



REPORT NO.

123

**PARLIAMENT OF INDIA
RAJYA SABHA**

DEPARTMENT-RELATED PARLIAMENTARY STANDING

COMMITTEE ON HEALTH AND FAMILY WELFARE

ONE HUNDRED TWENTY THIRD REPORT

On

**"THE OUTBREAK OF PANDEMIC COVID-19 AND ITS
MANAGEMENT"**

(Ministry of Health and Family Welfare and Ministry of AYUSH)

(Presented to the Chairman, Rajya Sabha on 21st November, 2020)

(Forwarded to the Speaker, Lok Sabha on 25th November, 2020)

(Presented to the Rajya Sabha on 2nd February, 2021)

(Laid on the Table of Lok Sabha on 2nd February, 2021)



**Rajya Sabha Secretariat, New Delhi
November, 2020/Kartika, 1942 (SAKA)**

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**DEPARTMENT-RELATED PARLIAMENTARY STANDING COMMITTEE
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सत्यमेव जयते

**Rajya Sabha Secretariat, New Delhi
November, 2020/Kartika, 1942 (SAKA)**

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COMPOSITION OF THE COMMITTEE

(2019-20)

1. Prof. Ram Gopal Yadav - Chairman

RAJYA SABHA

2. Shri A.K. Antony
3. Dr. L. Hanumanthaiah
4. Shrimati Kakhshan Perween
5. Shri Suresh Prabhu
6. Dr. Santanu Sen
7. *Vacant
8. Shri K. Somaprasad
9. Dr. Subramanian Swamy
10. Shrimati Sampatiya Uikey

LOK SABHA

11. *Vacant
12. Ms. Bhavana Gawali (Patil)
13. Ms. Ramya Haridas
14. Dr. Chandra Sen Jadon
15. Shrimati Malothu Kavitha
16. Shri P. K. Kunhalikutty
17. Dr. Sanghamitra Maurya
18. Shri Arjunlal Meena
19. Shrimati Pratima Mondal
20. Dr. Pritam Gopinath Munde
21. Dr. Mahendrabhai Kalubhai Munjpara
22. Dr. Bharati Pravin Pawar
23. Adv. Adoor Prakash
24. Shri Haji Fazlur Rehman
25. Dr. Rajdeep Roy
26. Dr. Subhas Sarkar
27. Shri D. N. V. Senthilkumar S.
28. Shri Anurag Sharma
29. Dr. Mahesh Sharma
30. Dr. Sujay Radhakrishna Vikhepatil
31. Dr. Krishna Pal Singh Yadav

SECRETARIAT

- | | |
|------------------------------|-----------------------------|
| 1. Shri P.P.K. Ramacharyulu | Secretary |
| 2. Shri J. Sundriyal | Joint Secretary |
| 3. Shri V.S.P.Singh | Director |
| 4. Shri Bhupendra Bhaskar | Additional Director |
| 5. Shrimati Harshita Shankar | Under Secretary |
| 6. Shri Rajesh Kumar Sharma | Assistant Committee Officer |
| 7. Ms. Monika Garbyal | Assistant Committee Officer |
| 8. Shri Parth Gupta | Assistant Research Officer |

(i)

* Chaudhary Birender Singh, Member resigned from the membership from the Rajya Sabha w.e.f 20th January, 2020

* Shri Udayanraje Pratapsingh Bhonsle, Member resigned from the membership of the Lok Sabha w.e.f 14th September, 2019.

COMPOSITION OF THE COMMITTEE
(2020-21)

1. **Prof. Ram Gopal Yadav** - **Chairman**

RAJYA SABHA

2. Shri A.K. Antony
3. Shrimati Indu Bala Goswami
4. Dr. L. Hanumanthaiah
5. Shri Suresh Prabhu
6. Dr. Santanu Sen
7. Shri Bashistha Narain Singh
8. Shri K. Somaprasad
9. Dr. Subramanian Swamy
10. Shrimati Sampatiya Uikey

