

# Ramaiah Webinar on Health Systems During Covid-19 in Collaboration with Narayana Hrudayalaya Limited

## Introduction

Population-level healthcare has become critical in the wake of the epidemics and pandemics. It must deal with a range of issues including the generation of resources, their allocation, and evaluation and monitoring, to ensure effective collective level outcomes. This demands research that can provide roadmaps and standards based on systems approaches utilizing multi-disciplinary knowledge.

Health systems research intends to comprehensively understand the systems of healthcare delivery and strengthen them through system-level interventions. This has resulted in constructs and approaches that are inter-disciplinary and multi-method both in definition and application. The World Health Organization (WHO) defines health system as that “consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health”(WHO 2007). Applications include using the health systems frameworks to identify areas for improving organizational performance in healthcare delivery (Pallas et al. 2012), analysis of public health expenditure at the subnational level (Bahuguna et al. 2018), assessment of governance of health systems (Siddiqi et al. 2009), evaluating the cost-effectiveness in healthcare (Hauck et al. 2019), and its impact on particular patient populations (Brown et al. 2014).

## Health Systems During Covid-19

Covid-19 has been pushing the health systems across the globe to their limit. Apart from the primary functions and providers of healthcare delivery, secondary level activities and actors for service delivery, resource mobilization, capacity planning, surveillance informatics are proving to be critical in optimizing the health system. New and innovative measures have been undertaken within the scope of health systems. The episode of the pandemic, thus, has a massive potential to provide important feedback for learning in health systems research.

While anecdotes of successes and failures of the health systems are being discussed widely, to learn successfully, it is vital to systematically document, analyse, and share the knowledge. To do so one must conceptualize the health system based on previous research and practice and informed by feedback from the management of Covid-19 pandemic. Situating the learning in the socio-economic, political-cultural, and institutional context is also crucial.

The Ramaiah Webinar on Health Systems during Covid-19 in collaboration with Narayana Hrudayalaya Ltd. is a step in that direction. We present an ontological concept map of health systems to study and discuss the behaviour of health systems during the Covid-19 systemically and systematically.

The rightmost column lists the desired outcomes of health systems. They are: (a) equity, (b) efficiency, (c) effectiveness, (d) transparency, (e) accountability, (f) responsibility, and (g) innovation in healthcare. The systemic functions listed in the leftmost column – governance, service delivery, human resources, information, financing, and research & development – are the inputs to these outcomes through the system core processes.

The core processes are complex and many. They are defined by the scope of the system, healthcare functions, its providers, and its recipients. These four dimensions form the middle four columns of the ontology. The health systems must perform the core healthcare functions by/through the providers to/for the recipients. The core functions are broadly care, strategic management, and ancillary services – each has many subfunctions. The providers may be primary healthcare providers or secondary service providers – there are many subcategories of each. The recipients of care range from the individual patient to the entire community, and others not in the taxonomy. The scope of the system can range from micro (a ward of a city), to the macro (international) level.

## Ontology of Health Systems

Systemic Function*	System Core Processes					Outcome*
	Scope	Core Function**	Provider**	Recipient		
Governance	[at] International	[level for] Care	[by/through] Primary Healthcare	[providers to/for] Patient	[for] Equity	[in healthcare]
Service Delivery	National	Curative	Hospital	Family	Efficiency	
Human Resources	State	Rehabilitative	Residential	Caretaker	Effectiveness	
Information	District	Long-term	Ambulatory	Community	Transparency	
Financing	Village	Preventive	Ancillary	Others	Accountability	
Research&Development	Ward	Strategic Management	Preventive Care		Responsibility	
Technology		Mobilization	Medical Good		Innovation	
		Infrastructure	Administrative			
		Supply Chain	Insurance			
		Equipment	Secondary Service			
		Medicine	Household			
		Personnel	Public			
		Administration	Private			
		Ancillary Service	NGO			
		Laboratory				
		Transportation				
		Imaging				

\* Based on WHO Health System Framework 2007  
 \*\* Based on Systems of Health Accounts - OECD et al. 2011

The ontology encapsulates  $6 \times 13 \times 12 \times 5 = 4,680$  system core processes. In combination with six systemic functions and seven outcomes it delineates  $6 \times 4680 \times 7 = 196,560$  pathways for healthcare delivery. Three illustrative pathways are:

- Governance at National level for Curative care by Residential healthcare providers to Patient for Equity in healthcare.
- Information at Ward level for Personnel Mobilization by NGOs for Efficiency in healthcare.
- Financing at State level for Laboratory service through Ancillary providers for Transparency in healthcare.

