs different proficiency and similarly in health sector specialised training and awareness is required. A lot needs to be done in this area, and we are on our way. One such initiative in this area is Certificate Course in Cyber Security in healthcare (CCCH) which is a Joint Initiative of Public Health Foundation of India and InnovatioCuris.

I am excited to see an astounding response to the course and we are thankful to Lions Club of India through Lions Coordination Committee of India Association (LCCIA) for supporting PHFI and IC towards maximizing the benefits of the training by reaching out to the various government bodies. Nomination from government is just an initiation and we extend our full support towards this course by supporting through the outreach from National Cyber Security Coordinator Office.

Lt. General (Dr.) Rajesh Pant

Delhi Pharmaceutical Sciences
& Research University (*DPSRU*)
Govt. of NCT of Delhi
Pushp Vihar Sector –III
New Delhi-110017

New Delhi .30.04.2020

Dear PHFI team,

On behalf of Hon'ble Vice Chancellor, **Prof. Ramesh K. Goyal**, Delhi Pharmaceutical Sciences and Research University (DPSRU), I appreciate the entire team of PHFI for successfully organizing the '**4 days e- Workshop Series on COVID-19 for Health Care Professionals'** from 19 -22 April 2020.

The highlight of the webinar was that all the speakers could effectively address the issues very well and the doubts have been clarified. All the post graduate students of School of Allied Health Sciences of DPSRU including faculties attended and got benefitted.

We sincerely appreciate the role of Dr. Sandeep Bhalla, Director Training and Dr. Haresh Chandwani for organizing this wonderful programme. The efforts of the entire team of Dr. Rakesh Mehra, Mr. Anuj Kumar, Dr. Pallavi Wadhwani, Dr. Tanu Soni, Dr. Nilam Shivajirao Behere are commendable. A special thanks to Ms. Geetha Ramesh, Head Administration PHFI for the support extended to us.

We are aware that you all have put lot of hard work in organizing a well structured webinar in this crisis and come out with success. The webinar on COVID-19 prevention and treatment was the need of the hour and was very well addressed.

We are looking forward to have wonderful collaboration.

Best Wishes

Dr. Jaseela Majeed
Associate Professor
School of Allied Health Sciences
Delhi Pharmaceutical Sciences and Research University
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Website:https://dpsru .edu.in

गेल (इंडिया) लिमिटेड
(भारत सरकार का उपक्रम – महारत्न कंपनी)
GAIL (India) Limited
(A Government of India Undertaking - A Maharatna Company)

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नई दिल्ली-110066, इंडिया
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फैक्स/FAX : +91 11 26185941
ई–मेल/E-mail : info@gail.co.in

No.CO/HR/Medical/2020

Date: 27.04.2020

Director - Training
Public Health Foundation of India
Plot No. 47, Sector 44, Institutional Area
Gurugram, Haryana-122002

Subject: E-workshop for PSU Healthcare Professionals for COVID-19

Dear Dr. Sandeep,

Greetings from GAIL (India) Limited !

Presently we are passing through a very critical phase due to outbreak of novel coronavirus COVID-19 pandemic. There is no vaccination or medication available till date for fighting against this contagious virus. In order to defeat COVID-19, we have to observe all precautionary measures as per the guidelines issued by Government of India.

However, in the present scenario, it is really appreciable that Public Health Foundation of India came up with webinars on COVID-19 for the benefit of medical professionals working with different PSUs across the country. Following webinars gave us valuable insight about COVID-19 pandemic and were very much useful in upgrading our knowledge w.r.t. its prevention and management:

1. Magnitude of the problem, Epidemiology, clinical features and differential diagnosis – by Dr. Varun Arora
2. Diagnosis and management of COVID-19 cases – by Dr. Vijay Negalur
3. Management of COVID-19 with endocrine comorbid conditions – by Dr. Sanjay Kalra
4. Management of COVID-19 with non-endocrine comorbid conditions (hypertension, CVDs, etc.) – by Dr. Rajsekhar
5. Preparing facilities for isolation, quarantine and infection prevention – by Dr. Pawan Kapoor
6. Communicating with patients, families & motivating healthcare team – by Dr. Indu Arneja

The course content was very much relevant, substantiated with data, facts and research work. Faculty conducting the webinars was highly professional and experienced. We place on record our appreciation for the faculty for spreading the knowledge and training GAIL's healthcare professionals with regard to COVID-19 pandemic. Participants from GAIL (India) Limited have greatly benefited from the above webinars.

We at GAIL (India) Limited are very much grateful to PHFI for organizing such useful educational web series on COVID-19 at the very appropriate time. We further look forward to associate with PHFI in future also in terms of organizing similar educational programmes for GAIL's medical professionals.

Warm wishes,

Yours sincerely,

(Dr. Chandra Tripathi)
Chief General Manager (Medical Service)

2/COVID-19/DHS-2020
GOVERNMENT OF MANIPUR
MEDICAL DIRECTORATE

Letter of Appreciation

Medical Directorate, Manipur acknowledge and appreciate the Public Health Foundation of India's for conducting the covid-19 e-workshop commencing from 10th to 15th April 2020. During these times of social distancing webinars play a special role in quickly connecting experts with Healthcare Workers (HCWs) and encourages them to deploy best practices immediately. We deeply value the role of PHFI as it has always stood up to its commitment of "Translating Knowledge to action".

I again would like to convey our heartfelt gratitude to the Public Health Foundation of India for standing up to support us and other organizations, during this time of crisis, by training our workforce in essential concepts of COVID 19.