LOK SABHA

11. Ms. Bhavana Gawali (Patil)
12. Ms. Ramya Haridas
13. Dr. Chandra Sen Jadon
14. Shrimati Maloth Kavitha
15. Dr. Amol Ramsing Kolhe
16. Dr. Sanghamitra Maurya
17. Shri Arjunlal Meena
18. Shrimati Pratima Mondal
19. Dr. Pritam Gopinath Munde
20. Dr. Mahendrabhai Kalubhai Munjpara
21. Shri K. Navaskani
22. Dr. Bharati Pravin Pawar
23. Adv. Adoor Prakash
24. Shri Haji Fazlur Rehman
25. Dr. Rajdeep Roy
26. Dr. Subhas Sarkar
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| 1. | Shri P.P.K. Ramacharyulu | Secretary |
| 2. | Shri J. Sundriyal | Joint Secretary |
| 3. | Shri V.S.P Singh | Director |
| 4. | Shri Bhupendra Bhaskar | Additional Director |
| 5. | Shrimati Harshita Shankar | Under Secretary |
| 6. | Shri Rajesh Kumar Sharma | Assistant Committee Officer |
| 7. | Ms. Monika Garbyal | Assistant Committee Officer |

PREFACE

I, the Chairman of the Department-related Parliamentary Standing Committee on Health and Family Welfare, having been authorized by the Committee to present the Report on its behalf, present this One-Hundred Twenty Third Report on the Outbreak of Pandemic Covid-19 And its Management.

2. The primary objective behind identifying the subject – “The Outbreak of Pandemic COVID-19 And its Management” by the Committee is to assess the response of the Government to contain and mitigate the unprecedented outbreak of Pandemic COVID-19. The purpose of the report is not to criticise the Government’s course of action in combating the Pandemic but to identify the implementation gaps during the course of executing its contingent plan. At the outset, the Committee appreciates the Government’s initiatives and management of COVID-19 in a country of 1.3 billion people. The Committee in its wisdom has attempted to provide policy prescription to the Government to utilise the most adverse situation arising due to outbreak of the Pandemic in the history of the mankind as an opportunity for transformation of our health infrastructure to best global standards. The need of the hour is adequate investment for the development of infrastructure of the health sector with the intent of making provision for the best healthcare delivery system. There is also a trumpet call for assimilation of latest health technology, raising of skilled health cadre into the public health system. Equally important is to mainstreaming the AYUSH System and its integration with modern system of medicine for proper healthcare of the people of the country.

3. The Committee, in its meetings held on 13th and 14th February, 2020, discussed and took cognizance of the increasing incidence of Covid-19. To assess the preparedness of the Government, the Committee heard the views of the Department of Health Research and Ministry of AYUSH on 5th March, 2020. The Committee, in its meeting held on 4th August, 2020 heard the views of Secretary, Department of Health and Family Welfare and Secretary, Department of Health Research on the subject.

4. In its meeting held on 7th September, 2020, the Committee took oral evidence of stakeholders viz. Director, AIIMS, President, Public Health Foundation of India (PHFI) and Director, Population Foundation of India.

5. The Committee, in its meeting held on 16th October, 2020, again heard the views of Secretaries, Department of Health & Family Welfare and Department of Health Research. In the same meeting, CEO, Ayushman Bharat deliberated on Covid Management under Ayushman Bharat-PMJAY Scheme.

6. The Committee also sought the written views of various organizations/associations and received submissions from Public Health Foundation of India, Population Foundation of India, FICCI, CII, Patanjali Ayurved Limited, Emami Limited, Dabur India Limited, Indian Association of Preventive and Social Medicine, Indian Public Health Association, Indian Medical Association, Centre for Monitoring Indian Economy and Centre for Policy Research on the subject.

7. During the finalization of its Report, the Committee relied upon the following documents/ papers:-

- (i) Background Note on "Outbreak of pandemic Covid-19 and related Contingent and Mitigation Plan" received from Department of Health and Family Welfare;
- (ii) Oral Evidences tendered by Secretaries, Department of Health and Family Welfare, Department of Health Research, Ministry of AYUSH and CEO, Ayushman Bharat;
- (iii) Oral evidences tendered by stakeholders and their written submission;
- (iv) Written submissions of various Organizations/Associations;
- (v) Replies to the questionnaires received from the Department of Health and Family Welfare, Department of Health Research and Ministry of AYUSH; and
- (vi) Other relevant documents pertaining to the subject.

