

# DEVELOPING AN INTERDISCIPLINARY RESEARCH PARTNERSHIP IN INDIA

UNIVERSITY OF WASHINGTON STRATEGIC ANALYSIS,  
RESEARCH & TRAINING (START) CENTER

REPORT TO THE BILL & MELINDA GATES FOUNDATION

PRODUCED BY: ASA N, ZANE G, SHRESTHA L, BADSHAH A, STEWART B

JULY 2023



**START  
CENTER**

STRATEGIC ANALYSIS,  
RESEARCH & TRAINING CENTER

Department of Global Health | University of Washington

# Executive Summary

The Strategic Analysis Research and Training Center (START) was commissioned by the Bill & Melinda Gates Foundation (BMGF) to support the India Country Office (ICO) in conceptualizing an interdisciplinary research/consultancy partnership in India. The START team was tasked with gathering evidence to understand the adaptability and sustainability of an interdisciplinary research/consultancy partnership and identify key institutions and organizations that are exemplars in interdisciplinary research.

The START team responded to the request by conducting key informant interviews (KIIs) with Indian professionals from various institutions. In the interviews, we discussed how the interviewees were involved in interdisciplinary research and the various factors involved in developing an interdisciplinary research partnership including: funding, faculty/student involvement, structure, government involvement, and coordinating centers.

This report summarizes our findings. Additionally, the report compares the different organizations and institutions across themes related to building a new interdisciplinary research/consultancy model. Finally, using the information provided in the summaries and comparisons, we provide insights into the current interdisciplinary research landscape in India and areas for building out capacity.

## Key Findings

- We initially were looking at the potential of a START-like interdisciplinary research center that deeply engages students and faculty in short-term consulting projects providing analysis, review, and conceptualization of research. We reached saturation after interviewing 8 Indian professionals regarding their experiences with interdisciplinary research, and the feasibility and adaptability of such model in India. We found that India has a robust interdisciplinary research programs in the traditional sense, and many centers and organizations are funded to do interdisciplinary research. Thus, the key informants agreed that creating a new, START-like, interdisciplinary research model would be very challenging due to the uni-dimensional research landscape and limited funding resources to sustain such model.
- There are many organizations and institutions that are doing interdisciplinary research across India. These organization and institutional models varied in structure, organization, and funding. These models had many strengths including sustainable funding (generally international funding), identified coordinating centers, and full-time staff for project initiation.

- Developing a new interdisciplinary research model with current resources is not feasible, but there are exemplary organizations involved in interdisciplinary research. The lessons learned from these organizations can be leveraged while considering additional aspects including student involvement and training, support for Indian-based domestic faculty, and increased capacity for short-term consulting or research projects.

# Contents

<b>Executive Summary</b>	<b>1</b>
Key Findings	1
<b>Introduction</b>	<b>4</b>
Project Overview	4
Methodology	6
Key Informant Interviews	6
Exemplars in Interdisciplinary Research	6
<b>KIs</b>	<b>7</b>
Importance of Interdisciplinary Research	7
Development of an Interdisciplinary Research Model	8
Facilitators	9
Barriers	10
<b>Exemplars</b>	<b>12</b>
Government Involvement	23
Funding	24
Faculty and Student Engagement	25
<b>Conclusion &amp; Recommendations</b>	<b>27</b>
<b>References</b>	<b>30</b>
<b>Appendix</b>	<b>31</b>

# Introduction

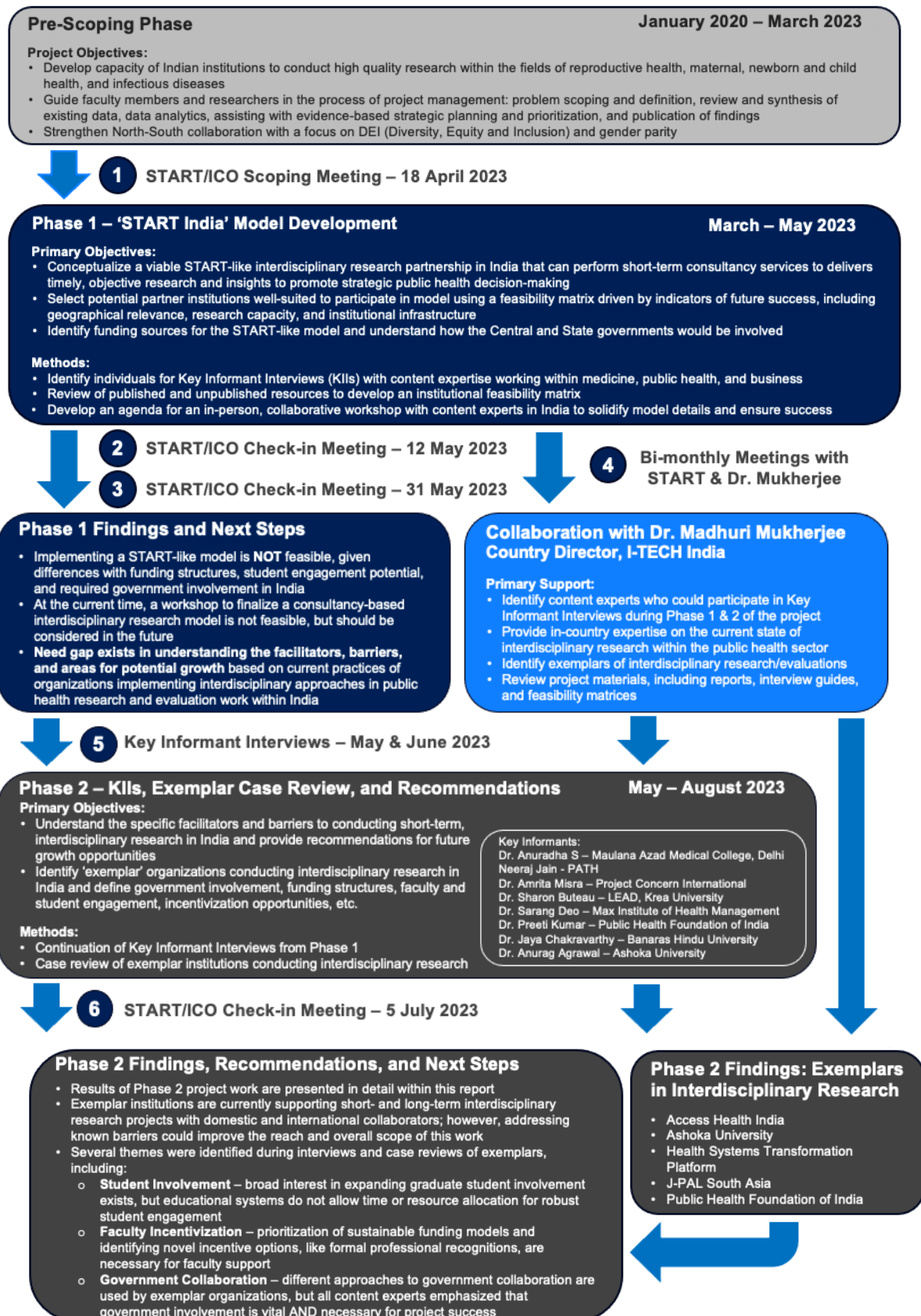
## Project Overview

This report is the product of analysis and interviews conducted by the University of Washington's Global Health Strategic Analysis and Research Training Program (START) team in response to the Bill and Melinda Gates Foundation's (the Foundation) request for conceptualizing an interdisciplinary research partnership in India in collaboration with the BMGF India Country Office (ICO). This research request arose from conversations with the START and the Foundation leadership in Seattle, WA to fill a gap in short-term research execution and training in India that centers on public health implementation and knowledge generation, rather than manuscript development or specific field research projects. As such, this request was centered on the feasibility of developing a START-like model within the Indian context. We identified key features of the START model that we wanted to highlight in an interdisciplinary model: student involvement, interdisciplinary short-term research and consultancy on a breadth of topics, and sustained funding. We used these three key features to guide discussions on the development of this model while simultaneously identifying existing models.

First, this report presents synthesized findings from KIIs. We discussed with key informants their involvement with interdisciplinary research to 1) understand the landscape and models of interdisciplinary research in India, 2) identify the need and gaps for interdisciplinary research in India, and 3) establish the facilitators and barriers to creating an interdisciplinary research collaboration model across Indian institutions. Second, we explored exemplar institutions and organizations identified by the key informants that are involved in interdisciplinary research across India. We extracted key features of their models that corresponded to our goal of enhancing and sustaining the interdisciplinary research environment in India. Third, we synthesized the collected information for all exemplars and compared their models and research breadth with support from the KIIs.

An overview of the entire project lifecycle, including pre-scoping objectives, project phases, meeting milestones, interim findings, final results, recommendations, and next steps, are outlined below in Figure 1.

**Figure 1: Overview of Project Lifecycle (January 2020 - August 2023)**



# Methodology

## KEY INFORMANT INTERVIEWS

We conducted key informant interviews to get information on building interdisciplinary partnership models in India. We initiated KIIs through Dr. Mukherjee, the country director at I-TECH India and our collaborator throughout this project and used snowball-sampling method to identify additional interviewees. The initial KIIs recommended other professionals whom they thought would be good to talk to or mentioned specific organizations which we then reached out to individuals from. Using this information, we synthesized themes to understand feasibility and adaptability of an interdisciplinary model in India. One recurring theme from the KIIs was that creating a new interdisciplinary model was not feasible given the current research environment in India, lack of substantial domestic funding, and existence of other organizations -- mostly private and internationally funded -- that are already carrying out interdisciplinary research. Thus, we shifted our KII guide (outlined in the Appendix) to explore already-standing exemplar institutions or organizations.