Date: 9th April 2020

(Dr. K. Rajo Singh)
Director of Health Services
Govt. of Manipur

जी.एस. पन्नू
उपाध्यक्ष
G. S. PANNU
Vice President

सत्यमेव जयते

भारत सरकार
विधि एवं न्याय मंत्रालय
आयकर अपीलीय अधिकरण
Government of India
Ministry of Law & Justice
Income Tax Appellate Tribunal

D.O. No.17/VP/GSP/Del/2020 15th July, 2020

Dear Dr. Bhalla,

I take this opportunity to express my sincere gratitude for the Webinar on "*Post COVID-19 Scenario*" organized by the Public Health Foundation of India on 20th June, 2020 for the Officers and invited guests of the Income Tax Appellate Tribunal. In the present challenging circumstances, when the pandemic has definitely affected the day to day life of every individual, it was all the more a welcome step to have the benefit of the guidance of an accomplished Institution like yours in the field of public healthcare. I am also confident that the participants of the Webinar have gained useful tips on carrying on normal life during the threat of COVID-19 pandemic. I am also thankful to Dr. Sanjeev K. Singh, Chief Medical Superintendent, Amrita Institute of Medical Sciences & Research Centre, Kochi for addressing the Webinar. I once again thank you and your organization for organizing a useful Webinar for our organization.

With regards,

Yours Sincerely,

[G.S. Pannu]

Dr. Sandeep Bhalla,
Director-Training,
Public Health Foundation of India,
Plot No.47, Sector-44,
Institutional Area,
Gurugram – 122 002.

सत्यमेव जयते

Office of the Joint Commissioner of Income Tax
Circle 73 (1), Room No. 411, 4th Floor, AayakarBhawan,
Laxmi Nagar District Centre, Delhi – 110092

JCIT/Covid Support Group/05 Dated: 30.06.2020

Letter of Appreciation

Dear Dr. Sandeep Bhalla Sir,

Please refer to the Webinar for the employees of Delhi-NCR Income Tax Parivar on 13th June 2020 on Post COVID Scenario (focusing on preventive measures for opening offices and public dealing during the time of COVID) by **Dr. Sanjeev K Singh** from Public Health Foundation of India, Delhi.

Our Covid Support Group (CSG) of Delhi Income Tax Parivar is an informal not for profit group created by coming together of senior and junior officers and officials of Delhi-NCR Income Tax Department for providing support to the employees of Delhi-NCR Income Tax Department to make them better understand the aspect of prevention and ensuring hassle free compliance to the government guidelines in dealing with Covid-19 Pandemic and associated situations. Its primary motto is to reduce the apprehension and enable a speedy response to the distress call of any employee. A dedicated helpline has been started by the CSG from 12.05.2020 which is being manned by the officers of the department. In this regard, I and my team at Covid Support Group for Delhi-NCR Income Tax Parivar would like to place on record our appreciation for the exemplary work done by you and your team in helping us staying informed with the most wonderful webinar we had on covid-19 pandemic in the recent history. It was a fruitful and amazing time for our Covid Support Group and Delhi-NCR Income Tax Parivar. It was a wonderful and stimulating presentation and all the participants were also thankful for your generosity in organizing such an informative exchange of ideas. The members of Covid Support Group have also asked me to pass on their sincere appreciation for your efforts in supporting the IT department in these important times of crises. Some of the important takeaways and learning from the webinar for the participants were;

1. The Corona virus outbreak is having a seismic impact on the world and the only way ahead is that people will have to live together with cooperation in these situations.

Atin Ghosh
Deputy Mayor

THE KOLKATA MUNICIPAL CORPORATION
CENTRAL MUNICIPAL OFFICE
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Office Ph. : 2286-1120 (Health)
(Extn. - 2465), I. C. 203
Resi. Ph. : 2555-9050
Mob. : 98305 55111
94330 20389

Date: 13/04/2020

Subject: Letter for PHFI regarding conduction of COVID 19 e-training workshop.

WHO has declared the outbreak of novel coronavirus (COVID-19) as a Public Health Emergency of international concern. There is a spread of misinformation that could be detrimental to the response to this crisis. Therefore, during these times, it is important to counter misinformation and disseminate the right information at the right time on mass level. During these times of social distancing webinars play a special role in quickly connecting experts with Healthcare Workers (HCWs) and encourages them to deploy best practices immediately. As the world battles this huge crisis, Kolkata Municipal Corporation thoroughly acknowledge and are appreciative of Public Health Foundation of India's vow to serve the country during difficult times. We deeply value the role of PHFI as it has always stood up to its commitment of "Translating Knowledge to action". Along with PHFI, it is our strong belief that training and awareness workshops are a need of the hour as "The more we sweat in training, the less we bleed in combat ". We again would like to convey our heartfelt gratitude to the Public Health Foundation of India for standing up to support us and other organizations, during this time of crisis, by training our workforce in essential concepts of COVID 19.

Atin Ghosh
Deputy Mayor
Kolkata Municipal Corporation

योगेन्द्र त्रिपाठी, भा.प्र.से.
Yogendra Tripathi, IAS

सत्यमेव जयते

सचिव
भारत सरकार
पर्यटन मंत्रालय
नई दिल्ली

SECRETARY
GOVERNMENT OF INDIA
MINISTRY OF TOURISM
NEW DELHI

D.O.No. : TT-202/22/2020 Date : 7th July 2020

Dear Dr. Bhalla,

I take this opportunity to convey my appreciation and to thank you for joining us in our 'Dekho Apna Desh' initiative by presenting webinar on **Unlocking travel & tourism safely & responsibly during COVID: A healthcare perspective on 27th June 2020**.