8. The Report is divided into eight chapters, viz: - (i) Chapter 1 deals with Administrative Management of Lockdown and Unlocking phases, (ii) Chapter 2 explains the Contingent Plan, (iii) Chapter 3 focuses on Medical Research and Development, (iv) Chapter 4 deals with Covid Management under Ayushman Bharat-PMJAY Scheme, (v) Chapter 5 covers issues on COVID management under AYUSH system, (vi) Chapter 6 explains the Management of Post-COVID complications, (vii) Chapter 7 deals with Combating the Challenges of Pandemic Covid-19 and (viii) Chapter 8 highlights the financial management of the Health Sector.

9. The Committee in its meeting held on 17th November, 2020 considered the Draft Report and adopted the same.

10. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report and also reproduced at the end of the Report at 'Observations/Recommendations of the Committee-at a Glance' .

11. On behalf of the Committee and on my own behalf, I extend special thanks to Secretaries and officers of the (i) Department of Health and Family Welfare (ii) Department of Health Research and (iii) Ministry of AYUSH for their useful inputs on the subject. I also acknowledge the contribution of the stakeholders for their deep insight and useful suggestions during the course of interactions. I further extend special appreciation to the officers of the Committee Section for their useful efforts in assimilating all relevant information and enabling the Committee in producing this quality Report.

New Delhi
17th November, 2020
Kartika 3, 1942 (Saka)

PROF. RAM GOPAL YADAV
Chairman, Department-related
Parliamentary Standing Committee on
Health and Family Welfare

ACRONYMS

ABHWCs	Ayushman Bharat Health and Wellness Centres
AB-PMJAY	Ayushman Bharat/Pradhan Mantri Jan Arogya Yojana
ASU&H	Ayurveda, Siddha, Unani and Homoeopathy
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha, Sowa Riga and Homeopathy
CCC	COVID Care Center
CEPI	Coalition for Epidemic Preparedness Innovations
CFR	Case Fatality Rate
CGRMS	Central Grievance Redressal Management System
CHC	Community Health Centers
CHE	Current Health Expenditure
CII	Confederation of Indian Industry
CPHC	Comprehensive Health Care
CSOs	Civil Society Organizations
CSU	Central Surveillance Unit
DBT	Department of Bio Technology
DCH	Dedicated COVID Hospital
DCHC	Dedicated COVID Health Centre
DGHS	Director General of Health Services
DHR	Department of Health Research
DLE	Direct Lab Empanelment
DSOs	Disease Surveillance Officer
DSU	District Surveillance Units
EUA	Emergency Use Authorization
GE	Genus Epidemicus
GERD	Gross domestic expenditure on R&D
GHE	Government Health Expenditure
GHSA	Global Health Security Agenda
GOI	Government of India
GoM	Group of Ministers
HBPs	Health Benefit Packages
HCQ	Hydroxychloroquine
HEM	Hospital Empanelment Module
IAPSM	Indian Association of Preventive and Social Medicine
IAS	Indian Administrative Service
ICMR	Indian Council of Medical Research
ICTV	International Committee on Taxonomy of Viruses
IDSP	Integrated Disease Surveillance Programme
IDSP	Integrated Disease Surveillance Programme
IDSP	Integrated Disease Surveillance Programme
iGOT	Integrated Government Online Training
IHIP	Integrated Health Information Platform
IHS	Indian Health Service
IJMR	Indian Journal of Medical Research
ILI	Influenza Like Illness
IPHA	Indian Public Health Association

IPHS	Indian Public Health Standard
IST	Indian Standard Time
JMG	Joint Monitoring Group
LMWH	Low Molecular Weight Heparin
MEA	Ministry of External Affairs
MERS	Middle East Respiratory Syndrome
MHA	Ministry of Home Affairs
MoHFW	Ministry of Health and Family Welfare
MRHRUs	Model Rural Health Research Units
MRUs	Multi Disciplinary Research Units
MSMEs	Micro, Small and Medium Enterprises
NAFU	National Anti-Fraud Unit
NARI	National AIDS Research Institute
NCDC	National Center for Disease Control
NDMA	National Disaster Management Authority
NEC	National Executive Committee
NHA	National Health Authority
NIV	National Institute of Virology
PHC	Primary Health Centers
PHEIC	Public Health Emergency of International Concern
PM-ASBY	Prime Minister Atma Nirbhar Swasth Bharat Yojana
PMGKY	Pradhan Mantri Garib Kalyan Yojana
PoE	Points of Entry
PPE	Personal Protective Equipment
RRTs	Rapid Response Teams
SAFUs	State Anti-Fraud Units
SARI	Severe Acute Respiratory Illness
SARS	Severe Acute Respiratory Syndrome
SDRF	State Disaster Response Fund
SHA	State Health Agencies
SII	Serum Institute of India
SOP	Standard Operating Procedure
SOPs	Standard Operating Protocols
SOR	Objects and Reasons
SSU	State Surveillance Units
STI	Science, Technology and Innovation
STWs	Standard Treatment Workflows
STGs	Standard Treatment Guidelines
TDABC	Time Driven Activity Based Costing
THE	Total Health Expenditure
TMS	Transaction Management System
UIS data	UNESCO Institute of Statistics data
VBM	Vande Bharat Mission
VHSNC	Village Health Sanitation and Nutrition Committee
VRDLs	Viral Research & Diagnostic Laboratories
VTMs	Viral Transport Media
WFH	Work From Home