## EXEMPLARS IN INTERDISCIPLINARY RESEARCH

KIIs identified exemplar organizations involved in interdisciplinary research partnerships in India. These organizations and institutions were selected as they demonstrated a sustainable funding model of interdisciplinary research across India. We explored these exemplars through published and unpublished sources to better understand their organizational structures and identify the key features, including facilitators, barriers, and need gaps, that define their contributions to interdisciplinary research within the Indian context.

# KIIs

We interviewed eight key informants from a variety of institutions and disciplines including medicine, public health, and business (Table 1). The first segment of the interviews centered on understanding the importance of interdisciplinary research in India, personal experiences with interdisciplinary research partnerships, and exemplar institutions or organizations participating in interdisciplinary research in India. The second segment of the interviews discussed the potential of developing an institution-based interdisciplinary model in India, including identifying funding structures, coordinating centers, government inclusion, determination of research and geographical scope, and faculty and student engagement.

**Table 1:** Key Informant Interviews

NAME	DESIGNATION	ORGANIZATION
Dr. Anuradha S	Director and Professor of Medicine	Maulana Azad Medical College, Delhi
Neeraj Jain	Country Director	PATH, India
Dr. Amrita Misra	Director for Health and Nutrition	Project Concern International (PCI)
Dr. Sharon Buteau	Executive Director	Leveraging Evidence for Access and Development (LEAD), Krea University
Dr. Sarang Deo	Executive Director	Max Institute of Healthcare Management, Indian School of Business
Dr. Preeti Kumar	Director, Indian Institute of Public Health (Delhi) and Vice President-Health Systems	Public Health Foundation of India
Dr. Jaya Chakravarthy	Professor, Medicine	Banaras Hindu University
Dr. Anurag Agrawal	Dean, Biosciences and Health Research	Ashoka University

## IMPORTANCE OF INTERDISCIPLINARY RESEARCH

The KIIs explained that interdisciplinary research is an important aspect of research in India and progress cannot be made without it. Specifically, interdisciplinary research helps contribute to a comprehensive and integrated approach to public health problems and helps identify novel strategies or interventions to fill gaps. This kind of integrated approach helps to bridge the gap between research, policy, and practice and enhances the likelihood of effective implementation. One KII, Dr. Anuradha from Maulana Azad Medical College, Delhi, mentioned that she works in interdisciplinary research in a variety of ways. When she or another research team needs additional expertise, they will individually reach out to academic experts in that field for collaboration. She identified these collaborations to enhance synergy in expertise among researchers, as it leads to new research methodologies, improved data collection and analysis, and better interpretation and translation of the findings.



Similarly, another key informant mentioned that they are involved in interdisciplinary research via request of the state or central government. When the government has an interdisciplinary research project, they will reach out to researchers whom they want to collaborate with, but this was noted to take time and lack coordinating infrastructure. Multiple KIIs were involved in these collaboration requests and identified that it allowed for increased funding and resources. Working together on public health problems allows for shared resources, expertise, and infrastructure, optimizing the use of available resources and maximizing such impact. Additional examples of how KIIs are involved in interdisciplinary research are listed in Table 2 below.

**Table 2:** Key Informant Interviews: Interdisciplinary Research Examples

<p>Dr. Chakravarthy is a professor at Banaras Hindu University (BHU) and often works across disciplines in her work on Leishmaniasis. <b>BHU is a large institution with many different schools which helps to facilitate interdisciplinary research collaborations within the university.</b> Dr. Chakravarthy is also a part of a virtual group through BHU that brings partners together to discuss future research and implementation strategies.</p>
<p>Neeraj Jain works at PATH which is an interdisciplinary group that strives to advance health equity through innovation and partnerships. <b>PATH India has over 900 people working, making it an ideal environment to create partnerships and collaborations to further health research.</b> PATH has a substantial funding model with many funders, including state and central government, so utilizing their network has been a best practice to connect with other researchers and collaborators.</p>

## DEVELOPMENT OF AN INTERDISCIPLINARY RESEARCH MODEL

There were significant discussions during the interviews surrounding the feasibility and adaptation of an institution-based interdisciplinary research model. Initially, this model was proposed as a solution for the need of short-term research that would not necessarily be measured by conventional academic metrics but would further knowledge and inform investment in future research. The key informants stated that this kind of model would not be feasible due to the traditional pathways of research, which shifted the conversation to a model that would, ideally, work with the government and external clients to conduct high quality research, be interdisciplinary across institutions and topic areas, and include student involvement and training. Furthermore, utilizing an institution-based research model would be more economical than a private consulting agency while still engaging students and faculty to produce short-term high-quality analysis and feasibility studies.

There were several main themes that arose in almost all of the interviews including government involvement and funding. The government would have to be involved in the process, but maybe not always as a funder. There were mixed opinions on whether the state or central governments would be willing to fund this type of model. One key informant said the government may be interested in funding a model once it has been proven to yield high-quality results of needed research, but they would not likely fund the start-up of this model or maintain coordinating infrastructure. In order for the government to fund this kind of program they would have to see progress and a suitable working model. Another key informant mentioned that it does not matter if the government would fund the model or not, as sole-government funding would not be enough to sustain this type of interdisciplinary model. All key informants collectively mentioned that funding would have to be identified or secured before figuring out other aspects of the model. Funding can determine the scope of research topics and determine the geographic priorities. The amount of funding may also restrict the functionality of the model (coordinating center, motivating faculty, establishing partnerships, etc.), as well as the scalability of the model. For example, more funding would be needed to expand the model across multiple centers and institutions, instead of limiting it to one or two centers and/or institutions.

## FACILITATORS

Many of the KII's were excited about the opportunity for increased collaborative work, and a positive topic of conversation was around which type of researchers and institutions would be involved in such collaboration (Table 3). One KII mentioned that junior faculty or early-career professionals would be ideal faculty for this model as they have more time to devote to research and would be motivated through career-advancement and promotion opportunities. While on the other hand, building a team around top experts and renowned researchers and professionals would help to build recognition of the model and help find both funding and clients. Thus, a diverse range of faculty in different stages of their career and research fields would be beneficial to sustaining a model and carrying out interdisciplinary research.

Another topic that arose was the type of institutions that should be included in this type of model (Table 3). A KII mentioned that there are a lot of larger institutions that are conducting a lot of interdisciplinary research, just within the institution and not across institutions. Larger institutions have more opportunities for collaboration and have a diverse network. Thus, an interdisciplinary research model might be more feasible and beneficial at smaller institutions. This would benefit the institutions as they would be connected to other institutions and have opportunities to connect and collaborate, thus building new partnerships. Introducing a research model may also bring in resources for the school and students and increase student involvement in research. Lastly, KII's have concerns about incentivizing faculty to be a part of this model. KII's mentioned faculty are most motivated through; 1) progress towards promotion, 2) an increase in salary, or 3) a substantial

number of additional publications. But KIIs note that these incentives may not always motivate faculty and that the scale of the incentives may not be feasible for this model.

<b>Table 3: Facilitators of an Interdisciplinary Research Model</b>	
Time and Cost Efficiency	Utilizing an institution-based consortium would be cheaper and timelier than a consulting agency
Institutional Involvement	Smaller institutions may benefit from an interdisciplinary model as it would enhance connections and resources
Faculty Interest	Faculty would be interested in participating in interdisciplinary and collaborating across networks to further research
Faculty Engagement	Both junior and senior faculty would be good to engage: Junior faculty may have more time and motivation to engage, while senior faculty would help to build teams around top experts and build recognition
Faculty-Student Partnerships	Faculty would be interested in training and working with students in a more collaborative way

## BARRIERS

There was overwhelming support for increasing interdisciplinary research from KIIs, but many were hesitant about faculty being siloed in their research interests and not having time to be a part of an additional research model, as their priorities lie in teaching and clinical work (Table 4). While it is possible not to rely on clinicians, many KIIs stated that the Indian medical institutions were very immersed in the research landscape and produced high-quality research. While many faculty are excited about interdisciplinary research, they all seemed to be interested in collaboration on their specific research areas and not in methodologies or approaches to a multitude of topics. But, in order to create a strong and consistent team culture while learning from collaborators and partners, faculty may need to work across disciplines. The idea of selecting faculty across disciplines is not part of a traditional research model, and thus it may be hard to incentivize and get faculty excited about participating. Incentivizing faculty would most likely have to be an increase in salary, which would therefore require significant and sustainable funding to execute.

Another potential barrier mentioned was student involvement. Every KII was interested in increasing student involvement and training but brought up potential concerns about time and motives. First, all of the KIIs agreed that this type of research experience should be geared towards masters and doctoral students. A few KIIs were concerned that the master's programs were too short to get involved in long-term projects from this type of model, so doctoral students would be better suited. Students are also very busy with their classwork and individual research, and are often not paid, so

incentivization will be needed. A few possible incentives include 1) paying the students for their work, 2) incorporating the time spent on research into their program as part of a thesis, dissertation, or capstone, or 3) adapting the research model to be flexible for students and allow them to prioritize their classwork. Involving students in the model and incorporating training would ultimately benefit the quality of the research and accelerate research in India as it would be training the next generation of public health researchers.

