Transforming Primary care through Collaborative Action

Insights from the Virtual Roundtable

5 February 2021 at 15:00-17:00 IST

About the Roundtable

Communicable diseases contribute to 27% of the total disease burden in India[1]. 4.4 lakh people died in 2018 alone due to Tuberculosis, contributing to 29% of the total deaths due to Tuberculosis in the world[2]. The challenge is especially acute in select geographies, considering that 60% of all deaths due to Communicable diseases in 2016 were in the Empowered Action Group States (Bihar, Jharkhand, UP, Uttarakhand, MP, Chhattisgarh, Orissa and Rajasthan)[1]. As of February 2020, COVID-19 has resulted in 1.1 crore reported cases and 15 lakh deaths in India alone. It has also pointed out the urgent need to strengthen our public health systems against current and emerging infectious diseases.

At the same time, there are current and emerging innovations that focus on prevention, screening, early diagnosis, effective treatments and robust surveillance - all of which help minimize the disease burden of infectious diseases. However, these innovations continue to face challenges in achieving population scale. Enabling these innovations to achieve wide adoption across public and private healthcare providers requires diverse stakeholders to collaborate to establish effective pathways to scale.

Sattva with India Health Fund brought together Indian and Global Foundations, Government, Not-for-profit and Private sector leaders to discuss the role of innovations in strengthening health systems and collaborative approaches to scale innovations that will enable us to strengthen primary healthcare systems on 5th February 2021. The discussion sought to focus on key priority areas to focus on, key challenges and the role of the governments, strategic philanthropy, and private market & service providers in addressing the same.

Summary of the key insights

Multi-disease approach, with a strong focus on convergence in primary care, is critical to address the challenge of infectious diseases

Figure 1: Key levers to address Infectious diseases at scale

A multi-disease approach enables a scalable and effective model to address a wide range of current and emerging infectious diseases. The disease landscape is evolving and there has been an emergence of diseases such as SARS, Nipah, Ebola and Rift Valley Fever at population scale. In many cases, coinfection of multiple diseases is becoming common such as in the case of TB and other infectious diseases (E.g., HIV, Hepatitis). Hence taking a patient-centric view across multiple diseases is inherently more effective, especially in Primary care.

Secondly, **multi-disease approach helps us make the most out of the current primary care infrastructure**. While the government is significantly ramping up the primary health infrastructure, currently there are only 40,137 HWCs operational against target of 1.5 lakhs[3]. A single disease

[1] India:Health of Nation's States, ICMR and PHI,2017
[2] Global Tuberculosis Report
[3] Ministry of Health and family Welfare

approach results in trade-offs during emergencies offsetting progress achieved over years. For instance, there was a 78% decrease in number of patients detected with TB and 69% reduction in standard immunization care during lockdown as compared to 2019[4].

Thirdly, a **stronger primary healthcare system helps reduce the burden on the tertiary healthcare facilities**. Lack of effective systems around prevention and screening results in higher incidence and preventable hospitalisation. During COVID-19, Screening and Diagnostics solutions designed for Tuberculosis and other conditions were found to be relevant to address COVID-19 thus holding promise for solutions that can support in screening and diagnosis of multiple diseases.

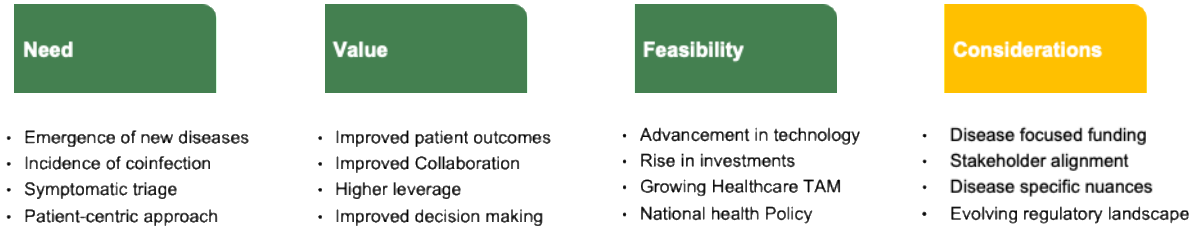

Figure 2: Key enablers and considerations towards a multi-disease approach

Realizing a multi-disease approach requires a holistic, systemic view to ensure effectiveness

Shifting to a multi-disease approach requires a patient-centric paradigm, which has implications across technology, policy, people and funding allocation.

Firstly, it is important to **build the capacity of last mile workers** to ensure effective implementation of solutions. Community health workers are currently mapped to a disease specific approach and will need to be upskilled to engage with a wider range of healthcare focus. In addition, with the advent of technology focus, the last mile workers should combine the understanding of the technology solutions with the human element that is necessary for engagement and adoption of these solutions. There has been a strong focus on enabling the last mile workers towards improving consumer behaviours.