2. You will be happy to know that the Webinars have received very good response both in terms of live viewership and later viewing on YouTube. They have in fact reached viewers in over 60 countries across the world.

3. Your efforts will no doubt help in promoting Incredible India to both domestic and international travellers.

4. I look forward to similar support from you in our future initiatives.

With kind regards,

Yours sincerely,

(Yogendra Tripathi)

Dr. Sandeep Bhalla
Public Health Foundation of India

परिवहन भवन, 1 संसद मार्ग, नई दिल्ली - 110001 दूरभाष : +91-011-23711792, 23321395
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फैक्स / Fax : +91-011-23717890 ई–मेल / E-mail : sectour@nic.in

एनटीपीसी NTPC
A Maharatna Company

एनटीपीसी लिमिटेड
भारत सरकार का उद्यम
NTPC Limited
A Govt. of India Enterprise)

केन्द्रीय कार्यालय / Corporate Centre

डा. बसंत कुमार बेहेरा
वरिष्ठ विशेषज्ञ (मेडिसीन)
Dr. Basanta Kumar Behera
MD (INTERNAL MEDICINE), CCEBDM, (PHFI)
(Sr. Specialist Medicine)

To, Dr. Anuradha Aggarwal Monga
Public Health Foundation of Inida (PHFI)

Date: 27.04.2020

Subject: Letter of appreciation for PHFI towards conduction of COVID 19 webinars for NTPC Staff.

COVID-19 is probably one of the most disruptive and exceptional phenomena we've experienced in the last 100 years. The requirement at this moment and going ahead is not only to reduce the number of cases or deaths due to this pandemic, but to enable the health systems and organizations to deal with an increased number of cases at a given time. During these testing times, NTPC appreciates the great work done by Public Health Foundation of India (PHFI) in conducting series of webinars "Know COVID- NO COVID" to provide credible information to its staff of Doctors and healthcare workers on the pandemic and an opportunity to interact and better understand the science and public health impact of COVID-19. The topics of all the webinars were thoughtfully chosen and were nicely conducted by the eminent faculty.

We, at NTPC would like to thank the support received from PHFI and would be grateful if we can be informed for similar future trainings, so that the Doctors and healthcare workers at NTPC can further strengthen their knowledge.

Thanking You,

27/4/2020

DR. B.K. Behera
Senior Specialist, Medicine ,Corporate Medical Cell
NTPC Ltd, Lodhi Road ,New Delhi

कोर 5, तीसरी मंजिल, स्कोप काम्पलैक्स, 7, इंन्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली-110003 | दूरभाष : (कार्यालय) 24361831, 24365607
Core-5, 3rd Floor, SCOPE Complex, 7, Institutional area, Lodhi road, New Delhi-110003 | Phone : (O) 24361831, 24365607
Residence : 165, Madanlal Block, Asian Games Village Complex, New Delhi-110049

पावरग्रिड POWERGRID

पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Public Health Foundation of India (PHFI), Gurgaon has conducted a webinar titled "E- workshop on COVID for community" on 14th April 2020. This workshop was very useful and helped our employees to get proper information related to COVID-19.

11/04/2020

S. Sridharan

Sr. General Manager (HRD)

एस. श्रीधरण/S. SRIDHARAN
वरिष्ठ महाप्रबंधक (मा सं वि) / Sr General Manager (HRD)
पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
Power Grid Corporation of India Ltd.
(भारत सरकार का उद्यम)/(A Govt. of India Enterprise)
PAL Complex, Village-Gwalior, Panchgaon, Taoru Raod
Manesar, District - Gurgaon, Haryana - 122413

केन्द्रीय कार्यालय: "सौदामिनी", प्लॉट नंबर 2, सेक्टर -29, गुरुग्राम -122001, (हरियाणा) दूरभाष: 0124-2571700-719
Corporate Office: "Saudamini", Plot No. 2, Sector-29, Gurugram-122001, (Haryana) Tel.: 0124-2571700-719
पंजीकृत कार्यालय: बी -9, कुतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली -110 016. दूरभाष: 011-26560112, 26560121, 26564812, 26564892, CIN: L40101DL1989GOI038121

Media Coverage


THE DAILY GUARDIAN SATURDAY | 05 DECEMBER 2020 NEW DELHI

MEDICALLY SPEAKING 9

WWW.THEDAILYGUARDIAN.COM

EXCLUSIVE

We should overcome Covid in India by mid-2021: Dr Srinath Reddy

In an interview with The Daily Guardian, the president of the Public Health Foundation of India says that a effective vaccine will help save lives and reduce transmission, but not throw the virus out of the planet.

SHALINI BHARDWAJ
NEW DELHI

MAGZTER
Clipped from - The Daily Guardian - December 05, 2020
Read it digitally on the Magzter app


When must politicians listen to scientists?