The final barrier was related to the logistics of the model. As mentioned previously, the government needs to be involved in research prioritization, and substantial funding is needed to sustain the model. Thus, this type of model may not be scalable outside of one or a few institutions. Even with the funds and capacity to expand beyond one institution, Kils mentioned that collaboration between some institutions is difficult. It is generally easy to establish collaborations between public- to public-institutions, but it does not always work to start partnerships between public- to private- institutions. One key informant said that “I don’t think that the problem is that people don’t want to have interdisciplinary research, I think it is a question of the willingness to collaborate versus the pain of collaboration.” This speaks to the need for coordination, incentivization, and infrastructure to support collaboration. Government involvement also plays a role in the logistics of a model. Regardless of funding from the state and central government, they will be involved as a collaborator and client. Lastly, a coordinating center, consisting of trained finance and operations staff, would be necessary to handle the complexities of working with the government to get projects approved and establishing a well-rounded team to carry out the research.

In conclusion, there is a significant level of interdisciplinary research being conducted across India. Given the current research environment and the cost to develop and build a new model, it is impractical to develop a new model. Instead, it would be better to build on existing models that have successfully navigated the barriers discussed above.

Table 4: Barriers of an Interdisciplinary Research Model	
Funding	It will be very difficult to get a central or domestic funding, and project-specific funding will not be sustainable
Logistics	Establishing partnerships with institutions, researchers, and the government can take a lot of time from one project to another
Faculty Time	Faculty may prioritize clinical work, teaching, and other research, so it will be difficult to get dedicated time from faculty
Faculty Incentives	It will be difficult to find an incentive that motivates faculty, and most will require an increase in salary
Student Incentives	Students have little incentive to be involved as they are busy with classwork and are often not paid

Next, we will explore the exemplars in interdisciplinary research in India and discuss potential areas for future growth.

## Exemplars

Based on recommendations of KIIs and our review of published and unpublished sources, we have identified the following institutions and organizations that serve as exemplars of interdisciplinary research in India:

- Access Health India
- Ashoka University
- J-PAL South Asia
- Public Health Foundation of India
- Health Systems Transformation Platform

These organizations were identified as exemplary organizations and/or institutions because they are involved in interdisciplinary research within the health sector and have large, sustained funding models. Additionally, these organizations skillfully partner and collaborate with government agencies, academic institutions, non-governmental organizations, as well as national and international agencies to execute short-term projects and deliverables.

# ACCESS HEALTH INDIA

## Overview:

ACCESS Health is a think tank, advisory group, and implementation partner founded in 2007 in Hyderabad, India.<sup>1</sup> It collaborates with different government, donor organizations, and national and international researchers to address issues at the systems level and improve and strengthen the Indian healthcare system.

Their research and programs address issues like primary care, risk pooling, digital health, and strategic purchasing to drive quality and accountability. Their work aligns with the five Centers of Excellence at the Institute for Health Systems Strengthening (IHSS) as shown below in Figure 2. The benefits of this model are:

### 1) Strategic collaboration with different agencies to address the specific needs in India

Its collaboration with the Government of India's Pradhan Mantri Jan Arogya Yojana (PM-JAY) with implementation and financial support from international agencies like the Bill and Melinda Gates Foundation has enabled increased healthcare investments, policy recommendations, and digitizing healthcare information systems.

### 2) Diverse focus areas based on the Centers of Excellence at the IHSS

The diversified research interests support the diverse client portfolio and research needs as presented in the model above.

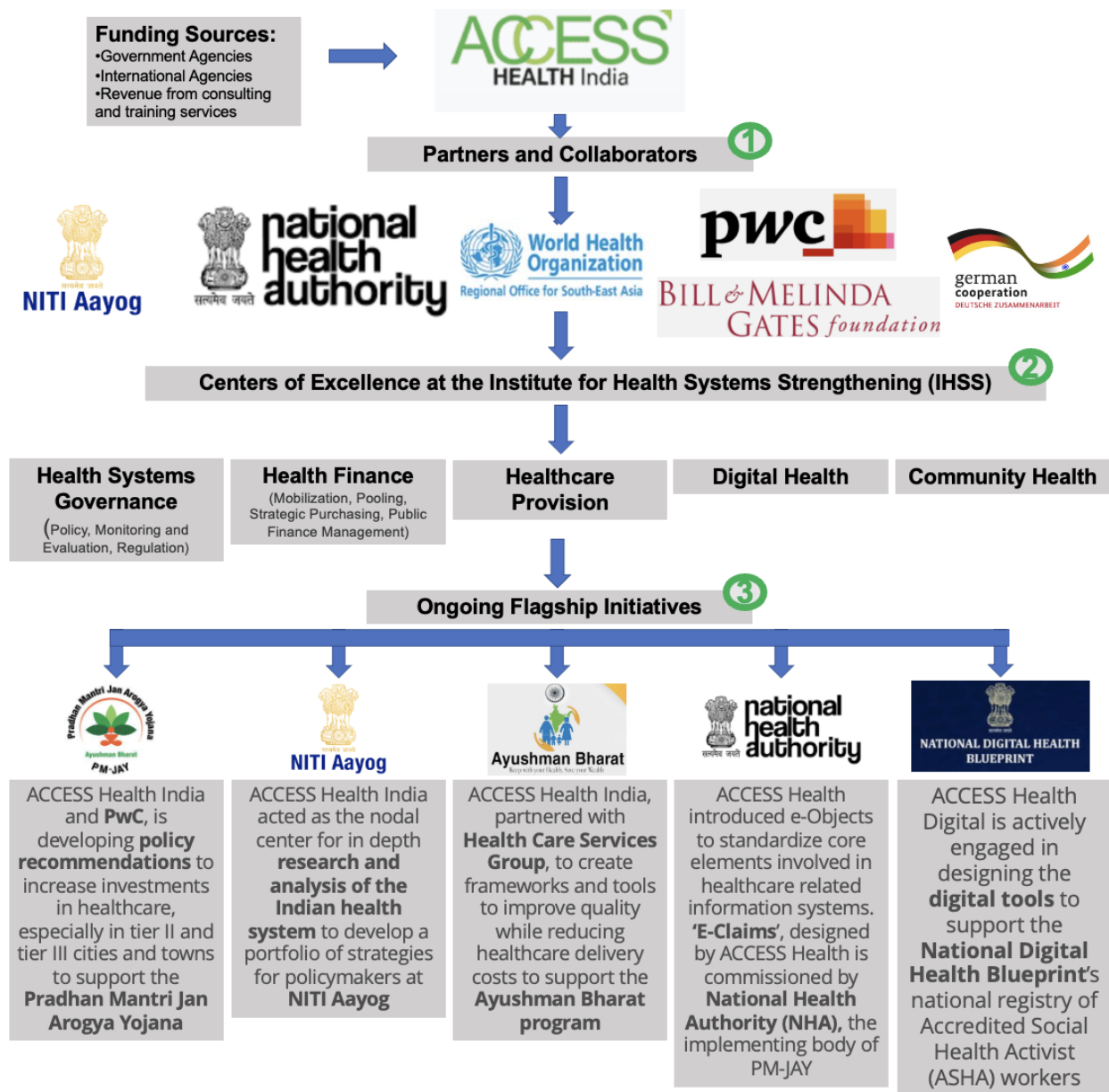
### 3) Flagship initiatives based on the needs of India

**Collaboration with the University of Hyderabad (UoH) for capacity building:** Both entered a formal Memorandum of Understanding (MoU) for capacity building, collaborative research projects and internships, academics and research in actuarial sciences, digital initiatives, and big data analytics in healthcare.

**Fintech Festival India<sup>2</sup>: Microexperience on Fintech for Health in Bangalore:** Co-hosted the Fintech for Health session to facilitate discussion of health finance concepts to enable people access high-quality care using digital financial services and a financial inclusion approach.

## Opportunities for improvements:

Opportunities exist in **increasing collaboration with academic institutions** as in the case of UoH and initiation of grassroot level projects can be further explored. MoU's with additional Indian academic institutions can **encourage student involvement** and ensure interdisciplinary collaboration while **grassroot level projects** can ensure impact evaluation post policy recommendations and proposed intervention implementation.



**Figure 2:** ACCESS Health India's model along with exemplar short-term projects executed in collaboration with the Government of India.

# ASHOKA UNIVERSITY

## Overview:

Ashoka University is India's first not-for-profit university built on collective public philanthropy.<sup>3</sup> It aims to provide quality education by leveraging internationally renowned faculty, international collaborations and partnerships, and superior fundraising capabilities. The model structure is based on the organizational and academic structure of Western academic institutions, as shown in Figure 3. The model structure and strengths of this model are described below:

### 1) Establishment of research centers:

Its collaboration with the Government of India's **Pradhan Mantri Jan Arogya Yojana (PM-JAY)** with implementation and financial support from international agencies like the **Bill and Melinda Gates Foundation** has initiated healthcare investments, policy recommendations, and digitized healthcare information systems.

### 2) and 3) Strategic partnership and collaborations with government and non-government entities:

- **"ASHOKA-IITD Collaborative Platform"** to initiate academic collaborations between IITD and Ashoka.
- **NITI Aayog** partnered with the Bill and Melinda Gates Foundation and Centre for Social and Behavior Change (CSBC) instituted the **Behavioral Insights Unit** to ensure informed policy design and implementation.
- For the project, "Improving Uptake of Iron and Folic Acid Supplementation Among Pregnant Women," CSBC collaborated with **RTI International** for a literature review of India's current context of anemia.

### 4) Project specific funding from clients/collaborators:

For the project, "Coaching the Ultra Poor," the **Government of Bihar** committed over INR 840 crore for the intervention scale-up to bring 100,000 families out of extreme poverty.

