

April 2016 – March 2017

A brief snapshot of the new projects undertaken by PHFI and key milestones achieved in the last year is provided below:

Indian Institutes of Public Health

Over the last 12 months, several milestones have been achieved at the Indian Institutes of Public Health (IIPHS) including:

- Inauguration of the new campus:** The permanent campus of IIPH Gandhinagar was formally inaugurated in October 2016 by Shri Vijay Rupani (Chief Minister – Gujarat), in the presence of Shri Shankar Chaudhary (Health Minister – Gujarat) and several other dignitaries. The Prime Minister Shri Narendra Modi and the Union Minister for Health Shri Jagat Prakash Nadda also sent messages of congratulations for this landmark event in the history of PHFI. Several other dignitaries were also present including Mr. N. R. Narayana Murthy (Chairman, PHFI), Shri Nand Lal Khemka, Shri Nitin Patel, and several members of PHFI's Executive Committee.



- MPH & PhD Programme:** The first batch of MPH students were enrolled at IIPH Delhi, where the degree is being offered in partnership with Sree Chitra Tirunal Institute of Medical Science & Technology (Trivandrum). The first batch of students from IIPH Gandhinagar (2015-16) will be graduating in July 2017. The MPH programme continues to be offered at IIPH Hyderabad in partnership with the State University of Health Sciences. PhD programmes are also offered at IIPH-G and D.
- Infosys Fellowships:** From the 2018 batch of MPH students, 10 have been awarded Infosys Fellowships. These fellows will be supported in their work for two years subsequent to their graduation, during which time they will be placed at community-based organizations to assist in

the delivery of their public health programmes. The first batch of fellows will be placed at the following organizations:

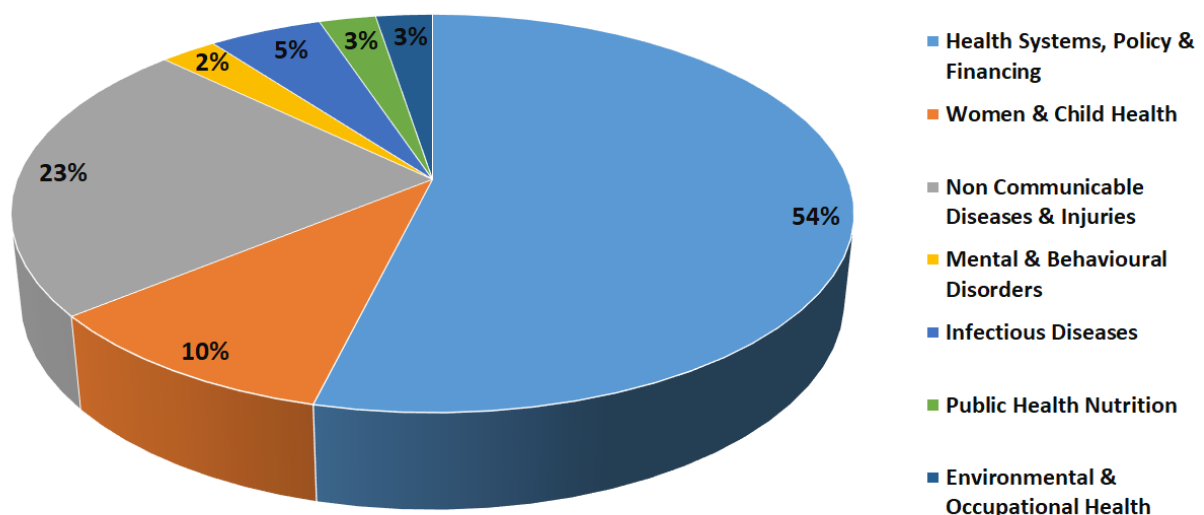
- Karuna Trust, Bengaluru
- Mahan Trust, Maharashtra
- Child in Need Institute, Kolkata
- Janseva Foundation, Pune
- Piramal Swasthya, Mumbai

NGOs shortlisted for the next year's intake include SEWA Rural, SEARCH (Gadhchiroli), Deepak Foundation and Lok Swasthya Seva Trust.