CHAPTER - 1

ADMINISTRATIVE MANAGEMENT OF LOCKDOWN AND UNLOCKING

Outbreak of the Virus

1.1 According to WHO, the outbreak of febrile respiratory illness of unknown etiology in December, 2019 originated from Wuhan, Hubei province of China. The outbreak has been epidemiologically linked to the Huanan Seafood Wholesale Market involving sale of sea food and live animals in mid-December, 2019. Subsequently, the etiological agent was found to be a novel corona virus which was isolated from the Broncho alveolar lavage of three infected individuals. WHO named the novel coronavirus "Covid-19", "Co" stands for "corona", "vi" for "virus" and "d" for "disease", while "19" was for the year, as the outbreak was first identified on December 31 and International Committee on Taxonomy of Viruses (ICTV) has named the virus as SARS-CoV-2. As on 11th November 2020, globally there have been 50,810,763 confirmed cases of COVID-19, including 1,263,844 deaths.

1.2 With regard to the origin of the virus, the Secretary, Department of Health and Family Welfare in the Committee's meeting held on 4th August, 2020 submitted the following:

"There are two strands of evidence presently available in public domain. The first group of studies indicate that it originated from bats. Therefore, the possibility of any external factor resulting in mutation in the nature of virus is ruled out. That is the first strand of evidence. There is another strand of study with some evidence which try to argue that there was genetic manipulation and lab engineering leading to creation of a particular kind of virus. But, they are not conclusive. This is only one assessment. If you look at only the number of Papers in favour of it originating out of bats or number of Papers saying that it was engineered in a lab, the number of Papers which favour bat-origin are far more in number when compared to this. But, this is an evolving situation. People are still writing on it and we are closely following it."

1.3 As per the information submitted by the Ministry, all available evidence for COVID-19 suggests that the causative virus (SARS-CoV-2) has a zoonotic source. Many crucial epidemiological parameters like extent and role played by sub-clinical/asymptomatic infections, period of communicability etc. still remain under investigation. The infection is spread through droplets or prolonged contact with infected patients. Due to the fast spread of virus to neighboring countries, it became critical for all countries to expedite setting up diagnostics for this new virus. Diagnosis helps in early identification of the disease and containment of the disease.

1.4 The Coronavirus disease COVID-19 is a pandemic which has spread its tentacles in more than 215 countries. It is caused by severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) that has caused massive panic and public concern across the common masses. Coronaviruses are a large family of viruses which are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The patients affected with COVID-19 have symptoms of fever, cough, breathlessness and other respiratory problem.

1.5 The Government of India has adopted inter-sectoral proactive, pre-emptive and graded response/policies and priorities by adopting various strategies, the contingent plan during various lockdown & unlock phases to combat the COVID-19. The pandemic has forced the world to grasp a new normal, with self isolation and social/physical distancing being the global way of life today as crucial weapon against the virus. WHO (under International Health Regulations) has declared this outbreak as a “Public Health Emergency of International Concern” (PHEIC) on 30th January 2020 and subsequently declared COVID-19 a pandemic on 11th March, 2020.

Past pandemics and strategies adopted

1.6 India has witnessed widespread illnesses and virus outbreaks in parts of the country, including the SARS outbreak between 2002-2004, however, statistics show that since the 1990s, they were nowhere as widespread as the COVID-19 that has now reached almost every part of the country and almost every country in the world. Prior to outbreak of COVID-19, most notable viral disease outbreaks were Avian influenza (2006-08), H1N1pdm09 Influenza pandemic (2009), Zika virus disease (2016-18) and Nipah virus disease (2018, 2019).