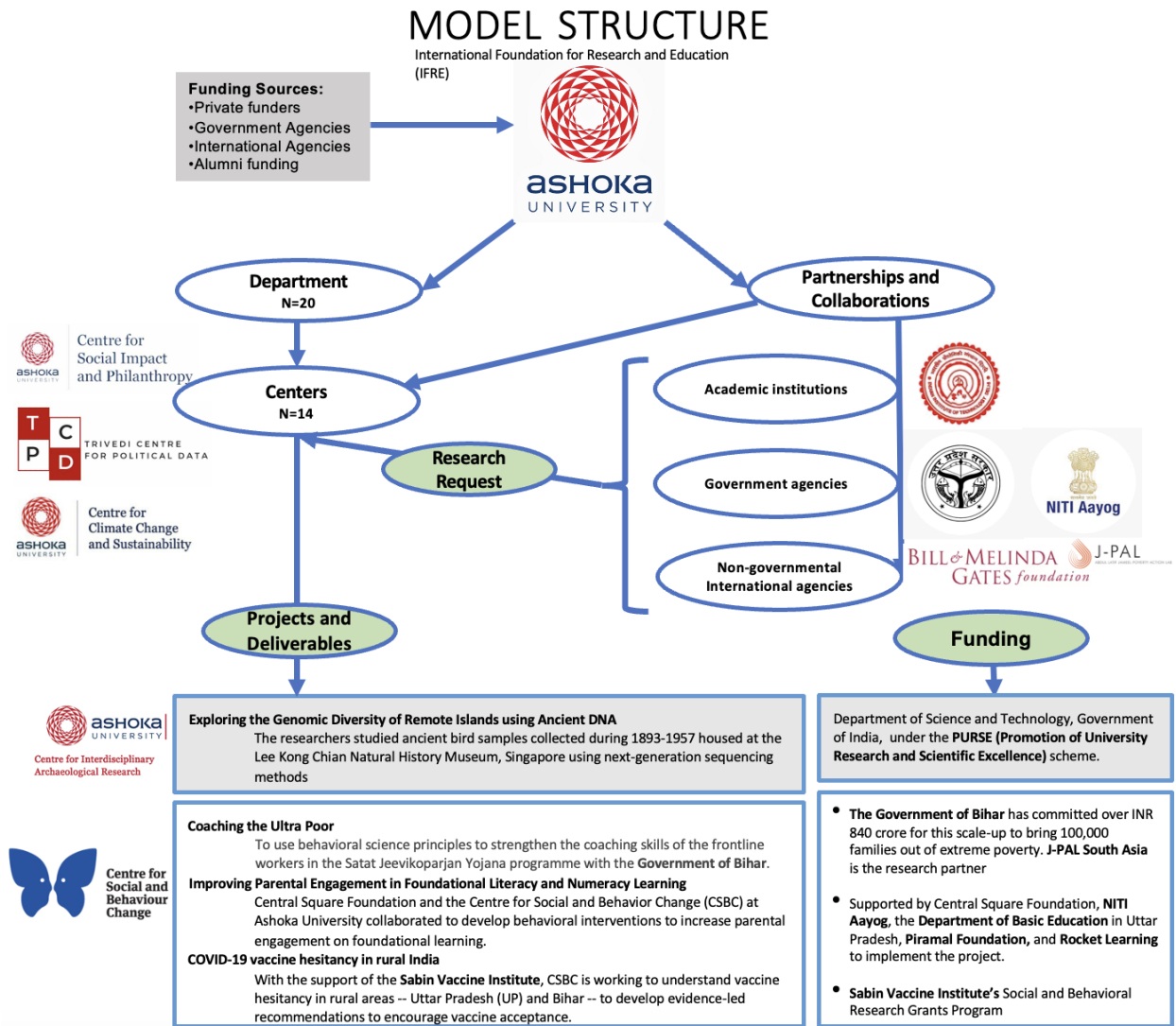
### 5) Execution of both long and short-term research projects and deliverables:

- Improving Parental Engagement in Foundational Literacy and Numeracy Learning (**Short Term: 2021-2022**)
- Improving Adherence to Iron and Folic Acid Supplementation in collaboration (**Long Term: 2018-Present**)

## Opportunities for improvements:

As the research is predominantly faculty and research staff-driven, **opportunities to increase student involvement** exist which can facilitate a START-like mentorship model providing students with valuable research and networking opportunities. Apart from that, **extending partnerships and strategic collaboration with other Indian academic or research institutions** – other than a select few prestigious institutions like the Indian Institute of Technology (IIT) -- will support national resource sharing and research collaboration.





**Figure 3:** Ashoka University's model along with exemplar short-term projects executed in collaboration with the government and international agencies.

# ABDUL LATIF JAMEEL POVERTY ACTION LAB (J-PAL) SOUTH ASIA

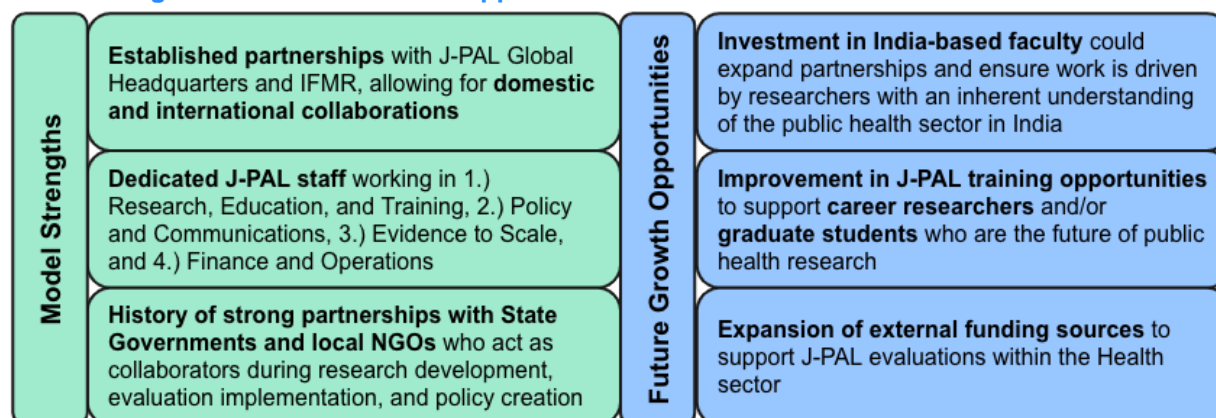
## Overview:

J-PAL is a global research center working to reduce poverty by **conducting randomized impact evaluations, building partnerships for evidence-informed policymaking, and ensuring the scale-up of effective social programming** through governments, NGOs, and private sector partners.<sup>4</sup> J-PAL South Asia, founded in 2007 and housed within the Institute for Financial Management and Research, serves as the regional office responsible for partnership development and evaluation implementation in Bangladesh, India, Nepal, Pakistan, and Sri Lanka. Since its founding, J-PAL South Asia has contributed 240 ongoing and completed evaluations in the South Asia region, including **53 evaluations specifically targeting the health sector**. An outline of J-PAL organization structure and a selection of relevant, completed evaluations are provided below in Figure 4.

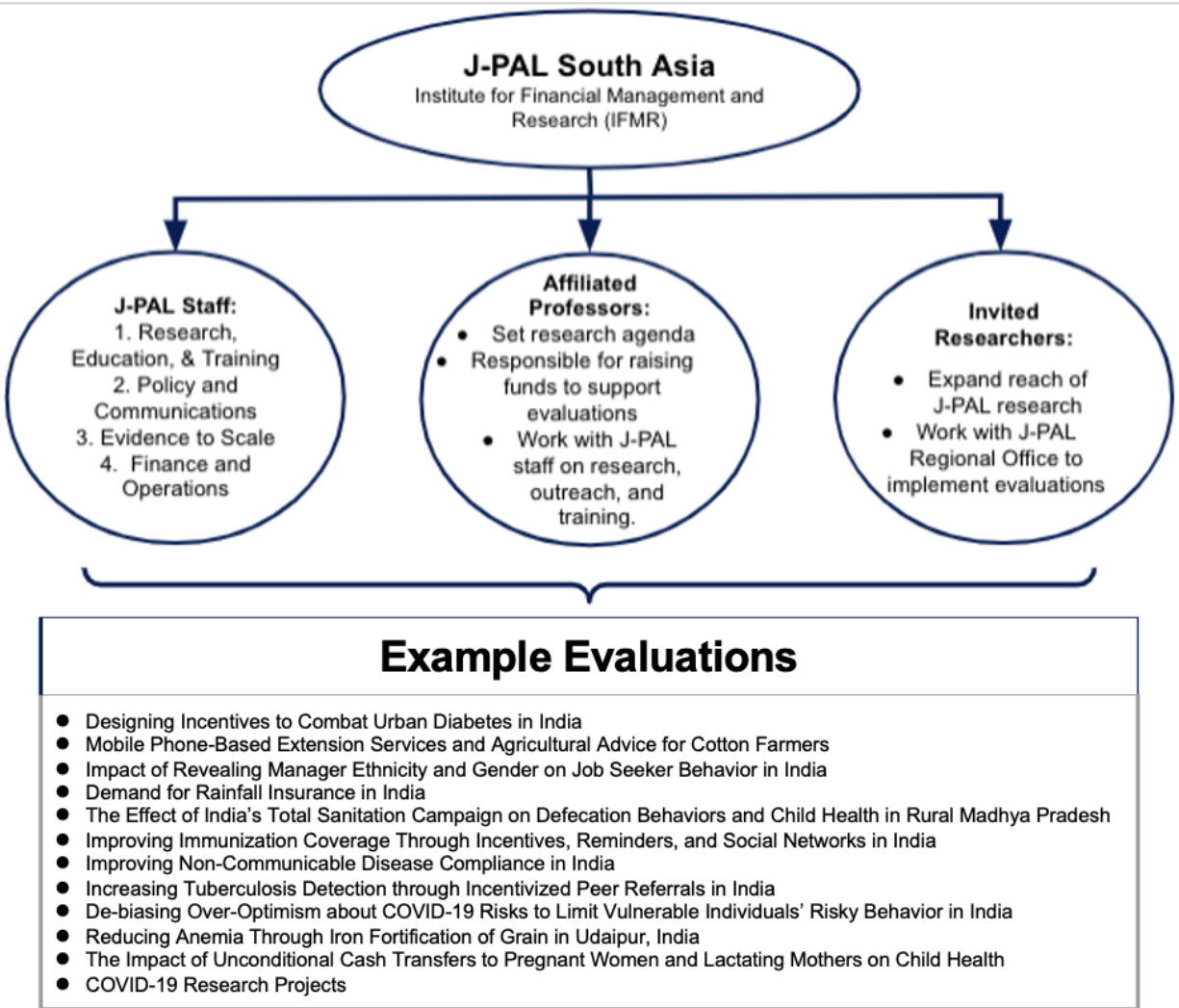
## Model Structure:

Unlike many research organizations and exemplar institutions, **J-PAL has a robust staff structure that can handle the logistical and financial considerations required to successfully translate research to policy decisions across participating organizations and collaborators**. Internal staff are funded directly by J-PAL and work alongside affiliated professors who set the specific research agenda and raise funds necessary to support evaluation work. Invited researchers, funded by J-PAL and originating from international academic institutions or relevant geographies where evaluations are actively occurring, work to expand the reach of J-PAL South Asia’s social impact within the region.

## Model Strengths and Future Growth Opportunities:



**J-PAL South Asia is uniquely positioned to support public health evaluations** informing local and national policy decisions through its **well-defined, interdisciplinary structure**. Although gaps in training and financial investments could improve organizational reach, J-PAL offers a track record of **established partnerships**, in combination with a **strong support staff structure**, that are not available elsewhere.



**Figure 4:** J-PAL's model along with exemplar projects executed in collaboration with the government and international agencies.

# PUBLIC HEALTH FOUNDATION OF INDIA (PHFI)

## Overview:

Founded in March 2006 by former Prime Minister of India Dr. Manmohan Singh, the Public Health Foundation of India (PHFI) aims to **strengthen India's public health institutional and systems capability and provide knowledge to achieve better health outcomes** for all by:

1. Developing the public health workforce and setting standards,
2. Advancing public health research and technology, and
3. Strengthening the knowledge application and evidence-informed public health practice and policy

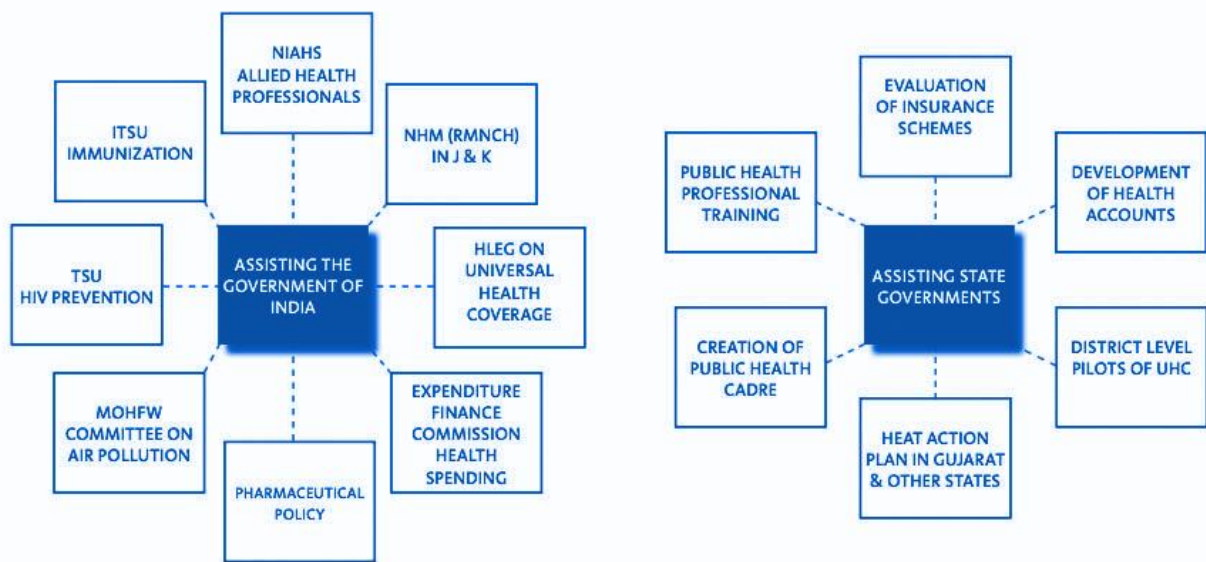
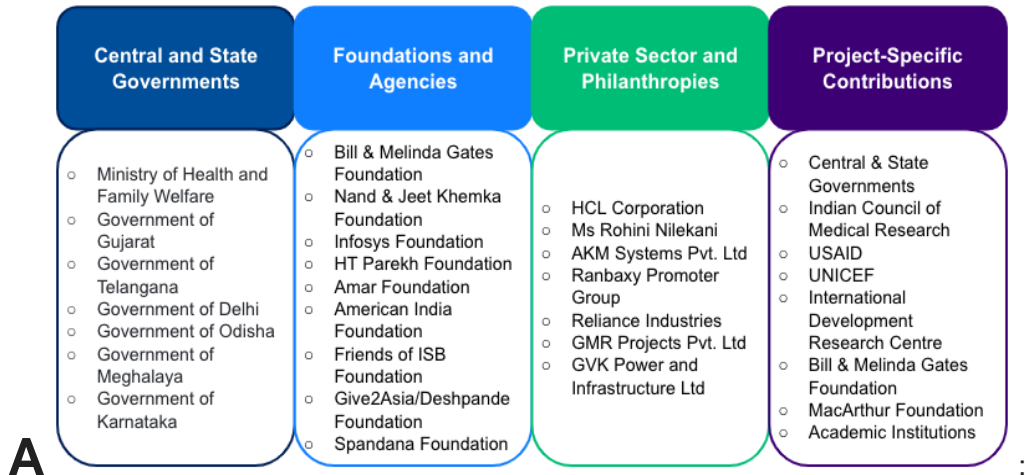
PHFI plays a transformative role in India's public health environment through engagement with an array of stakeholders, including the **central and state governments, national and international donors, academic and research institutions, and the communities PHFI works with.**<sup>5</sup> To ensure capacity building, PHFI and respective state governments created five **Indian Institutes of Public Health (IIPHS)** in Gandhinagar, Delhi NCR, Hyderabad, Shillong, and Bhubaneswar. IIPHS are envisioned as world class public health institutions capable of responding to public health challenges at the state-, region-, and country-level. **Working as an interlinked network, the IIPHS function as vibrant hubs for public health education, training, research and practice with a strong health systems connection.**

## Model Structure:

Research to advance policy and social programming remains a core activity, thereby driving the organizational structure of PHFI. To ensure strong research governance mechanisms and provide strategic directions on the broader research agenda, PHFI utilizes both a Research Advisory Council and Research Management Committee (RMC). **The RMC functions to coordinate research activities, policies, and processes across PHFI and all five IIPHS.** PHFI has a portfolio of over 133 ongoing research and implementation projects, with several multi-centric and multi-stakeholder studies. Priority research areas for central and state governments, in addition to Centers of Excellence at IIPHS, are provided in the figure to the left.

**Model Strengths and Future Growth Opportunities:** PHFI was established to provide necessary support to decision makers throughout the public health landscape of India. As such, PHFI's approach to collaboration with Central and State Governments has ensured its continual success in integrating interdisciplinary research across a range of public health topics. However, its internal research advisory systems allow for PHFI to drive the research agenda and hold the level of autonomy necessary to secure diverse funding support.

Outlined in figure 5 below, **PHFI receives operational and project-specific funding from government institutions, public health foundations, and private sector philanthropies that are not available among other exemplars in the Indian context.** Additionally, PHFI's establishment of IIPHS across India allows for **students and faculty to be active participants in public health research and translation to policy.**



**Figure 5:** A. PHFI’s diverse funding sources and B. PHFI’s model to support government agencies, including the four primary Centers of Excellence at IIPH institutions.

# HEALTH SYSTEMS TRANSFORMATION PLATFORM (HSTP)

**Overview:**

The Health Systems Transformation Platform (HSTP) is a not-for-profit organization aimed at **achieving the highest level of efficiency and quality in healthcare systems design in India through rigorous, evidence-based support to state-level institutions.**<sup>6</sup> Through its incubation by Tata Trusts, and in partnership with the Harvard T.H. Chan School of Public Health, HSTP nurtures a collaborative system that **fosters cross-learning and sharing of knowledge** to redesign and strengthen state healthcare systems in linkage with national policy decisions.