- **IIPH-H (Bengaluru):** The Karnataka government is currently undertaking a renovation of the Epidemic Diseases Hospital in Bengaluru, which on completion will be handed over to IIPH Hyderabad's Bengaluru campus for a period of 30 years.
- **Academic Partnerships:** New academic partnerships were established with the University of Toronto, Deakin University, and Manipal University, with several more in the pipeline. These linkages will enable collaborations on research and academics across faculty, staff and students.
- **Assistance to Governments:** IIPH Delhi has been assisting the Ministry of Public Health in Afghanistan in developing and implementing a Diploma course in public health nutrition. In Odisha, IIPH Bhubaneswar has been assisting the State Government in the development of its health policy document.

Research Metrics

Research & Implementation by Thematic Area



From inception till March 2017, cumulative income from project grants totalled Rs. 12,836 million. Additionally, 2623 articles were published in peer-reviewed journals with a cumulative impact factor of 5.17.

Health System Strengthening, Health Policy & Financing

Public Health Cadre

Odisha and Karnataka states have recently announced to have a PH cadre. Odisha has already completed the ground work for development of PH cadre and has sanctioned new 1300 posts for Public Health and Clinical cadres. State has also proposed required budget for FY 2017-18 in in this regard. This news has been covered by the state dailies. Earlier the clinicians had raised their concern to only have PH cadre, hence in the proposed structure both clinical and PH cadres have been proposed. Prior to this development, advocacy meetings were held with the Principle Secretary (H&FW), Govt. of Odisha in December 2016 at Bhubaneshwar requesting him to expedite the administrative procedure for announcing PH cadre and Clinical cadres in Odisha state.

Advocacy efforts are continued with the states of Chhattisgarh, Bihar, UP and Gujarat in the months of January and February 2017 to develop PH cadre. The Director Health Services has suggested that now he has to work of the draft of Cabinet note to finalize it. All the required details such as number of new posts to be sanctioned, their roles & responsibilities and the financial implication has been worked out. Chhattisgarh state will have now to consider the cabinet note at most senior level before submitting the same to seek Cabinet approval.

In the 61st National Conference of Indian Association of Public Health (IAPH) held on 24-26 February 2017 at Jodhpur, where Public Health experts from Medical Colleges, State IPHA chapters, respective state government officials were present, the need for having PH Cadre was reiterated and the efforts required by the respective State chapters of IPHA and IAPSM was emphasized.

UHC Pilots in Kerala and Karnataka

PHFI continues to be the technical support unit for the implementation of State-level pilots of Universal Health Coverage in Kerala and Karnataka. The implementation phase follows an extensive scoping exercise carried out by PHFI in two districts each in Kerala (Malappuram & Palakkad) and Karnataka (Raichur & Mysore) to map the gaps in services, coverage, and finances, with an aim to effectively utilize the existing resources while ensuring financial protection and addressing those conditions most relevant to the local context.

Based on this work and in convergence with evolving national policy, state governments are embarking on various reforms. Ranging from strengthening service design and training for operationalization of Comprehensive Primary Health Care, to the other reforms include-creating monitoring and analysis mechanisms for service delivery improvement, developing and finalising Standard Treatment Guidelines for priority health events and conditions, harmonizing and streamlining inter-sectoral action on health, including that related to financial risk protection and participation of local self- government in health action.

The project is also rolling out an e-hospital programme in Karnataka that aims at improving accountability & transparency with easy access of health care services to public at facility level. The programme also aims at reducing the burden of documentation to health professionals and brings documentation to the EHR/EMR standards (HL-7 Standards) for accessibility in any hospital for all referral cases.

National Knowledge Platform

The Union Ministry of Health and Family Welfare recently established the National Knowledge Platform (NKP) for health systems and public health research after consultations with the World Health Organization, National Health Systems Resource Centre (NHSRC), and national level technical organizations. The secretariat of the platform will be based at NHSRC and the scientific committee will be based at PHFI.