> *Community health workers are mapped in a disease specific manner and therefore one key innovation would be to upskill these workers to deal with different kinds of infectious diseases-* ***Patrik Silborn***

Secondly, there is a need to envision **health systems as a Hub and spoke model** where the district / state headquarters are leveraged as hubs and effective last mile solutions are deployed through front-line workers. Last mile solutions can be linked to hubs for expertise & data consolidation. Establishing nodal units that are interconnected to provide a holistic body of data will bring greater effectiveness and efficiency in the system. For instance, TCS foundation's Tata Digital Nerve Centre initiative has been implemented successfully in 3 states and it has a network of 3 million people. Establishing such a model also helps adopt relevant solutions that are tailored to the local context. Similarly, 5C Networks partnered with GE to interpret and analyse data at the last mile (in small towns) by aggregating it at a central level. This eliminated the need to hire radiologists across towns.

Thirdly, it is critical to ensure a **combination of Top down and Bottom-up approaches**. For instance, while there should be a strong focus on strengthening primary health care facilities to become the single touch point with strong referral linkages, it is equally important to work on the underlying infrastructure such as financing, payment, public and private partnerships and regulation. Similarly, existing systems should be wired to interact with each other to share both structured and unstructured data to build a holistic patient-centric focus.

Finally, a multi-disease approach requires a high level of collaboration across diverse stakeholders and convergence of existing initiatives to unlock its true potential.

[4] Collated data from Lancet journal, National Medical Health Survey, World Bank, NSSO, and Indian government data

There is a need to have a life care approach which is patient centric and then look at the supporting system which enables it - ***Balaji Ganapathy***

While technology holds promise, there is a strong need to be value centric while evaluating new and existing innovations

There is currently a **strong interest in driving technology innovation in Healthcare**. Approximately 5000 start-ups raised USD 500 MN in 2018 in the Health-Tech space[5]. There were $40 billion technology deals by Incumbents around data & analytics through longitudinal engagement with patients. At the same time, Government is creating an enabling environment to promote the scale of innovations through the National Digital Health Blueprint. Organisations such as C-CAMP and BIRAC have invested significant effort and resources to build a strong pipeline of relevant innovations.

Technology can also play a huge role in rolling out faster implementation of screening and diagnostic initiatives at large scale using multi-disease platforms and by developing the capacity of healthcare workers.
- ***Dr. Neeraj Dhingra***

There are **specific areas where technology can play a significant role in Infectious diseases**. For instance, new screening tools can simplify complicated screening tests and reduce response time. Surveillance using multivariate analysis can be used to mitigate an outbreak or detect a new disease. AI technology has the potential to ensure connectivity across states and centres to share data and provide alerts on diseases. Point of care devices or solutions that can be self-administered by end-users can help ease the regularity of treatment.

Technology can also strengthen the last mile workers' ability to **engage patients effectively and ensure stronger adherence to treatment**. For instance, Biosense, in partnership with the Maharashtra government, screened expecting mother and caregivers on anaemia and handed them small print outs of the haemoglobin levels so that the women were aware of their condition. This enabled higher adherence to iron tablets prescriptions. In addition, Technology can be leveraged to gather the data at source, analyse and understand the pattern of diseases, their origination and spread. This is especially important at the foundation level of health rather than the foundation level of disease.

Despite the interest of innovations, it is critical to ensure a **value centric approach towards these innovations**. For instance, effective solutions do not always need high end technologies such as AI, ML or wearables, which may not be scalable for masses. Portable devices based on existing and indigenous technologies can be more scalable. Similarly, there has to be an equal focus on scaling existing innovations rather than look to invest in new innovations. There is a need for affordable technology to be able to achieve scale. For example, an indigenous camera, which is available at a fraction of cost can be more impactful compared to imported devices. The design of the solution should ensure it accessible for both rural and urban areas right from the initial stages.

Combining clinical validation with community validation provides effective pathways for innovations to scale

Technology innovations continue to face challenges in effectively translating from lab to field at scale. Markets and mainstream investors look for three key outcomes to enable mainstream adoption: **Successful clinical validation, Unit economics that enable scale and clarity and deep understanding of the target end user**. However, lack of access to essential resources, investments for demand creation, expertise, and networks impede enterprises to achieve these outcomes.