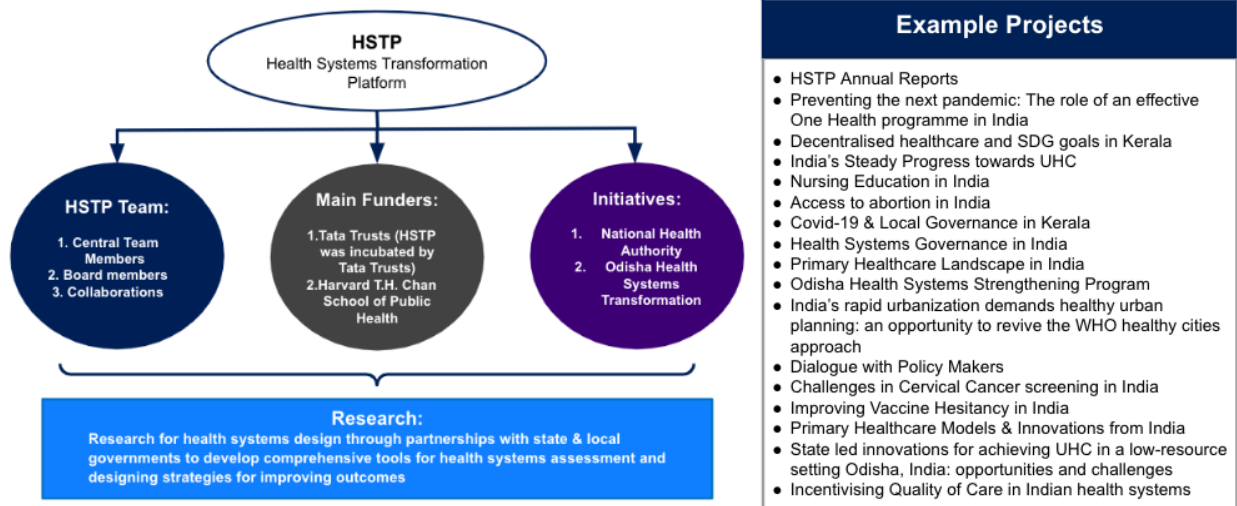
**Model Structure:**

Health systems strengthening research conducted by HSTP is supported through **HSTP Core staff, Tata Trusts advisors, and collaborators** from domestic and international organizations. HSTP Core Team members consist of senior-level management, researchers, consultants, and finance management staff. Additionally, HSTP offers the India Health Policy and Systems Research Fellowship which provides **an 18-month training opportunity for mid-career Indian public health researchers** to gain experience within the health policy and health systems strengthening space. As the primary funding donor for HSTP, Tata Trusts provides advisory services to ensure responsible management and statutory compliance. Collaborators, including Access Health International, National Health Authority, Indian Institutes of Public Health, and the Government of Odisha, **serve as strategic partners and may provide project-specific funding.** Primary research initiatives are outlined below.

Initiative Name	Strategic Partnership with National Health Authority	Odisha Health Systems Transformation	Exploratory Health Systems Research Studies
Collaborators	National Health Authority	Government of Odisha, Tata Trusts, Harvard School of Public Health, Indian Institute of Public Health, Bhubaneswar	Swasti, IIM Indore, Health Action by People (HAP), Government of Kerala
Primary Goals & Interim Results	<p>Expand health coverage to the “missing middle” population</p> <p>Establish PMJAY linkages to primary health care</p>	<p>Conduct evidence-based health system and policy analyses</p> <p>Suggest specific policy interventions to strengthen health systems in Odisha</p>	<p>Develop a framework for multi-sectoral integration for primary healthcare strengthening in urban settings</p> <p>Understand the role of local governance in improving health outcomes &amp; healthcare regulations pertaining to service delivery.</p>

**Model Strengths and Future Growth Opportunities:**

HSTP has several key strengths that contribute to its success as an interdisciplinary research model within the public health sector. First, a **robust staff structure** supporting project management ensures research success across project phases. **Support from collaborators, including the Bill & Melinda Gates Foundation,** via funding and strategic partnerships is **well established** at the present time. As other exemplars lack training opportunities, HSTP **fills a necessary capacity building gap by offering training fellowships for mid-career researchers.** Although current training opportunities do not include undergraduate or graduate students, internal HSTP infrastructure may allow for expansion of training initiatives to these populations, dependent on funding opportunities. [OBJ]



**Figure 6:** HSTP's model along with exemplar projects executed in collaboration with the state and local government agencies.

# Comparing Exemplars

## GOVERNMENT INVOLVEMENT

The involvement of government entities as funders, organizers, clients, and/or collaborators is essential in the success of each of the models presented above (Table 5). In all presented models, government agencies -- including National Health Authority, NITI Aayog, and state governments -- acted as clients with research requests or consultation requests dispatched to the respective organization/institution. They also acted as collaborators to approve and facilitate the research requests and to implement the recommended interventions and policies. For instance, one KII reported that government agencies commonly approached these institutions for monitoring and impact evaluations. Government involvement also varied greatly depending on the organization and funding structure as most private entities relied heavily on international projects, collaborations, and funding sources.

**Table 5:** Examples of Government Involvement across Exemplar Organizations

ASHOKA	ACCESS	J-PAL	PHFI	HSTP
<p>-Private</p> <p>- Strategic partnership with <b>NITI Aayog</b>, BMGF, and CSBC to institute the BIU of India.</p> <p>- <b>State BIUs (Uttar Pradesh and Bihar)</b> instituted to advance research and learning, design innovative behavioral interventions, improve on-ground indicators and build long-term capabilities.</p> <p>- <b>Chief Minister's Good Governance Associates Programme:</b> Collaboration with the Government of Haryana to facilitate young individuals to work with the Chief Minister's Office to</p>	<p>-Private</p> <p>-Strategic partnership with government agencies to modernize the Indian healthcare system.</p> <p>-Collaboration with specific government initiatives in areas of <b>policy recommendations, research, analysis, impact evaluation, digitization, and bespoke tools and framework</b> development.</p> <p>-Collaborators include:</p> <ul style="list-style-type: none"> <li>● Pradhan Mantri Jan Arogya Yojana (PMJAY)</li> <li>● NITI Aayog</li> <li>● Department of Health and Family Welfare,</li> </ul>	<p>-Private</p> <p>-Execution of long and short-term projects as requested by government agencies.</p> <p>- Government agencies invite J-PAL South Asia as a <b>thought and knowledge partner</b> to work collaboratively with state departments.</p> <p>-Through the <b>Innovation in Government Initiative</b>, J-PAL works with governments to adapt, pilot, and scale evidence-informed innovations with the potential to improve the lives of millions of people living in poverty in</p>	<p>-Public-Private</p> <p>-PHFI is an autonomously governed public private initiative registered as a Society under the Societies Registration Act 1860.</p> <p>-A <b>public-private initiative</b> working collaboratively with key stakeholders towards strengthening institutional and systems capacity and catalyzing change in public health in India</p> <p>-Five <b>Indian Institutes of Public Health (IIPHs)</b> in different states.</p>	<p>-Private</p> <p>-Incubated by Tata Trusts to be an <b>enabler of state-level capacity to diagnose, redesign and strengthen healthcare systems in the state</b>, with linkages to national policy.</p> <p>-<b>Memorandum of Understanding</b> between government agencies and HSTP to foster efficient collaboration.</p> <p>-Collaborators include:</p> <ul style="list-style-type: none"> <li>● Pradhan Mantri Jan Arogya Yojana (PMJAY)</li> <li>● Government of Odisha</li> <li>● Indian Institute of Public Health, Bhubaneswar</li> </ul>



<p>improve governance in the state.</p> <p>- <b>Child Rights Fellowship:</b> Collaboration with Delhi Commission for Protection of Child Rights (DCPCR) to engage young professionals in transforming the lives of children in Delhi NCR.</p>	<p>Government of Telangana</p> <ul style="list-style-type: none"> <li>Department of Health and Family Welfare, Andhra Pradesh</li> </ul>	<p>developing countries.</p> <p>- <b>Memorandum of Understanding</b> between government agencies and J-PAL to foster efficient collaboration.</p>		
---	--	---	--	--

## FUNDING

Sustainable funding is vital to the success of an interdisciplinary research partnership. As noted in the table below, all of the exemplar organizations pull funding from a variety of different sources including private funders, international agencies, and governmental agencies (Table 6). The large international and private funding partners are important as domestic and project-specific funding is not sustainable. There are little to no models solely funded by the Indian government. Per the KIIs, it can be hard to get the government to fund new models until they have high-quality research being produced, and the governments' funding mechanisms would not fully sustain a research model. Increasing government funding and inclusion in these types of models may increase public health capacity and create opportunities for short-term research projects aligned with the government's research interests. India is planning to set up a national agency to increase research across the country. Currently, less than 1% of all higher-education institutions in India conduct research, and state universities receive just 11% of the funds provided by the Department of Science and Technology's Science and Engineering Research Board (SERB), one of India's major research funding agencies.<sup>7</sup> Around 65% of the funding from the SERB goes to the Indian Institutes of Technology, which are owned by the federal government.<sup>7</sup> The ongoing planning to set up a national agency modeled after the United States' National Science Foundation in India to increase research capacity across the nation's thousands of universities, colleges, institutes and laboratories may support a sustainable funding structure for domestic research.<sup>7</sup>