1.7 Avian influenza outbreaks (2006-08) reported from multiple States (Maharashtra, Gujarat, Assam, West Bengal etc.) resulted in large number of deaths among poultry. Since then sporadic outbreaks are reported mainly due to disease transmitted by the migratory birds. All these outbreaks were contained as per the containment plan following One Health approach and in coordination with Department of Animal Husbandry. Due to prompt containment operations, among poultry, no case of avian influenza in humans has been detected in India so far.

1.8 The Influenza pandemic in 2009 (caused by H1N1pdm09 virus) affected all parts of the country, particularly cities in the States of Maharashtra (Pune, Mumbai), Gujarat (Ahmedabad, Surat), Rajasthan (Jaipur, Jodhpur), Delhi, Andhra Pradesh(then) (Hyderabad), Tamil Nadu (Chennai), Kerala (Trivandrum, Cochin). In the Influenza pandemic years of 2009-10, there were a total of 47840 cases and 2744 deaths reported. Initially, the plan of action involved surveillance at points of entry to prevent entry of disease and containment of outbreaks within the community. With large outbreaks being reported from these States, a mitigation plan was implemented with focus on fatality mitigation. Since then seasonal outbreaks of Influenza A are reported every year. Integrated Disease Surveillance Programme (IDSP) is conducting surveillance for Influenza Like Illness (ILI), providing appropriate response and monitoring the outbreak situation.

1.9 Zika virus disease was declared as a Public Health Emergency of International Concern by WHO in February, 2016. In India sporadic cases were reported in 2016 and 2017 from Gujarat (Ahmadabad) and Tamil Nadu (Krishnagiri). Large outbreaks were reported in 2018 from Gujarat (Ahmadabad), Rajasthan (Jaipur) and Madhya Pradesh (Bhopal, Sehore and Vidisha). Containment activities as per the Zika action plan was implemented and all these outbreaks were successfully contained. No case has been reported since then.

1.10 Nipah virus disease outbreaks in 2018 (Kozhikode and Malappuram districts) and 2019 (Cochin) were localized to these districts of the State of Kerala and resulted in 17 deaths (laboratory confirmed in 16 deaths; 2018 outbreak)

S. No.	Viral disease outbreak	Lessons learnt/experience gained	Utilization during COVID-19
1	Avian influenza	Containment strategy, One health	Containment strategy

	outbreak	approach	
2	Influenza pandemic	Whole of Government approach System strengthening development of core capacities,	Managing pandemic
3	Zika virus disease	Containment strategy	Containment strategy
4	Nipah virus disease	Containment strategy, One health approach	Containment strategy

1.11 Attention of the Committee has been drawn to SARS Commission Final Report, released in 2006 which had concluded that it was vital to ensure the supply of protective equipment for health care workers through stockpiling and domestic production. The Report also suggested that a ramp-up of laboratory testing capacity would need to happen swiftly in the event of a spreading Virus. The past, on various occasions, has also highlighted the need to strengthen the things that encourage public cooperation in a fight against pandemics. Unfortunately, many countries ignored the precautionary principle and failed to maintain adequate supplies to protect healthcare workers and other precautionary steps that would have been useful in a fight against pandemics. That mistake has left them in a bind.