Global Burden of Disease India Subnational Estimation

Under the guidance of DG ICMR, and in close partnership with ICMR, this project is assessing the disease burden profile over the past 25 years in each state of India. As the disease profile is substantially different and heterogeneous across the regions of India, these findings are crucial to plan health budgets and health system in an informed manner. The disease burden profile for each state of India is planned to be presented to the Ministry of Health, Government of India and the State Governments in November 2017.

Strengthening Eco-System for Sustainable and Inclusive Health Financing in India

This project during Phase 1 provided support to 6 states of India to develop state health accounts and helped state governments to estimate costs of various health services towards preparing the states for Universal Health Assurance. During phase 2, the PHFI team plans to work closely with two states (Assam and Chhattisgarh) to review and help develop Health Assurance Programs through both private and public sector partnerships. This study aims to provide technical support to these state governments in this effort through partnerships with various state level institutions.

Non-Communicable Diseases

Primary Care Physician Capacity Building

Over the last 6 years, PHFI has been offering several programmes that are focused on building the capacity of in-service primary care physicians. These include programmes on management of diabetes, thyroid diseases, hypertension, COPD, and others. More recently, new programmes were added on Women's health, Healthcare Quality, and Health emergencies in partnership with organizations including the Association of Health Care Providers of India, and the National Health System Resource Centre. Till date, over 20,000 physicians have been trained from across the country, with training programmes carried out in 109 cities across 26 states. This work has also been recognized with several awards including:

- Platinum Award in the 2017 edition QCI-D. L. Shah Quality awards. The award was presented by Shri Baijayant Panda (Member of Parliament, Lok Sabha), and Shri Amitabh Kant (CEO, Niti Aayog).
- Award for excellence in skill development from the PHD Chambers of Commerce and Industry. The award was presented by Shri Rajnath Singh (Union Minister for Home Affairs).
- Award for best NGO in skill development from ASSOCHAM. The award was presented by Shri Rajiv Pratap Rudy (Union Minister for Skill Development & Entrepreneurship).

Regional Center of Research Excellence (RCRE) in Non-Communicable Diseases

The NCI planning grant (P20) on NCDs and cancer is a collaborative effort of 3 funding partners - Emory University, PHFI and Research Triangle Institute, Global (India) - to focus on breast and oral cancer, and diabetes in the population-based CARRS cohort in Delhi and Chennai, to develop a regional center for research excellence on NCDs in India. Other strategic partners include AIIMS and MDRF. The grant's activities include three demonstration projects (on data linkages between population-based cancer registries and cohort populations in Delhi and Chennai; a mixed methods project comparing stigma between diabetes and cancer patients; and a biomarker project on inflammatory markers underlying oral potentially malignant lesions and diabetes), the development of three cores that highlight the collaborating institutions' research and infrastructure strengths (data management and analytics, field

research and bio-repository and laboratory capacity building cores), the establishment of a governance structure (Steering Committee, Scientific Advisory Group and a Community Collaborative Board) and a focus on short-term training and capacity building. A Delphi and snow card methodology will culminate in a consensus-building activity between the SAG, CCB and other experts to define an NCD and cancer prevention and control research agenda in India.

Worksite Wellness Programme for Chronic Diseases (INDIA-WORKS)

Worksite based Lifestyle Program for Reducing Diabetes and Cardiovascular Risk in India (INDIA-WORKS) is a collaborative project funded by National Institute of Health, USA. The INDIA-WORKS project intends to implement a structured life style program for prevention of diabetes among employees in eight large worksites in India. This project targets to enroll 2000 individuals from the selected worksites who are at high risk of development of diabetes. As part of this initiative all the employees of selected worksites will undergo a screening programme. Based on the screening program high risk individuals will be identified and they will be invited to participate in an intensive lifestyle program lead by a trained peer educator. In addition, worksite environment changes will be implemented that will improve the health of the employee with the help of worksite management. The programme will be evaluated on the basis of (a) programme adoption and acceptability of programme among employees and employers (b) incidence of diabetes and total cardiovascular risk at 2nd and 3rd year of follow up (c) Return on investment (ROI) of the intervention for employers by assessing program cost and cost-effectiveness.