The purpose of scientific research in public health is to provide evidence-informed, context-relevant, resource optimising, culturally compatible and equity promoting recommendations

K SRINATH REDDY
President, PHFI. Author of "Make Health in India: Reaching a Billion Plus". Views are personal


TheHitavada CityLine
EXCLUSIVE FOR THE READERS IN NAGPUR
cityline@thehitavada.com
WEDNESDAY, November 25, 2020

'COVID-19 has highlighted resilience of Indian public health ecosystem'

By Kartik Lokhande

Prof Sanjay Zodpey

INTERVIEW


TheHitavada CityLine
EXCLUSIVE FOR THE READERS IN NAGPUR
cityline@thehitavada.com
TUESDAY, November 24, 2020

'A large section of our population is still susceptible, at risk of COVID-19'

By Kartik Lokhande

Prof Sanjay Zodpey

INTERVIEW

Prof Sanjay Zodpey among 'top 2 per cent' scientists in world

EDITORIAL

THE NEW INDIAN EXPRESS

CHENNAI MONDAY 14.12.2020

newindianexpress.com

A glaring omission from the WHO's health system building blocks was the community. It was perceived as a passive recipient of the health system's services and not part of it

CO-CREATING HEALTH WITH COMMUNITIES

DR K SRINATH REDDY

Cardiologist, epidemiologist and President, PHFI. Views are personal.

"Freedom of speech is a principal pillar of a free government; when this support is taken away, the constitution of a free society is dissolved, and tyranny is erected on its ruins"

Benjamin Franklin

MY INDIA

{ BY INVITATION }

Key challenges faced by Covid-19 tests

K. Srinath Reddy

A wake-up call to invest in public health

Coronavirus has caused the public sector to be severely drained of its resources

GIRIDHARA R. BABU

A file photo of Health Department staff testing migrant workers, students and others boarding KSRTC buses at Majestic bus stand, in Bengaluru.

LESSONS FROM THE PANDEMIC 2020 PUBLIC HEALTH

THE HINDU

HYDERABAD

Co-infection of COVID, dengue likely: IIPH

Citizens urged to keep their surroundings clean, participate in 'Project - No Fever'

अध्यक्ष, इंडियन मेडिकल एसोसिएशन

टीकाकरण अवसंरचना से आसानी

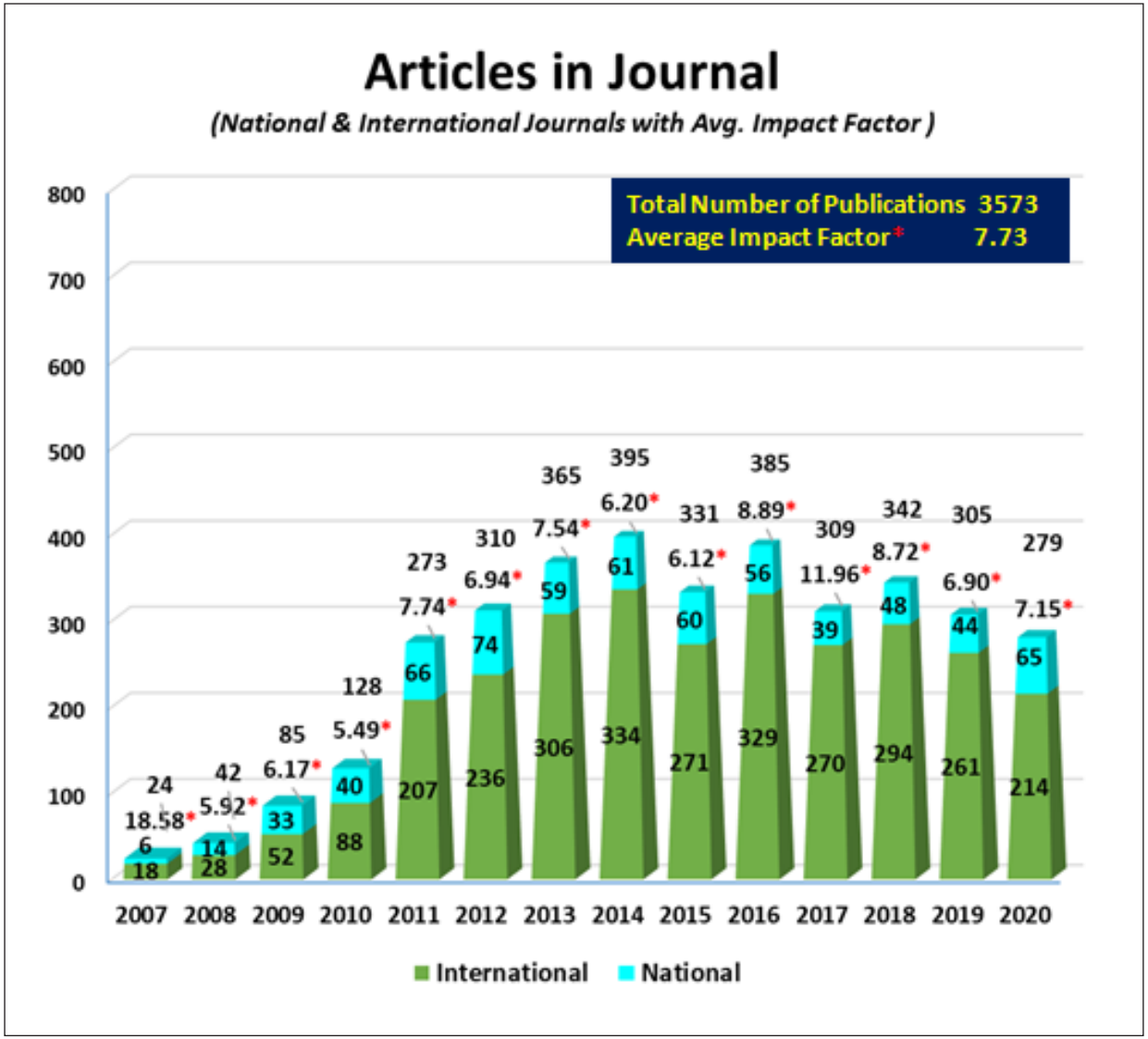
सरकारी एजेंसियों को सबको कोविड टीका लगाने के लिए बड़े पैमाने पर टीकाकरण कार्यक्रम की जरूरत है। हालांकि भारत को सार्वभौमिक टीकाकरण कार्यक्रम (यूआईपी) के तहत बच्चों को दिए जाने वाले दुनिया के सबसे बड़े नियमित टीकाकरण कार्यक्रम का अनुभव है। भारत में टीके को –70 डिग्री सेल्सियस ठंडे वातावरण में संरक्षित करने में भी मुश्किल नहीं होगी, क्योंकि इसके लिए यूआईपी के पास पहले से ही आवश्यक बुनियादी ढांचा है। देश को कोविड19 टीका वितरित करने के लिए पहले से मौजूद बड़ी आपूर्ति शृंखला का लाभ उठाना चाहिए। यूआईपी अवसंरचना का उपयोग करते हुए पहले मोर्चे पर डटे कर्मियों को टीका लगाना चाहिए। फिर देशव्यापी यूआईपी लाभार्थी परिवारों को नियमित टीकाकरण कार्यक्रम के लक्षित किया जाए। गरीबों को टीका उपलब्ध कराने के लिए विशेष अभियान चले।