**Table 6:** Examples of Funding across Exemplar Organizations

ASHOKA	ACCESS	J-PAL	PHFI	HSTP
-Not-for-profit philanthropic mission driven	-Not-for-profit -Funding sources:	-Not-for-profit -Funding sources:	-Not-for-profit -Funding sources:	-Not-for-profit -Funding sources:

academic institution -Funding sources: <ul style="list-style-type: none"> <li>• <b>Private funders (High net worth individuals; Non-Residential Indians, etc.)</b></li> <li>• Government Agencies</li> <li>• International Agencies (BMGF, Sabin Vaccine Institute, American Cancer Society)</li> <li>• Alumni funding</li> <li>• Academic services fees (tuition, technology, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>International Agencies</b></li> <li>• Government Agencies (project specific)</li> <li>• Consulting fees</li> <li>• Grants</li> <li>• Project specific funding</li> <li>• Partners and Collaborating organizations</li> <li>• Academic and Research Institutions</li> </ul>	<ul style="list-style-type: none"> <li>• <b>International Agencies</b></li> <li>• Government Agencies (project specific)</li> <li>• Consulting fees</li> <li>• Project specific grants</li> <li>• Partners and Collaborating organizations</li> <li>• Academic and Research Institutions</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Government Agencies</b></li> <li>• International Agencies</li> <li>• Project specific grants</li> <li>• Partners and Collaborating organizations</li> <li>• Academic and Research Institutions</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Private Funders (Tata Trusts and Harvard T. H. Chan School of Public Health)</b></li> <li>• Government Agencies (project specific)</li> <li>• International Agencies</li> <li>• Project specific grants</li> <li>• Partners and Collaborating organizations</li> <li>• Academic and Research Institutions</li> </ul>
---	--	---	---	--

## FACULTY AND STUDENT ENGAGEMENT

There are varying levels of student and faculty engagement across the five exemplars (Table 7). Faculty and students are a large part of Ashoka University, while the other exemplars do not have the same representation. This is due to the position of Ashoka as a University and thus has a lot of access to students and faculty. Some of the other exemplars have international reach or have international partners, so faculty range from Indian institutions to faculty within other countries. Similarly, most of the exemplars have student involvement such as fellowships, intern programs, or project-specific student collaborations. All KIIs specified interest in further engagement with students in interdisciplinary research and stated that it is important as it also serves as training the next generation of public health researchers along with experience for the students. Further engagement with students can be expanded throughout the exemplars and institutions. Lastly, there is also room for further engagement of and devoting more support to domestic faculty from India-based institutions to increase local perspectives to research being conducted in India.

**Table 7:** Examples of Faculty and Student Engagement across Exemplar Organizations

ASHOKA	ACCESS	J-PAL	PHFI	HSTP
-Superior student/faculty collaboration given the academic setting -Center specific research staff are	-Dedicated research staff for each geography of interest -Memorandum of Understanding with	-Dedicated research staff -Availability of J-PAL in-person, open-enrollment courses tailored to the needs	-Adjunct national and international faculty members -Superior student/faculty collaboration	-Dedicated research and consulting staff -Paid internship positions available for newly graduated students

<p>the main drivers of research</p> <p>-Center specific student involvement opportunities including participation in lab work, field work, and government funded programs</p>	<p>academic institutions to facilitate collaboration</p> <p>Eg: ACCESS Health International partnered with the University of Hyderabad towards building capacity in public health and healthcare management</p>	<p>of researchers, policymakers, and practitioners.</p> <p>-Internship positions available for students</p> <p>Eg: J-PAL MENA at The American University in Cairo (AUC) facilitates recruitment of summer interns to support student involvement in its research activities.</p> <p>-Collaboration of students in projects limited to Western nations and institutions.</p>	<p>through different academic programs</p> <ul style="list-style-type: none"> <li>• Post Graduate Diploma in Public Health Management (PGDPHM)</li> <li>• Two-year Masters in Public Health</li> <li>• Integrated MSc &amp; PhD in Health Informatics</li> </ul> <p>-Student Development Activities including scholarships and training opportunities to facilitate mentorship</p> <p>-PHFI Future Faculty Programme Fellowships to support faculty training</p>	<p>-India HPSR Fellowship Program to build the capacity of existing mid-level public health professionals to conduct Health policy and systems research.</p> <p>-The curriculum and training materials for India HPSR Fellowship Program are designed in collaboration with WHO Alliance for Health Systems and Policy Research, Institute of Public Health Bengaluru, Sree Chitra Tirunal Institute of Medical Sciences &amp; Technology, The George Institute for Global Health India, Nossal Institute for Global Health, Institute of Tropical Medicine Antwerp, &amp; India Health Systems Collaborative.</p>
---	---	---	--	--

# Conclusion & Recommendations

Kills were excited about the potential of building out public health capacity and increasing interdisciplinary research but concluded that a START-like model is not feasible in the Indian context at this time. There were many barriers to implementing this type of model, including lack of sustainable funding and time/motivation of faculty. **As such, Kills recommended that prioritization should be placed on improving existing models of interdisciplinary research in India, rather than creating a new model.**

The table below summarizes the current interdisciplinary landscape and the opportunities of improvement for a new model.

Areas	Current Landscape	Growth Opportunities
Short-term projects and deliverables	<ul style="list-style-type: none"> <li>Academia is squarely focused on long-term projects</li> <li>Lack of academic collaborators for short term projects</li> <li>Short-term projects or consulting opportunities outsourced to international non-academic agencies</li> </ul>	<ul style="list-style-type: none"> <li>Standing organization for rapidly addressing short-term research priorities in an interdisciplinary way</li> <li>Institution or organization-based consulting opportunities would be timely and cheaper</li> </ul>
Student involvement	<ul style="list-style-type: none"> <li>Limited to degree-related academic research and long-term academic projects</li> <li>Very limited opportunities for collaboration with research institutes and consulting agencies</li> <li>Lack of incentive compensation strategy for student involvement</li> </ul>	<ul style="list-style-type: none"> <li>Inclusion of students as collaborators or trainees in both long and short-term projects</li> <li>Incentivization of student involvement through mentorship opportunities, tuition benefits, provision of degree credits, work-study programs, etc.</li> </ul>
Collaborative infrastructure	<ul style="list-style-type: none"> <li>Interdisciplinary research is on as needed basis (e.g., faculty approach other faculty as needed for academic projects)</li> <li>Research institutes and center facilitate intra-institutional collaboration</li> <li>Absence of national consortium of academic institutions and partners/collaborators</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of a national consortium to support interdisciplinary research opportunities between academic institutions and partners</li> <li>Extension of existing collaborative infrastructure to include other Indian institutions (not just premier Indian academic institutions and international partners/collaborators)</li> </ul>
Training programs	<ul style="list-style-type: none"> <li>Traditional academic training models available to students</li> <li>Limited opportunities for capacity building through work-study programs, practicum opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Systematic training program to build capacity for future interdisciplinary research</li> <li>Incorporation of training programs into academic degree</li> </ul>

		requirements
Faculty involvement	<ul style="list-style-type: none"> <li>• Predominantly faculty driven research in academic institutions</li> <li>• Student mentorship opportunities limited to teaching and long-term academic research projects</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage interdisciplinary collaboration with Indian institutions (other than the select prestigious institutions like IITs, AIIMS, etc.)</li> <li>• Incentivize faculty collaboration</li> <li>• Inclusion of domestic faculty to boost student training as a “norm” across institutions</li> </ul>
Research consulting	<ul style="list-style-type: none"> <li>• Predominantly driven by international institutions and consulting agencies</li> <li>• Collaborations limited to industry experts, research staff, and select faculty members</li> <li>• Within academia, consulting opportunities are limited to specific centers and center-specific research staff.</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of an in-house consulting service combining faculty and student collaboration would be cost effective and efficient.</li> <li>• The service would also facilitate execution of short-term projects and deliverables.</li> </ul>

Through this work, we have identified several specific areas where the ICO, among other public health decision makers in India, could focus efforts to improve or expand the impact of exemplars performing important interdisciplinary research. First, student involvement is central to addressing capacity concerns and ensuring the next generation of public health professionals are trained to collaboratively manage future health systems. Several exemplars, including J-PAL South Asia and HSTP, do not currently include students in their training models while Ashoka University and PHFI have made advances to include graduate student engagement at various stages of research development. However, there remains room for growth given traditional educational systems that limit student involvement in short-term projects. **Incentivization of student inclusion, including specific funding allocations for student involvement or updating educational policies to allow graduate students to use their participation to meet degree requirements like thesis, dissertations, or capstone projects, could reduce the “barrier to entry” for many of the exemplars outlined in this report.**

Second, ensuring that exemplar institutions have the appropriate resources to coordinate interdisciplinary research is vital for their continued success. Institutions with clearly defined staff structures responsible for coordinating project logistics had increased flexibility to build out institutional capacity and adapt to the changing needs of the Indian public health sector. Operational funding, rather than project-specific funding alone, is necessary to ensure long-term sustainability of these models. **We recommend that funding sources invest in an organization's ability to perform interdisciplinary research through several means, like ensuring a robust finance and**

**operations staff structure in the form of a coordinating center and the allocation of financial resources to build and maintain collaborative relationships with government, academic institutions, and the private sector.**

Third, **investigating novel strategies to incentivize faculty involvement will be vital to ensure interdisciplinary research is given space within the public health sector.** Several exemplars have taken unique approaches to incentivization. J-PAL South Asia funds invited researchers from the South Asia region to implement evaluations in the specific geographies they work in.

Additionally, the Health Systems Transformation Platform supports the India Health Policy and Systems Research Fellowship, allowing mid-career Indian public health researchers to gain experience within the health policy and health systems strengthening space during an 18-month training program. However, additional approaches linked to funding opportunities and professional recognition could be necessary for future uptake by early- and late-career professionals.