UDAY - A comprehensive diabetes and hypertension prevention and management program

UDAY, a 5-year initiative aims to reduce the risk of diabetes and hypertension and improve management by implementing a comprehensive intervention program in the two selected study sites, Sonipat and Vizag. It has a pre-post evaluation design with representative cross sectional surveys before and after intervention. Within these two sites, urban and rural sub-sites each with a total population of approximately 1, 00,000 people each were selected and a baseline and post intervention assessment will be conducted deploying 4 surveys (among general population, patients, healthcare providers, health facilities) which will determine: the knowledge levels about diabetes and hypertension, the proportion treated and controlled; the patient knowledge and self-management skills; healthcare providers' management practices; the level of access and barriers to obtaining care.

The interventions will include: tailored health promotion for improving public knowledge; screening of adults aged ≥ 30 years for identifying those at high risk of diabetes and/or hypertension for linkage to the healthcare system; patient education using technology enabled community health workers, healthcare provider training on management guidelines, community based diabetes registry and; advocacy to improve access to healthcare. UDAY is expected to increase over baseline the levels of: public knowledge about diabetes and hypertension; those treated and controlled; patient self-management skills; the use of guideline based management by providers and; access to healthcare, leading to improved health outcomes.

NCD Prevention and Control in Tripura

In the state of Tripura, PHFI, the Centre for Chronic Disease Control and All India Institute of Medical Sciences, Delhi are assisting the state in implementing a capacity building initiative to improve the quality and access to NCD care in the state. The overall aim of the project is to establish capacity and offer affordable, evidence-based, preventive, promotive and therapeutic care for hypertension and diabetes at the primary care facilities of Tripura. The four activities that are planned for year 1 are:

1. Train 40-50 nominated medical officers by offering the Advanced Certificate Course in Prevention and Management of CVDs (ACMDC).

2. Provide technical support in running 40 mPower Heart modelled NCD clinics in Tripura
3. Establish big-data analytics capability for NCDs in the state
4. Establish a Technical Support Unit for the NCD program for the State government.

Prevention of Avoidable Blindness

Diabetic retinopathy and retinopathy of prematurity are the leading causes of blindness among working adults and infant blindness respectively. Timely management through effective screening and referral is critical to prevention. The Queen Elizabeth Diamond Jubilee Trust, in partnership with PHFI and the London School of Hygiene and Tropical Medicine, supported IIPH-H in conducting a multi-site situational analysis. The effort aims to assess the health system's capacity to identify and manage these problems, and builds capacity where required.

mWellcare: An Integrated mHealth System for the Prevention and Care of Chronic Diseases

PHFI is working on this project with funding from the London School of Hygiene & Tropical Medicine and Wellcome Trust. The aim is to develop and evaluate an innovative mobile health (mHealth) software application (mWellcare) which will provide a patient's health profile, monitoring and feedback for use in the primary care setting in two states, Haryana and Tamil Nadu. The project began in 2014 and recruited 3702 participants from 40 Community Health Centres. The intervention will be delivered through an android-based mobile application designed to generate algorithm-based clinical management prompts for treating hypertension and diabetes and also capable of storing health records, sending alerts and reminders for follow-up and adherence to medication. The outcome of the project will compare the effectiveness of the mHealth system viz. enhanced usual care through end-points such as changes in systolic blood pressure, glycosylated haemoglobin and cholesterol, among others.

Environmental Health

Strengthening the Evidence Base for Air Pollution and Cardio-Metabolic Diseases

Since 2015, PHFI has been working with the Harvard TH Chan School of Public Health to strengthen the evidence base on long-term air pollution exposure and its impacts on cardio-metabolic risk factors and outcomes. Built into the ~11,000 strong CARRS cohort in Delhi and Chennai, this study aims to retrospectively assess air pollution exposure through the development of a novel hybrid exposure model that fuses ground monitored pollutant data with satellite data, meteorological data, chemical transport data, and land use data. This provides us with a high resolution exposure map of the city, which when teamed with the health data from CARRS provides a strong evidence base for risk factors and outcomes affected by ambient air pollution exposure. The PHFI team will also be carrying out personal exposure assessments in a sub-sample of the cohort in both cities. Other partners on the project include All India Institute of Medical Sciences (New Delhi), Emory University, Madras Diabetes Research Foundation, IIT-Delhi, Urban Emissions Pvt. Ltd., and Sri Ramachandra University (Chennai).