[5] Inc 42

Figure 3: Key challenges faced by Innovations in achieving scale

BIRAC has designed a platform for innovators to discuss challenges with representatives from regulatory institutions such as ICMR, GEM portal. BIRAC is working with state governments to develop beds for validation
- Dr. Shirsendu Mukerjee

In addition to these challenges, there are **operational challenges that impede adoption.** The effectiveness of solutions have been impaired due to varied quality of service delivery. Similarly, there have been instances on the ground where operators of technology innovations fear being held responsible for any mishaps that happen in their supervision and hence refer patients directly to hospitals.

Government is working towards mitigating these challenges that the entrepreneurs face by providing grants, developing platforms for easy access to regulatory institutions/ representatives and ensuring provision of testing beds. Strategic Philanthropy and civil society have established wide networks across the country to drive quality implementation at scale. Private markets bring in a strong focus on unit economics and scale. Hence, **it is critical for all stakeholders to work together to create the scale pathways.**

This can happen through a two-step process - **Clinical validation** ensures innovations meet the clinical and design regulatory frameworks across both the design and process. **Community validation** involves working with private markets, government and Philanthropy to validate the solutions at a meaningful scale. Community validation enables the solution to demonstrate readiness at the last mile and unit economics at scale. Post the two-step process, innovators are equipped with essential details to engage both the private and public markets.

Another key benefit of the Community Validation is **creation of data at scale.** Lack of data is a key challenge faced by the entire ecosystem. While data on the number of deaths is available there is lack of data on the intensity of diseases and their spread. Community validation enables testing at a meaningful scale to validate the innovation and create a relevant body of data.

Strategic philanthropy can play a role in bridging the gap by providing funds for testing at a meaningful scale
- Sandeep Singhal

While innovative finance instruments can help attract diverse capital sources, it is critical to ensure the onus on the entrepreneurs

There has been a rise in public funding towards supporting innovations. Government has been providing multiple grants, while also working with multiple states to ensure adequate support at the clinical validation stage too. At the same time, private markets have made investments in taking to solutions to scale. The **challenge has been the valley of death between the two sources of funds** that has resulted in stagnation of multiple innovations.

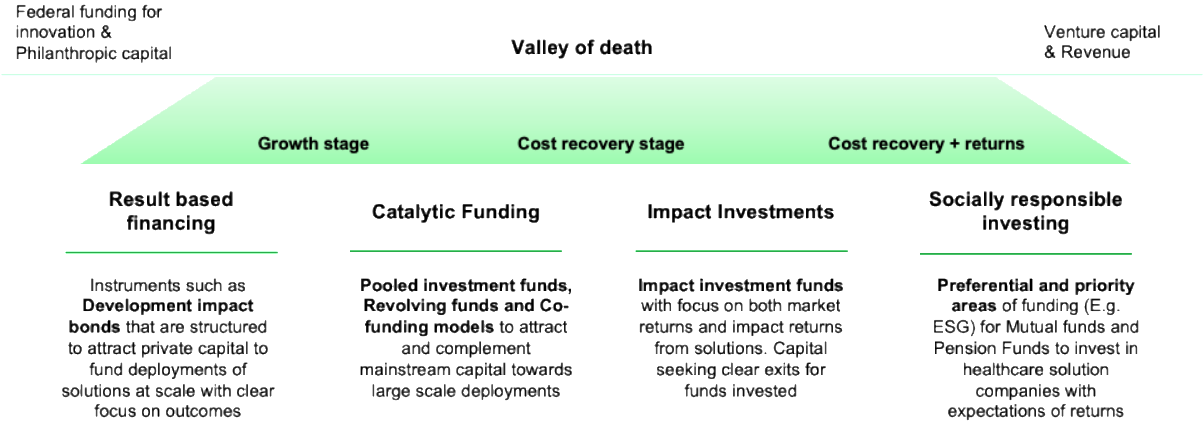

Figure 4: The role of innovative finance to enable innovations through the valley of death

Innovative finance offers a way to blend private, public and philanthropic capital in various forms that enable the right level of risk capital across different stages of the innovations. A critical success factor to ensure the success of innovation capital is to **ensure that the onus to achieve outcomes is on entrepreneurs** unlike in existing instruments such as Development Impact Bonds. Innovative financial tools like Social Impact Incentives (SIIs) put the onus of the success of the solution/business on the entrepreneur by orienting them towards the market. **Complementing the innovative finance instruments with active engagement with government authorities and private markets** is essential to ensure long-term adoption. For instance, informing the regulatory authorities in the initial stages about the effectiveness and expected outcomes from the pilot will reduce implementation time and improve collaboration in the public markets.