बातचीत: रामवीर सिंह गुर्जर

डॉ अंबरीश दत्ता

फेकल्टी, पब्लिक हेल्थ फाउंडेशन ऑफ इंडिया

Publications



Articles in Journals

2020

Agarwal T, Lyngdoh T, Dudbridge F, Chandak GR, **Kinra S, Prabhakaran D, Reddy KS,** Relton CL, Davey Smith G, Ebrahim S, Gupta V, **Walia GK.** Causal relationships between lipid and glycemic levels in an Indian population: A bidirectional Mendelian randomization approach. **PLoS One.** 2020;15:e0228269.

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Financial Statement

Public Health Foundation of India
Balance sheet

(Amount in ₹)

	Notes	As at March 31, 2020	As at March 31, 2019
Sources of funds			
Corpus fund	1	808,755,509	808,755,509
Designated fund	2	321,160,550	469,301,843
Project funds held in trust	3	531,695,962	622,034,196
Capital assets fund	4	675,468,533	681,367,880
Loans	5	157,500,000	298,921,350
		2,494,580,554	**2,880,380,778**
Application of funds			
Fixed assets			
Gross block	6	940,641,004	926,663,526
Less : Accumulated depreciation and amortisation		(356,208,962)	(319,790,058)
Net block		**584,432,042**	**606,873,468**
Capital work in progress		91,036,491	74,494,412
		675,468,533	**681,367,880**
Current assets			
Cash and bank balances	7	1,599,283,048	1,874,260,872
Loans and advances	8	351,063,669	427,201,274
Other current assets	9	131,716,331	133,276,815
		2,082,063,048	**2,434,738,961**
Less: Current liabilities and provisions			
Current liabilities	10	171,143,939	158,935,098
Provisions	11	91,807,088	76,790,965
		262,951,027	**235,726,063**
Net current assets		1,819,112,021	2,199,012,898
		2,494,580,554	**2,880,380,778**
Summary of significant accounting policies	21		

The accompanying notes form an integral part of the financial statements.

As per our report of even date attached.

For **Haribhakti & Co. LLP**
Chartered Accountants
ICAI Firm Registration No.:103523W / W100048

Kunj B Agrawal
Partner
Membership No.: 095829

Place: New Delhi
Date : March 31, 2021

For and on behalf of
Public Health Foundation of India

Prof. K.S. Reddy
President

Place: Delhi
Date : March 31, 2021

Abhinav Gaur
Head Finance

Place: Delhi
Date : March 31, 2021

Public Health Foundation of India
Income and Expenditure Account

(Amount in ₹)

	Notes	For the year ended March 31, 2020	For the year ended March 31, 2019
Income			
Grants and Donations	12	724,885,242	743,359,983
Interest income	13	27,367,064	50,745,939
Fee from activities		47,524,357	45,100,324
Other income	14	14,034,701	51,021,904
		813,811,364	**890,228,150**
Expenditure			
Program expenditure (Refer note 18 & 22)		521,688,677	582,222,303
Expenditure - training projects (Refer note 18)		139,355,666	121,328,794
Personnel expenses	15	139,580,299	155,707,482
Finance expenses	16	1,248,682	11,011,561
Other expenses	17	145,419,866	148,786,195
Expenses before depreciation for the year		**947,293,190**	**1,019,056,335**
Depreciation and amortisation for the year	6	36,515,904	41,436,425
Exceptional item	32	-	(45,687,844)
Total expenses during the year		**983,809,094**	**1,014,804,916**
(Deficit) transferred to Designated fund		**(169,997,730)**	**(124,576,766)**
Summary of significant accounting policies	21		

The accompanying notes form an integral part of the financial statements.

As per our report of even date attached.