Increasing Resilience to Extreme Heat Events

Since 2012, IIPH-G has been working with the Ahmedabad Municipal Corporation and the Gujarat Government to reduce mortalities during extreme heat events through the roll-out of a unique Heat Action Plan. The use of this heat action plan in subsequent heat waves reduced all-cause mortality, through common-sense interventions and enabling health system preparedness. The success of the heat action plan in Ahmedabad is now being replicated in two additional states, Maharashtra and Odisha, and is under consideration for national roll-out by the National Disaster Management Agency.

Promoting Latrine Use in Rural India

PHFI has received a preparatory grant from the International Initiative for Impact Evaluating (3ie). The aim of the research to be supported under this window is to enhance the evidence base for interventions that can help rid India of open defecation (OD). PHFI will conduct formative research to establish what part demand creation can play in increasing latrine use in rural India. This, first, RFQ phase concerns the design of interventions and the building of the team to deliver them, whilst the second phase will concern their implementation and evaluation. This will support the theory-based design and the rigorous evaluation of low-cost, innovative interventions designed to promote the use of toilets. Learnings about what works, for whom, how and at what cost will provide evidence for the design and implementation of interventions that can be scaled up via the GoI's Swachh Bharat Mission.

Coalescing Health Sector Leadership on Environmental Exposures

Recognizing the significant environmental burden of disease in India, and the need to foster health sector leadership in addressing these exposures, PHFI established the Health and Environment Leadership Platform (H.E.L.P.) in February 2017. The platform brings together representatives of over 5000 healthcare institutions, 4500 diagnostic centres, and 27000 physicians with the following goals:

- Showcasing Leadership in health systems by reducing its environmental and energy burden.
- Advocating for the importance of inter-sectoral, collaborative policymaking to address the health impacts of environmental pollution.
- Building Capacity of physicians on the health impacts of environmental pollution.

The platform recognizes that the health sector can play a leadership role on environmental issues by reducing its own ecological footprint, showing the way forward for other sectors. It also works to highlight the importance of effective policymaking with health at its core. Till date, the platform has published several case studies documenting climate-smart interventions in the health sector, and has published materials on green hospitals.

Our Environment, Our Health

The Centre for Environmental Health conducted a program titled *Our Environment, Our Health* under the Voices for Health initiative of the Wellcome Trust DBT India Alliance. The program was conceived to raise awareness of India's pressing environmental health challenges among school and college students; to encourage them to become environmental health ambassadors; and to encourage them to adopt environment friendly behaviors. Centre staff organized a series of school, college, and community engagement programs reaching students in 15 schools and 7 colleges. Environmental health issues such as air pollution, WASH, climate change, and pesticide exposure were discussed in an approach that was inclusive and participatory, enabling students to learn, discuss and respond to the issues through a process of creative inquiry. A community engagement event was organized at a local mall to educate the public about air pollution and its health impacts. Puppetry, traditional story telling art form of patua, street theatre, and lectures were used to disseminate the environmental health information. This program brought together a multitude of stakeholders including environmental health researchers, students, educators, medical doctors, local artists, NGO partners, street children, slum dwellers in the dissemination and uptake of environmental health information.

Tobacco Control

Prioritizing important tobacco control measures for progressing towards sustainable development

The project focuses on coordinating multipronged and multi-stakeholder tobacco control action in India for progressing towards the Sustainable Development Goals – making a case for curbing emerging trends in tobacco advertising and laying the ground for uniform tobacco taxation in India. The specific project objectives include:

- i. To harness the outreach and credibility of the Doctors For Tobacco Control in India (DFTCI) forum to check compliance with existing tobacco advertising, promotion and sponsorship rules and avert any dilution of the tobacco-free movie rules.
- ii. To scale-up and expand youth-led monitoring of tobacco advertising and sale around educational institutions and depiction of tobacco use in Bollywood films, with a focus on compliance.
- iii. To position tobacco control activities in India in the larger context of the Sustainable Development Goals (SDGs) through policymaker and media engagement.
- iv. To augment comprehensive advocacy to support higher taxes under the Goods and Services Tax (GST) across all tobacco products.
- v. To accrue wide-scale media support for strengthening tobacco control policies through strategic media engagement efforts