# References

1. Access Health India. Accessed July 30, 2023. <https://accessh.org/india/>
2. Access Health. What is Fintech For Health? . Accessed July 30, 2023. <https://fintechforhealth.sg/what-is-fintech-for-health/>
3. Ashoka University. Accessed July 30, 2023. <https://www.ashoka.edu.in/>
4. The Abdul Latif Jameel Poverty Action Lab South Asia. Accessed July 30, 2023. <https://www.povertyactionlab.org/south-asia?lang=en>
5. Public Health Foundation of India (PHFI). Accessed July 30, 2023. <https://phfi.org/>
6. Health Systems Transformation Platform. Accessed July 30, 2023. <https://www.hstp.org.in/>
7. Conroy G. Can India's new billion-dollar funding agency boost research? *Nature*. 2023;619(7971):681-682. doi:10.1038/D41586-023-02336-8

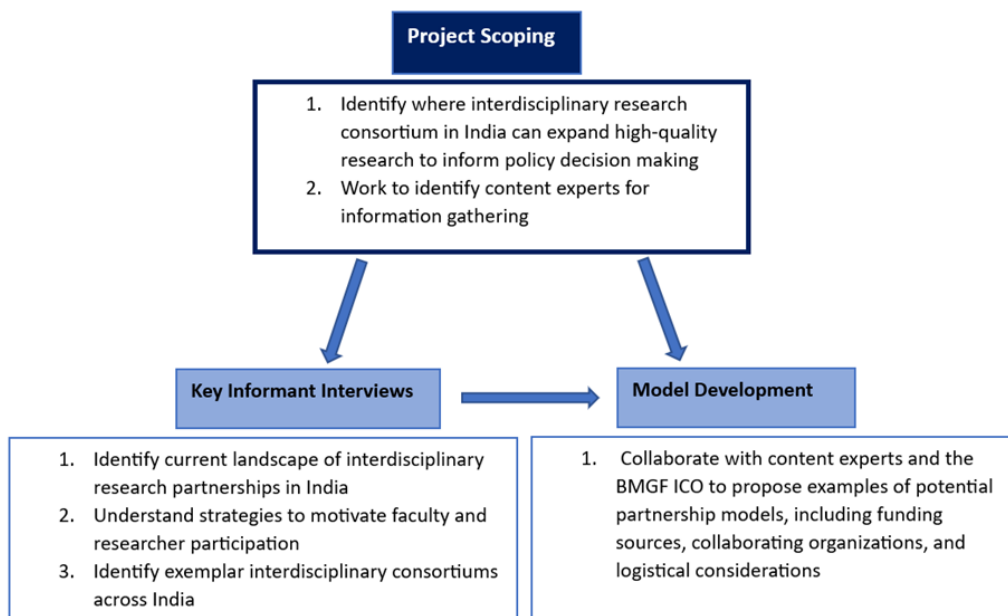
# Appendix

## Key Informant Interview Guide:

The START Center is a research consulting group at the University of Washington, Seattle, USA which leverages content expertise from across the University to provide high quality research and analytic support to the Bill & Melinda Gates Foundation, Washington State Department of Health, Abbott Labs, as well as to other public health decision makers, both globally and in the United States. The START Center also provides structured mentorship and training to University of Washington graduate research assistants.

### Goal

The goal is to discuss the need and logistics of an interdisciplinary research consortium in India. We aim to identify gaps that could be filled using an interdisciplinary research consortium, identify existing partnerships in India and/or exemplar consortiums, and their barriers and facilitators, and possible strategies or incentivization to motivate faculty to be a part of the consortium.



### Value

The value of an interdisciplinary research consortium would include: 1) utilizing research strengths from various faculty to solve public health questions in India, 2) building collaborations among institutions of different expertise, and 3) using high-quality research to inform policy decision making.

### Objective

The objective of this interview is to better understand interdisciplinary collaborations in the Indian context. The interview is expected to last between 45-60 minutes.



## Interview Questions

### **Section A: Introductions**

*The interviewer should provide a brief introduction of the project (outlined above) and allow time for RAs and interviewee to give brief introductions.*

Notes:

### **Section B: Need for Interdisciplinary Research Partnerships:**

*This section is to focus on why many research projects are not getting translated to implementation at program level or policy change*

1. What gaps do you think an interdisciplinary research service would fill in India? What is the need?
2. In what situations would you call on an interdisciplinary research service to assist you with a project?

### **Section C: Personal Experience with Interdisciplinary Research Partnerships**

*This section will focus on identifying the interviewees personal experience working within or adjacent to various interdisciplinary research partnerships. If the interviewee has experience, please follow the questions under “Yes, they do have experience”; if the interviewee does not have personal experience, please follow the questions under “No, they do not have experience”.*

1. One of our goals for this interview is to understand any personal experiences you may have working within or adjacent to interdisciplinary research partnerships. These partnerships could be between yourself and academic institutions, for-profit or non-profit private organizations, non-governmental organizations, or national- and state-level governments. **Do you have personal experience with these interdisciplinary partnerships in the context of public health and/or public policy research?**
  - a. **If “Yes, they do have experience”:**
    1. Could you please describe the specific partnerships you’ve worked with, including which organizations were involved and the primary outcomes supported through this work?
      - a. What was the motivation for the specific partnership?
      - b. Who was the audience for the research findings?
      - c. What organizations funded the interdisciplinary work?
      - d. What topics did the research consortium focus on?
      - e. How were individuals incentivized to participate?
    2. What facilitated the success of these partnerships?
    3. What were perceived barriers to the success of this work?
      - a. In regard to the model of this interdisciplinary partnership, what are the barriers and facilitators?
    4. Did you work with national- or state-level government agencies as either a client or a collaborator?
      - a. If yes, what did the government involvement look like?
      - b. What were the barriers and facilitators to your work with the government?

- c. If “No, they do not have experience”:
- 5. Would you be interested in participating as a collaborator in a theoretical interdisciplinary research partnership amongst multiple organizations?
  - a. If yes, what value would these partnerships bring to your work?
  - b. If not, what are the specific reasons why you would not want to participate?
- 6. What would make an interdisciplinary research partnership model successful in India?
  - a. How would this be built into the current research environment?
  - b. How would you recommend a partnership like this be funded?
  - c. What would successful incentivization look like?
- 7. How would you recommend working with national-or state-level government agencies as either a client or collaborator?
  - a. What are the potential barriers and facilitators that are important for a successful partnership?

Notes:

#### **Section D: Potential Models in India**

*This section will focus on identifying potential model approaches that may work from the perspective of the interviewee.*

#### **Funding**

- 8. Who should be the primary funder?
- 9. Would the government fund an interdisciplinary research model? State-government?
- 10. In India, what are good practices and barriers to receiving funding?
- 11. In your experience, what kind of funding model would be most successful (project-specific, central funding, etc.)?

#### **Coordinating Center**

- 12. How could we leverage a coordinating center in this model (to be in charge of operations, receiving research requests, forming research team, etc.)
- 13. What would incentivize an institution or organization to want to be a coordinating center?
- 14. How will the coordinating center effectively communicate with institutions and faculty to form a research team (consortium work may be difficult without request from the central government)?
- 15. Do any institutions or organizations come to mind who may be a good coordinating center?

#### **Government Inclusion**

- 16. Government will be involved in this program, how would you recommend they be involved (client, collaborator, funder, etc.)
  - a. Central government vs. State government?
- 17. What is the incentive for the government to use this research service?
- 18. How can we showcase that the government will be engaged long term, aside from research requests?

#### **Determination of Research and Geographical Scope**

19. Are there any institutions or organizations that you think should be included as part of the interdisciplinary research consortium?
  - a. What about these organizations would make them a key contributor to the partnership?
20. We want to include public health and policy topics, along with implementation work. Are there other topics that you feel should be included?
21. What would the scalability of these partnerships look like?
22. Do you have any concerns about the feasibility of an interdisciplinary research partnership in India?

### Faculty and Student Engagement

23. Are there specific reasons why faculty from across universities would be interested in joining this model?
24. What would motivate faculty to engage in this type of program?
  - a. Specifically, what would you need to engage in an interdisciplinary research partnership?
  - b. Do you think faculty engagement incentivization varies based on research expertise (public health, business, modeling, etc)?
25. While this would be faculty-led, we want to involve students as an opportunity for collaboration and training. How can faculty ensure inclusion of students (most likely PhD)?
  - a. What are some facilitators and barriers to student engagement?
  - b. What would incentivize students to participate?
26. Any other comments or questions

Notes:

### Section E: Landscape of Interdisciplinary Research Partnerships in India

*This section will focus on identifying the interviewees general knowledge of interdisciplinary research partnerships in India. If the interviewee has previous knowledge, please follow the questions under "Yes"; if the interviewee does not have previous knowledge, please follow the questions under "No".*

27. In addition to understanding your personal experiences, we are also interested to know more about the general landscape of interdisciplinary research partnerships in India across all sectors and organizations. **Beyond what we've already discussed, are you aware of any additional examples or exemplars of interdisciplinary research partnerships in India that could serve as a basis for future models?**

Notes:

## Section F: Next Steps & Additional Considerations

*The interviewer should provide a brief overview of future project directions and allow the interviewee to share last minute thoughts.*

28. Do you have any additional questions or comments for our team at this time?

Notes:

**Thank you for your time!**

### Questions to send ahead via email to the interviewee

1. Do you have personal experience with interdisciplinary partnerships in the context of public health and/or public policy research? What were some of the benefits? What made it work? What were the challenges?
2. Are you aware of any additional examples or exemplars of interdisciplinary research partnerships in India that could serve as a basis for future models?
3. Are there specific models or approaches that you believe would lead to successful implementation and use of interdisciplinary research partnerships, specifically within the field of public health and health policy? What are some of the facilitators and barriers? What could be the funding model?
4. What would motivate faculty to be a part of the consortium? Do you think including student mentorship would be a factor? Incentivization schemes? What are some key characteristics of institutions that would be successful participating in a training program?
5. Any other thoughts or concerns?