For **Haribhakti & Co. LLP**
Chartered Accountants
ICAI Firm Registration No.:103523W / W100048

Kunj B Agrawal
Partner
Membership No.: 095829

Place: New Delhi
Date : March 31, 2021

For and on behalf of
Public Health Foundation of India

Prof. K.S. Reddy
President

Place: Delhi
Date : March 31, 2021

Abhinav Gaur
Head Finance

Place: Delhi
Date : March 31, 2021

Public Health Foundation of India
Cash Flow Statement

(Amount in ₹)

	For the year ended March 31, 2020	For the year ended March 31, 2019
Cash flows from operating activities		
(Deficit) for the year	**(169,997,730)**	**(124,576,766)**
Adjustment for:		
Net loss on sale of assets	-	199,084
Interest income	(27,367,064)	(50,745,939)
Excess Liabilities written back	(13,621,077)	(43,630,234)
Unrealised Forex (Gain)/Loss	532,184	(3,417,140)
Security deposits written off	311,540	5,276,244
Capital advances written off	-	1,296,751
Advances written off	806,422	5,221,699
Provision for employee benefits	15,016,123	10,111,210
Doubtful grants, fees and other receivables written off	17,184,299	18,728,340
Exceptional Item	-	(45,687,844)
Finance Cost	1,248,682	11,011,561
Operating deficit before operating assets and liabilities	**(175,886,621)**	**(216,213,033)**
Changes in operating assets and liabilities :		
(Decrease)/Increase in current liabilities	14,049,843	(21,876,911)
(Decrease)/Increase in Designated fund	38,821,373	(11,666,122)
(Decrease) in Project funds held in trust	(69,983,525)	(219,284,256)
Decrease in loans and advances	44,853,354	27,202,123
Decrease in Grant, Fees and Other Receivables	34,206,785	22,973,560
Cash flow used in operating activities	**(113,938,791)**	**(418,864,639)**
Taxes paid (net of refund)	(21,756,979)	(25,193,263)
Net cash flow used in operating activities (A)	**(135,695,770)**	**(444,057,902)**
Cash flow from investing activities		
Purchase of fixed assets (including capital work in progress and capital creditors)	(30,407,664)	(13,195,576)
Net movement in bank deposits more than 3 months original maturity	265,422,421	(50,211,260)
Interest received	33,795,642	64,722,617
Net cash generated from investing activities (B)	**268,810,399**	**1,315,781**
Cash flow from financing activities		
Movement in loans	(141,421,350)	148,191,948
Finance Costs	(1,248,682)	(11,011,561)
Net cash flow generated from financing activities (C)	**(142,670,032)**	**137,180,386**
Net (decrease) in cash and cash equivalents (A+B+C)	**(9,555,403)**	**(305,561,735)**
Cash and cash equivalents at the beginning of the year	147,392,847	452,954,582
Cash and cash equivalents at the end of the year	**137,837,444**	**147,392,847**
Components of cash and cash equivalents		
Cash in hand	10,838	12,966
Balances with banks in		
- current accounts	215,473	2,278,621
- savings bank accounts	37,611,133	123,101,260
Deposit with banks with original maturity less than 3 months	100,000,000	22,000,000
Total cash and cash equivalents	**137,837,444**	**147,392,847**

The accompanying notes form an integral part of the financial statements.

As per our attached report of even date attached.

For **Haribhakti & Co. LLP**
Chartered Accountants
ICAI Firm Registration No.:103523W / W100048

Kunj B Agrawal
Partner
Membership No.: 095829

Place: New Delhi
Date : March 31, 2021

For and on behalf of
Public Health Foundation of India

Prof. K.S. Reddy
President

Place:Delhi
Date : March 31, 2021

Abhinav Gaur
Head Finance

Place:Delhi
Date : March 31, 2021

Public Health Foundation of India
Notes to the financial statements for the year ended March 31, 2020

(Amount in ₹)

	As at March 31, 2020	As at March 31, 2019
Note 1 : Corpus fund		
Balance at the beginning of the year	808,755,509	808,755,509
Add : Fund received during the year	-	-
Balance at the end of the year	**808,755,509**	**808,755,509**
Note 2 : Designated fund		
Balance at the beginning of the year	469,301,843	609,026,307
Add : Funds received during the year	97,040,727	56,310,406
Less : Deficit transferred from income and expenditure account	(169,997,730)	(124,576,766)
Less : Transferred to capital asset fund	(17,819,906)	(3,630,765)
Add : Interest income Allocated (Refer Note 13)	854,972	149,189
Less: Utilisation	(58,219,356)	(67,976,528)
Balance at the end of the year	**321,160,550**	**469,301,843**
Note 3 : Project funds held in trust		
Balance at the beginning of the year	622,034,196	855,598,781
Add : Grants received	504,577,158	446,963,104
Less : Opening Grant receivable	(50,141,422)	(116,119,919)
Add : Closing Grants receivable	74,309,783	50,141,422
Add : Interest income Allocated (Refer Note 13)	4,013,123	7,587,888
Add: Grant receivable written off	7,689,778	40,830,149
Less: Excess liabilities written back	(9,885,548)	(17,064,672)
Less : Revenue expenditure	(603,722,953)	(620,636,355)
Less : Transferred to capital asset fund	(12,796,651)	(18,451,077)
Less : Grants refunded	(4,381,502)	(6,815,125)
Balance at the end of the year	**531,695,962**	**622,034,196**
Note 4 : Capital assets fund		
Balance at the beginning of the year	681,367,880	700,722,463
Add : Transferred from designated funds	17,819,906	3,829,849
Add : Transferred from project funds	12,796,651	18,451,077
Less : Depreciation and amortisation for the year	(36,515,904)	(41,436,425)
Less : Sale / adjustment during the year	-	(199,084)
Balance at the end of the year	**675,468,533**	**681,367,880**
Note 5 : Loans		
Secured Loan [1]	-	148,921,350
Unsecured Loan [2]	157,500,000	150,000,000
	157,500,000	**298,921,350**

1. Secured Loan includes Bank Overdraft facility taken from Union Bank of India and Canara Bank which has been repaid fully during the year and lien against bank deposit of ₹ 175,491,000 has been discharged.(Also, refer note 7)
2. The society has taken an interest free unsecured loan which are repayable on demand.