Nutrition & Food Systems

Sustainable and healthy food systems (SHEFS)

Food systems are changing rapidly and influencing population nutrition, health and the environment. Simultaneously, environmental change is affecting the ability of food systems to produce nutritious foods in a sustainable and equitable manner. The primary aim of the Sustainable and Healthy Food Systems (SHEFS) programme is to provide policy makers with novel, interdisciplinary research evidence to define future food systems policies that deliver nutritious and healthy foods sustainably and equitably. The overarching research question is “What components of the interactions between environment, food systems and health are critical for achieving sustainable and equitable health outcomes, and what sectoral and inter-sectoral policy options are most able to deliver healthy food systems in the face of future environmental and demographic change?” Research uptake is central to the programme, and SHEFS will address the overarching research uptake question, “How can evidence-based policies be co-developed with stakeholders to improve access to sustainable and healthy diets for all?” Over 5 years, SHEFS will build on a platform of on-going, inter-disciplinary research partnerships to deliver a major body of research evidence, priority policy recommendations and public engagement resources to support healthy and sustainable food systems particularly in low- and middle-income countries.

Leveraging fruit & vegetable supply policies to tackle the dual burden of malnutrition in India & Bangladesh (LANSA)

The LANSA project involved specific objectives linked to fruit & vegetable (FV) intake and malnutrition in India and Bangladesh as outlined below:

1. Identify and assess existing food and agricultural policies in India and Bangladesh related to FV supply and affordability, using the Consumption-Oriented Supply Chain analysis framework;
2. Analyse the policies in terms of their aims, coverage and implementation modes;
3. Assess how these policies affect accessibility (availability and affordability) of FV by analysing facilitators and barriers to consumption in general – especially among children and adolescents;

4. Identify policy recommendations and strategies for increasing supply and affordability of FV with a focus on children and adolescents.

Maternal, Child and Adolescent Health

Improving women and child health in rural/tribal India using novel diagnostic technologies funded by Department of Science and Technology

This project has two key streams of activities: first being setting up a lab at IIPH-G to do the needed tests including molecular tests for TORCH infections and immunological tests for stress markers, and second being working with rural and tribal villages to inform pregnant women about the importance of testing and collect samples after enrolling them in the study. The objectives of the study are:

- i. Develop a model for diagnosis and community awareness about infections causing preterm births and congenital malformations
 - a. Adapt available tests for diagnosis of infection in rural and tribal areas
 - b. Calculate community based prevalence of such infections in rural and tribal villages
 - c. Develop protocol for diagnosis of such infection through public and private health care system.
- ii. Test the hypothesis that stress among pregnant women in rural and tribal India has adverse impact on maternal and neonatal health as seen in the western countries.
 - a. Estimate the level of stress in rural and tribal women during pregnancy
 - b. Assess the correlation of stress with bio-markers such as salivary DHEAS and cortisol
 - c. Assess the outcomes of pregnant women with high and low stress and biomarkers
 - d. Develop protocols for diagnosis of stress among pregnant women in rural and tribal areas.

This study is a combination of translational research and prevalence study. We are adapting established diagnostic technologies from developed world and private settings to the Indian context and public settings, and testing if it is feasible to use these diagnostic technologies for rural areas.

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

This study 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 Madhya Pradesh and AP (now replaced with Kerala), selected in consultation with MoHFW (based on health indicators, population size, contextual diversity, and variance of socio-economic status of population). Two HPDs from each state were identified, as representative of the states. Within each of these four HPDs, two community health centres (CHCs) and their catchment areas that are implementing the PE programme in 2017 (based on their Programme Implementation Plan) have been selected for evaluation. Within each CHC catchment area, two Primary Health Centres (PHCs) will be selected where PEs have been recruited but yet to be trained and staff availability.