The Webinar will be a free-flowing, structured, brainstorming using the ontology as a concept map to: (a) design the solution alternatives, (b) determine effective, ineffective, and innovative alternatives, and (c) direct the choice through feedback and learning.

Policymakers, practitioners, and academicians representing functional areas such as governance, service delivery, financing, and information will contribute to the discussions facilitated by a team of Ramaiah Public Policy Center. The discussion will ultimately try to address the following issues which are elementary and combinatorial components of the ontology:

## Issues

- What are some of the learnings from functional areas such as governance, human resource management, information, and financing for health system improvement in the future?
- Which is the optimal level of the geographic unit to undertake the various functions during a crisis?
- Is the balance between the care and strategic management components of the system adequate?
- How critical has been the interaction between the stakeholders such as providers and recipients?
- What are the priorities in choosing between the different outcomes?

**Date:** 20<sup>th</sup> August 2020

**Time:** 3:00 pm to 5:00 pm (IST)

**Facilitator:** Dr Arkalgud Ramaprasad, Director, Ramaiah Public Policy Center; Professor Emeritus, University of Illinois at Chicago, USA

**Moderator:** Dr Chetan B Singai, Deputy Director, Ramaiah Public Policy Center

### Coordinators:

Dr. Anupama Shetty, Head-CSR, Narayana Health Corporate Office

Mr. Nibras KT, Research Associate, Ramaiah Public Policy Center

Dr. Anupama Sanjeev, Research Fellow, Ramaiah Public Policy Center

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## List of Panellists

Sl.No	Name	Affiliation
1.	Dr Ananth Bhan	Adjunct Faculty, Kasturbha Medical College, Manipal/University of Torrento, Manipal
2.	Dr Anupama Shetty	Head-CSR, Narayana Hrudayalaya
3.	Dr Chidambaram Murthy	Principal Scientist, Central Research Laboratory, Ramaiah Medical College and Hospitals, Bengaluru
4.	Prof G. G. Gangadharan	Director, Ramaiah Indic Ayurveda Hospital, Bengaluru
5.	Dr Krishna Dipankar Rao	Assistant Professor, Department of International Health, John Hopkins University, Baltimore, Maryland
6.	Dr Krishnamurthy Jayanna	Associate Dean of Research and Professor, Ramaiah University of Applied Sciences, Bengaluru
7.	Dr Maulik Chokshi	Director, Health System, Access Health International
8.	Dr Nanda Kumar BS	Department of Community Medicine, Ramaiah Medical College, Bengaluru.
9.	Dr Naresh Shetty	President, Ramaiah Memorial Hospital, Bengaluru
10	Dr Nagendra Swamy	Principal Coordinator, Federation of Healthcare Associations, Karnataka
11	Dr Prasanth Desai	Director, School of Law, Ramaiah University of Applied Sciences, Bengaluru
12	Dr Priya Seetharaman	Professor, Management Information Systems, IIM Calcutta
13	Ms Patralekha Chatterjee	Independent Journalist
14	Mr Ravi Duggal	Independent Researcher and Activist
15	Dr Rajeev Sadanandan	CEO, Health System Transformation Platform, TATA Trust
16	Dr Soumyadeep Bhaumik	Research Fellow, The George Institute for Global Health, New Delhi
17	Dr Sonali Jadhav	Principal, Ramaiah Institute of Nursing Education and Research, Bengaluru
18	Dr Shibu Vijayan	Global TB Technical Director, PATH
19	Ms Sujatha Rao	Former Health Secretary, Government of India
20	Dr Shankar M Bakkannavar	Associate Professor of Forensic Medicine, Kasturba Medical College, Manipal Academy of Higher Education, Manipal
21	Mr Srivara H G	Chief HR and legal, Gokula Education Foundation (Medical), Bengaluru
22	Mr Tushar Mokashi	Senior technical Specialist, Access Health International