Public Health Foundation of India
Notes to the financial statements for the year ended March 31, 2020

Note 6 : Fixed assets

(Amount in ₹)

Description	Gross block				Accumulated depreciation and amortisation				Net block	
	As at April 1, 2019	Additions during the year	Adjustments / disposals	As at Mar 31, 2020	As at April 1, 2019	Depreciation for the year	Adjustments / disposals	As at Mar 31, 2020	As at Mar 31, 2020	As at 31 March 2019
Tangible fixed assets										
Building (Refer note 1 below)	511,786,789	-	-	511,786,789	19,887,594	8,051,791	-	27,939,385	483,847,404	491,899,195
Leasehold improvements	35,658,488	-	-	35,658,488	35,658,488	-	-	35,658,488	-	-
Computers	115,350,893	6,032,810	97,000	121,286,703	104,435,692	7,542,365	97,000	111,881,057	9,405,646	10,915,201
Plant and machinery	69,345,539	-	-	69,345,539	10,612,717	4,391,884	-	15,004,601	54,340,938	58,732,822
Office equipment	52,579,545	902,858	-	53,482,403	46,414,662	2,619,368	-	49,034,030	4,448,373	6,164,883
Medical equipment	49,234,253	4,080,070	-	53,314,323	38,570,164	4,602,210	-	43,172,374	10,141,949	10,664,089
Furniture and fixtures	14,906,762	326,217	-	15,232,979	11,843,325	1,174,081	-	13,017,406	2,215,573	3,063,437
Vehicles	4,651,483	-	-	4,651,483	3,982,839	159,827	-	4,142,666	508,817	668,644
Sub total (a)	**853,513,752**	**11,341,955**	**97,000**	**864,758,707**	**271,405,481**	**28,541,526**	**97,000**	**299,850,007**	**564,908,700**	**582,108,271**
Intangible assets										
Software	73,149,774	2,732,523		75,882,297	48,384,577	7,974,378	-	56,358,955	19,523,342	24,765,197
Sub total (b)	**73,149,774**	**2,732,523**	**-**	**75,882,297**	**48,384,577**	**7,974,378**	**-**	**56,358,955**	**19,523,342**	**24,765,197**
Total Current year (c=a+b)	**926,663,526**	**14,074,478**	**97,000**	**940,641,004**	**319,790,058**	**36,515,904**	**97,000**	**356,208,962**	**584,432,042**	**606,873,468**
Previous year	905,005,462	22,404,055	745,991	926,663,526	278,900,540	41,436,425	546,907	319,790,058	606,873,468	626,104,922
Capital work in progress (d) (Including capital advances)	**74,494,412**	**16,542,079**	**-**	**91,036,491**	-	-	-	-	**91,036,491**	**74,494,412**
Total fixed assets (c+d)	**1,001,157,938**	**30,616,557**	**97,000**	**1,031,677,495**	**319,790,058**	**36,515,904**	**97,000**	**356,208,962**	**675,468,533**	**681,367,880**

Notes:

1 The Government of Gujarat and PHFI entered a Memorandum of Understanding (MoU) in 2007 to establish IIPH-Gujarat (IIPH-G). Under the terms of MoU, IIPH-G was set up as a separate society on February 15, 2008. The IIPH-G has a Governing Council with four secretaries of the government as ex-officio members and four representatives of PHFI as members.

The Government of Gujarat had made free allotment of 50 acres land to PHFI on January 07, 2010 for construction of IIPH-G educational campus. PHFI had commenced the construction of IIPH-G campus during the financial year FY 2011-12, which was completed for phase-I and capitalised in October 2016.

2 **Bifurcation of fixed assets between funds**

Designated fund	847,981,586	17,819,906	97,000	865,704,492	270,363,954	21,823,562	97,000	292,090,516	573,613,976	577,617,632
Project funds held in trust	153,176,352	12,796,651	-	165,973,003	49,426,104	14,692,342	-	64,118,446	101,854,557	103,750,248
Total (includes CWIP)	**1,001,157,938**	**30,616,557**	**97,000**	**1,031,677,495**	**319,790,058**	**36,515,904**	**97,000**	**356,208,962**	**675,468,533**	**681,367,880**

Public Health Foundation of India ★ New Delhi

HARIBHAKTI & CO. LLP ★ CHARTERED ACCOUNTANTS ★ NEW DELHI

Public Health Foundation of India
Notes to the financial statements for the year ended March 31, 2020

(Amount in ₹)