Pro-active steps taken by Central Government

1.12 The Committee has been informed about the various steps taken by the Government prior to the first case being reported in India to contain the spread to COVID-19 in the country. The Government had been proactive in regulating, restricting and even prohibiting in-coming international passengers traffic through immigration check to contain the spread of COVID-19. The Government of India also managed and controlled the visa issuance process and effective screening of passengers tested and traced for COVID-19. The Government had taken quick and timely measures in anticipation of the potential crises and geared up all its Ministries to tackle the problem of COVID-19. On 17th January 2020, Union Health Secretary advised all State/UT Authorities to take necessary actions for adequate hospital preparedness to meet with any potential emergency. The First Travel Advisory was issued on 17th January and additional advisories related to international travel were issued periodically totaling to 21 advisories till date. Travel restrictions were imposed and existing visas were suspended periodically commensurate with the severity and spread of the disease from the countries which reported high number of cases and deaths. Progressively, flights in India were restricted. On 18th January 2020, thermal screening was started for all passengers coming from China and Hong Kong at three international airports. From 4th March, thermal screening was initiated for all international flights, and an advisory to follow standard health protocol for COVID-19 was issued by Ministry of Health and Family Welfare (MoHFW). India started thermal screening of travelers/ passengers even before the first case was reported in India while as per WHO Situation Report No. 67 dated 27th March, 2020, most of the other countries initiated thermal screening in stage II and stage III of the infection in their respective countries. Thermal screening was progressively extended to seaports and land borders. On 22nd March, 2020, all International flights coming to India were suspended, mass transportation services i.e. metro and rail traffic were suspended till 31st March to contain the spread of Covid-19 in the community. Domestic air traffic was also suspended on 24th March.

Institutional arrangements

1.13 The Ministry, in its Background Note, submitted that under the directions of the Prime Minister, a High level Group of Ministers (GoM) was constituted on 3rd February, 2020 under the chairmanship of Union Minister of Health & Family Welfare with Ministers from other Ministries viz Ministry of Civil Aviation, Ministry of External Affairs (MEA), Ministry of Home Affairs (MHA), Ministry of Shipping, Ministry of Chemical and Fertilizers as members, to review, monitor and evaluate the preparedness and response measures being taken regarding management of COVID-19 in the country. The GoM has since then met 18 times. The Ministry of Home Affairs, Govt. of India, under extant provisions of Disaster Management Act has constituted 11 Empowered Groups on different aspects of COVID-19 management in the country to take informed decisions on issues which interalia includes:-

- (i) medical emergency planning;
- (ii) availability of hospitals, isolation and quarantine facility, disease surveillance and testing;
- (iii) ensuring availability of essential medical equipment;
- (iv) augmenting human resource and capacity building;
- (v) supply chain and logistic management;
- (vi) coordination with private sector;
- (vii) economic and welfare measures;
- (viii) information, communications and public awareness;
- (ix) technology and data management;
- (x) public grievance; and
- (xi) strategic issues related to lockdown.

1.14 As per the information submitted by the Ministry on 4th August, 2020, a Committee of Secretaries under Cabinet Secretary was reviewing the situation regularly. Cabinet Secretary has also held 12 video conferences with States/UTs so far. The Union Minister and senior officers in the Ministry of Health & Family Welfare are constantly reviewing the evolving scenario and have held 56 video conferences so far with State Health functionaries. The Joint Monitoring Group (JMG) under the Chairmanship of Directorate General of Health Services (DGHS) which advises MoHFW on technical matters met 37 times to assess the risk, review the preparedness & response mechanisms and finalize technical guidelines.

Inter-Sectoral Co-ordination

1.15 The Ministry, in its background note submitted that the Government was following a Whole of Government approach to manage COVID-19. Ministries of Health, External Affairs, Civil Aviation, Home Affairs, Shipping, Pharma, Tourism, Textiles, Defence, National Disaster Management Authority (NDMA) were coordinating actions beyond health sector.

1.16 From March 21, 2020 onwards, Control Room operations in MHA has been expanded by making its functional 24x7 under the supervision of senior officers of the level of Joint Secretaries along with the representatives of key Central Ministries. Number of helplines have been increased from 7 to 66, out of which, 15 are dedicated to the people of North Eastern Region. Control Room attends to the queries of States/UTs or other Ministries on lockdown measures, addresses inter-Ministry and inter-State coordination issues etc.

1.17 The Committee has also been informed of additional steps taken by Central Government before imposing lockdown. On 11th March, 2020, the Union Home Secretary, chairing the National Executive Committee (NEC) delegated power under Section 10(2)[(i) & (l)] of Disaster Management Act, 2005 to Secretary, MoHFW to enhance preparedness and containment of COVID- 19 and other ancillary matters connected thereto. This enabled MoHFW to issue advisories on COVID-19 management. With a view to augment the availability of funds with the State Governments, COVID-19 was declared as notified disaster by Central Govt. on 14.03.2020 for the purpose of providing assistance under State Disaster Response Fund (SDRF) placed at the disposal of respective State Governments. This allowed SDRF to be used for setting up quarantine facilities, sample collection and screening, setting up additional testing laboratories within the Government, cost of consumables, purchase of personal protection equipments (PPE) for healthcare, municipal, police and fire authorities, purchase of thermal scanners, ventilators, air purifiers, and consumables for Government hospitals, to supplement the State resources for the above purposes.