There are global synergies to be leveraged towards greater impact of both homegrown and global innovations

Communicable diseases are a global challenge, and it is hence critical to leverage innovations, across the global and local landscape, for the greater good. Innovations looking to scale globally need support in **access to global networks, funding for scale, support in adhering to the global regulatory ecosystem and enablement at the last mile**.

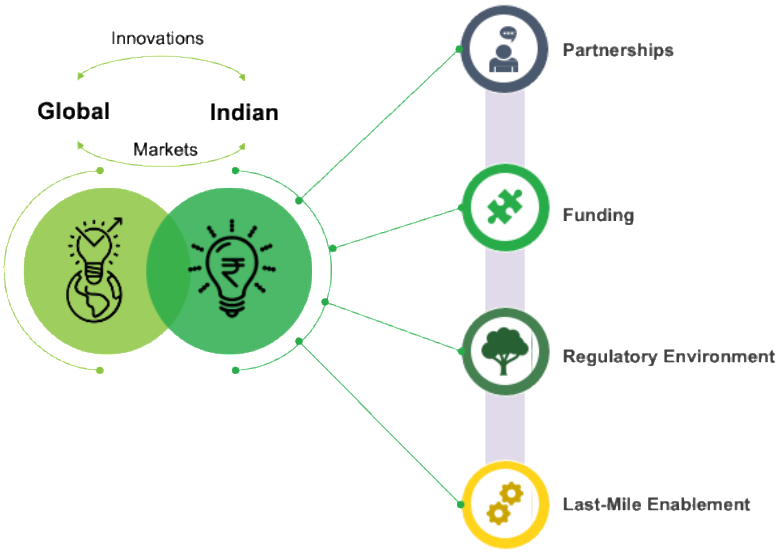

Figure 5: Key enablers for enabling global collaboration

Global partnerships can help **transfer best practices in a contextual manner across countries**. For instance, value-based care is an outcome-based model popular in the US, where entities are held

responsible and financed to ensure health and well-being of a select population. There is value in exploring how such an approach can be contextualised for developing countries. Similarly, entrepreneurs and innovations can benefit from emerging trends in innovations, such as self-administration by end users, and leverage the same in designing their products and solutions.

Conclusion

COVID-19 has put a mirror on the current public health infrastructure and has helped identify where the challenges are. It has also highlighted opportunities to rebuild the solution space better.

The emerging focus on multi-disease approach, especially in Primary care, is providing us an opportunity to leverage the current healthcare infrastructure towards maximum outcomes. There is a growing entrepreneurial energy, buoyed by technological advances, towards building effective and scalable solutions to the challenges of infectious diseases. However, for us to effectively scale these innovations from lab to field requires focusing on the systemic barriers and building pathways for these innovations to scale. The challenge of infectious diseases is a global one and so should be our collective ambition in addressing the issues.

The roundtable helped identify the extent of work that various stakeholders are pursuing towards improving access to quality healthcare for all. There is definitely a need for stronger collaboration across stakeholders towards maximising outcomes. Sattva and India Health Fund hope that the discussion serves as a starting point to foster effective collaboration and are committed to working towards realising the same.

Annexure: List of Participants

#	Name	Role, Organisation
1	Arnav Kapur	Lead , Philanthropic Partnerships, India and South Asia, BMGF
2	Balaji Ganapathy	Global Head,CSR, TCS
3	HSD Srinivas	Head, Health Systems, Tata Trusts
4	Jalaj Dani	Director, Reliance Foundation
5	Joshua Levens	Manager, Advocacy & Resource Mobilisation Partner Committee, Roll Back Malaria
6	Mohammed Ameel	Head, Primary Care, Technology & Innovation, PATH
7	Dr. Neeraj Dhingra	Director, National Vector Borne Disease Control Programme, GoI (MoHFW)
8	Nikita Gupta	Associate, Invest India
9	Dr. Niranjan Joshi	Programme In-Charge- BREC, C-CAMP
10	Patrik Silborn	Regional Advisor (Singapore), Pandemic Action Network
11	Prabodh Bhambal	Deputy Executive Director, International Union against tuberculosis & lung disease
12	Sandeep Singhal	Managing Director, Nexus Venture Partners, ACT Grants
13	Shirsendu Mukherjee	Head,Programme Management, BIRAC
14	Srinivas Ramanujam	CEO, Villgro
15	Suresh Adina	Sr. Management Consultant, T-Hub
Observer Participants		
16	Steven Parkinson	Senior Advisor, Global Fund
17	Balakumar Kanagasabapathy	Chief Innovation Evangelist, TCS
18	Joseph Sunil Nallapalli	India Leader CSR, TCS
19	Ninad Rajadhyaksha	Senior Consultant, TCS
20	Dhavan Nagar	Manager, Projects, SBI Foundation