		As at March 31, 2020	As at March 31, 2019
Note 7 : Cash and bank balances			
(A) Cash and Cash Equivalents			
Cash in hand		10,838	12,966
Balances with Scheduled banks			
- in current accounts		215,473	2,278,621
- in savings accounts		37,611,133	123,101,260
- in deposit accounts with original maturity less than 3 months [refer footnote iv below]		100,000,000	22,000,000
	A	137,837,444	147,392,847
(B) Balance with Scheduled banks in deposit account other than above[refer footnote (i) to (iii) below]		1,461,445,604	1,726,868,025
	B	1,461,445,604	1,726,868,025
	A+B	1,599,283,048	1,874,260,872
(I) Fixed deposits - Disputed funds (Refer note 23)		1,080,000,000	1,080,000,000
(ii) Fixed deposits - restricted funds (Refer note 23)		370,690,412	370,690,412
(iii) Fixed deposits - Lien against bank overdraft (Refer note 5)		-	175,491,000
(iv) Fixed deposits - Margin money for Bank Guarantee[Refer note 25(b)]		100,000,000	100,000,000
Note 8 : Loans and advances			
(Unsecured and considered good)			
Advances recoverable in cash or in kind or for value to be received		16,173,613	19,345,996
Security deposits		7,807,543	40,962,029
Sub-grant advance (Refer note 22)		10,005,554	16,895,089
Tax deducted at source		84,926,336	63,169,357
Tax deposited under protest [Refer note 25(c)]		5,491,262	5,491,262
Prepaid expenses		6,540,987	7,471,484
Central value added tax/ GST Input Credit recoverable		-	1,824,415
	A	130,945,295	155,159,632
Grants, fees and other receivable		220,118,374	272,041,642
	B	220,118,374	272,041,642
	A+B	351,063,669	427,201,274
Note 9 : Other current assets			
Interest accrued but not due on fixed deposits*		131,716,331	133,276,815
		131,716,331	133,276,815
* Interest accrued but not due on fixed deposits (net of TDS) - disputed funds (Refer note 23)		125,027,651	125,027,651
Note 10 : Current liabilities			
Sundry creditors (Refer note 31)		80,962,977	84,985,812
Employee Related Liabilities		9,305,472	5,342,135
Advance received		28,623,764	21,457,536
Payable for capital creditors		21,481,151	21,272,258
Statutory liabilities		28,261,675	23,368,457
Tax deducted at source received on disputed FDRs (Refer note 23)		2,508,900	2,508,900
		171,143,939	158,935,098
Note 11 : Provisions			
Gratuity [Refer note 29 (A) (ii)]		56,564,005	46,593,290
Compensated absences		35,243,083	30,197,675
		91,807,088	76,790,965

Public Health Foundation of India
Notes to the financial statements for the year ended March 31, 2020

(Amount in ₹)

	For the year ended March 31, 2020	For the year ended March 31, 2019
Note 12 : Grants and Donations		
Designated fund	58,219,356	62,036,126
Project funds held in trust	474,278,411	517,758,638
Income from training projects	142,241,193	121,328,794
Capital assets fund	36,515,904	41,436,425
Donations	13,630,378	800,000
	724,885,242	743,359,983
Note 13 : Interest income		
Interest income on savings bank accounts	1,746,231	3,621,849
Interest income on sub grant to NGOs	189,653	613,903
Interest income from fixed deposit accounts	30,299,275	54,247,264
	32,235,159	58,483,016
Interest income on designated investments transferred to Project Funds Held in Trust and Designated Fund	(4,868,095)	(7,737,077)
	27,367,064	50,745,939
Note 14 : Other income		
Foreign exchange gain (net)	-	3,417,140
Excess liabilities written back		
- Lease equilisation reserve	-	6,915,979
- Sundry creditors	866,946	16,560,640
- Old project balances	11,571,181	17,064,674
- Others	1,182,950	3,088,940
Miscellaneous Income	413,624	3,974,531
	14,034,701	51,021,904
Note 15 : Personnel expenses		
Salaries and allowances	134,802,749	166,238,510
Contribution to provident and other funds	38,433,516	31,743,643
	173,236,265	197,982,153
Less: Recovery of general overheads from projects	(33,655,966)	(42,274,671)
	139,580,299	155,707,482
Note 16 : Finance expenses		
Interest on secured loan	1,248,682	11,011,561
	1,248,682	11,011,561

Public Health Foundation of India
Notes to the financial statements for the year ended March 31, 2020

Note 17 : Other expenses

Society sponsored programme expenses (Also, refer note 18)	52,755,474	65,822,356
Rent (Refer note 27)	41,367,211	31,782,655
Legal and professional charges (Also, refer note 30)	23,118,663	16,680,992
Repair and maintenance	11,456,730	12,299,871
Insurance	1,452,483	4,555,035
Communication expenses	1,679,811	1,994,310
Electricity and water charges	3,782,183	3,623,049
Travel and conveyance [Also, refer note 18(b)]	1,709,655	3,197,212
Conferences and meeting expenses	537,243	1,344,883
Miscellaneous expenses	8,901,156	5,531,498
	146,760,609	**146,831,860**
Less: Recovery of general overheads from projects	(28,479,814)	(31,352,667)
	118,280,795	**115,479,193**
Rates and taxes	8,304,626	2,584,883
Net loss on sale of assets	-	199,084
Security deposits written off	311,540	5,276,244
Capital advances written off	-	1,296,751
Advances written off	806,422	5,221,699
Doubtful grants, fees and other receivables written off	17,184,299	18,728,340
Foreign Exchange Loss(Net)	532,184	-
	145,419,866	**148,786,195**

18. Prior period items (included in respective heads)

(a) Prior period income		
- Grant Income	-	2,966,769
- Income from training projects	2,108,774	-
	2,108,774	**2,966,769**
(b) Prior period expenses		
- Program expenditure	750,485	4,588,276
- Society sponsored programme expenses	512,452	-
- Depreciation & Amortisation	-	144,968
- Rates and taxes	-	112,463
- Legal and professional charges	-	67,000
- Rent	-	229,240
- Travel & Conveyance	262,173	-
- Repair & Maintenance	-	148,208
- Miscellaneous expenses	-	125,000
	1,525,110	**5,415,155**

Public Health Foundation of India * New Delhi

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