1.18 On an appeal made by the Prime Minister on 19th March in his address to the Nation, a "Janta" curfew was observed throughout the country on 22nd March, 2020. MHA advised States and UTs to observe Janta Curfew across the country on 22nd March, 2020 to promote voluntary social distancing as a measure to control Covid-19. All the citizens of the country voluntarily observed the Janta Curfew and conveyed their strong determination to deal with this global crisis by rising to the occasion in a mature and determined manner.

Phases of Lockdown

Phase 1 (25th March to 14th April)

1.19 The National Executive Committee (NEC) issued an Order dated 24th March, along with the guidelines on the measures to be taken by the Ministries/Departments of Government of India and State/UTs Authorities for containment of COVID-19 in the country. Vide this Order, lockdown measures were implemented in the country for a period of 21 days with effect from 25th March, 2020. Further, for ensuring smooth supply of essential goods in all parts of the country, a detailed Standard Operating Procedure (SOP) was issued by MHA on 26.03.2020 to all State/ UT Governments. Based on the suggestions received from Central Ministries/ State Governments and keeping in view the difficulties faced by different sections of society, Government of India issued orders to include exemptions during the lockdown period. MHA issued an Advisory dated 27th March, 2020, on the issue of migrant agricultural labourers, industrial workers and other unorganized sector workers etc. who were trying to return to their domicile States/UTs. This was followed by another order from MHA on 28th March, 2020 for making adequate arrangements for migrants.

1.20 Public address systems and all other means of communication were extensively used to disseminate precise information on the location of the relief camps, the facilities/the relief package under the Pradhan Mantri Garib Kalyan Yojana (PMGKY) and measures being taken by the State Government/UT Administration. A number of measures were suggested such as functioning of State and District Emergency Operation Centers for flow of information, inter agency coordination, community awareness, proactive planning, coordination with NGOs, coordination with industry, coordination with neighboring States, to deal with issues relating to migrant workers

and stranded tourists. Police and administration was advised to adopt humane approach in dealing with public particularly those who are left adrift by the lockdown, and to interpret the lockdown restrictions with compassion and a sense of duty towards the citizens. NEC issued an Order on 29th March 2020 for effective implementation of the lockdown measures, and to mitigate the economic hardship of the migrant workers. Towards the end of the initial period, the rate of growth of COVID infections in India had significantly slowed, from a rate of doubling every three days prior to the lockdown to one of doubling every eight days on 18 April.

Relief package under Pradhan Mantri Garib KalyanYojana

1.21 Central Government announced a Rs 1.70 Lakh crore relief package under Pradhan Mantri Garib KalyanYojana (PMGKY) for the poor people to help them fight the battle against Corona Virus. The package includes:

- i. Insurance cover of Rs 50 Lakh per health worker fighting COVID-19.
- ii. Provision of 5 kg wheat or rice and 1 kg of preferred pulses (per family), free of cost, every month for the next three months for 80 crore poor people.
- iii. Cash assistance of Rs 500 per month per person for next three months for 20 crore women Jan Dhan account holders.
- iv. 8 crore poor families registered under the scheme of Ujjwala will get 1 Gas cylinder, per family, per month free of cost for the next three months.
- v. MNREGA wage increased Rs 202 a day from Rs 182, which will benefit 13.62 crore families.
- vi. An ex-gratia financial assistance of Rs 1,000 per person to 3 crore poor senior citizen, poor widows and poor disabled.
- vii. Government will front-load Rs 2,000 to farmers in first week of April under the existing PM Kisan Yojana to benefit 8.7 crore farmers.
- viii. Wage-earners earning below Rs 15,000 per month in businesses having less than 100 workers, would be given 24 percent of their monthly wages into their PF accounts, per person, per month for next three months.
- ix. State Governments to use Building and construction workers Welfare Fund to provide relief to Construction Workers and support to 3.5 crore registered workers.

1.22 PM Garib Kalyan Anna Yojana which was for the period of three months, April- June, 2020, was extended till the end of November, 2020 for providing additional foodgrain @ 5kg/person/month free of cost to all the beneficiaries (Antodaya Anna Yojana (AAY) and Priority Household (PHH)) covered under Targeted Public Distribution System (TPDS) as per provisions of National Food Security Act (NFSA) (including those covered under Direct Benefit Transfer DBT).

Phase 2 (15th April to 3rd May)

1.23 Considering the fact that the social distancing measures need to be extended further to contain the spread of Covid-19, the NEC issued an Order dated 14th April, 2020 giving directions to all Ministries/Departments of Government of India, States/UTs Governments and State/UTs Authorities that lockdown measures stipulated in MHA guidelines for containment of Covid-19 epidemic in the country will continue to remain in force up to 03.05.2020. On 16 April, lockdown

areas were classified as "red zone", indicating the presence of infection hotspots, "orange zone" indicating some infection, and "green zone" with no infections. MHA also circulated National Directives for COVID 19 management and a SOP for social distancing for offices, workplaces, factories and establishments. The government also announced certain relaxations from 20 April, allowed opening of agricultural businesses, including dairy, aquaculture and plantations, as well as shops selling farming supplies. Public works programmes were also allowed to reopen with instructions to maintain social distancing. Cargo transportation vehicles, including trucks, trains and planes. Banks and government centres were also allowed to function.

1.24 MHA, vide Order dated 29th April, 2020, allowed movement of migrant workers, pilgrims, tourists, students and other persons stranded due to lockdown in various places, with safe social distancing norms, standard health protocol, screening, quarantine, periodical check-ups etc.

Phase 3 (4th to 17th May)

1.25 After a comprehensive review of the COVID-19 situation in the country, and as directed by NDMA, the NEC issued an Order dated 1st May, 2020 directing the Authorities concerned for extending the lockdown for a further period of 02 weeks along with new guidelines for lockdown measures with some relaxations. The country was split into 3 zones: red zones (Hotspot-130 districts), orange zones (284 districts) and green zones (319 districts). Red zones are those with high coronavirus cases and a high doubling rate, orange zones are those with comparatively fewer cases than red zone and green zones are those without any cases in the past 21 days. Movement of public transport (buses) was permitted in green zones with limited capacity to 50 percent. In orange zones only private and hired vehicles were allowed. The red zones continued to remain under lockdown.

1.26 Under the new guidelines, a limited number of activities remained prohibited throughout the country, irrespective of the Zone. The guidelines further prescribed certain measures for well being and safety of persons. Movement of individuals, for all non-essential activities, remained strictly prohibited between 7 pm to 7 am. Certain activities like plying of cycle rickshaws and auto rickshaws, running of taxis and cab aggregators, intra-district and inter-district plying of buses, and, barber shops, spas and saloons continued to remain prohibited. Movement of individuals and vehicles was allowed only for permitted activities. In the Orange Zones, all activities were permitted except the activities which were prohibited throughout the country in addition to inter-district and intra-district plying of buses. In the Green Zones, all activities were permitted except the limited number of activities prohibited throughout the country, irrespective of the Zone. However, buses could operate with upto 50% seating capacity and bus depots could operate with upto 50% capacity. The Standard Operating Protocols (SOPs) issued by MHA facilitated transit arrangement for foreign national(s) in India, release of quarantined persons, movement of stranded labour within States/ UTs, sign-on and sign-off of Indian seafarers, pilgrims, tourists, students and other persons by road and rail.

Phase 4 (18th May to 31st May)

1.27 The 4th Phase lockdown Order dated 17th May, 2020 under Disaster Management Act, 2005 extended the lockdown for a further two week period w.e.f. 18.05.2020 with additional relaxations. Unlike the previous phases of lockdowns, States were given a larger say in the demarcation of

Green, Orange and Red zones and the implementation roadmap. Red zones were further divided into containment and buffer zones. The local bodies were given the authority to demarcate containment and buffer zones. Only limited activity like travel by air, rail, metro, functioning of schools, colleges, and other educational and training/ coaching institutions; hospitality services, including hotels and restaurants; large public gatherings, such as cinema halls, malls, gymnasiums, sports complexes etc; social, political, cultural and other kinds of gatherings; and, religious places/ places of worship for public were prohibited. Other activities outside containment zone were allowed under SOP issued by MHA and MoH&FW. Subsequently, MHA vide order dated 20.05.2020 allowed domestic air travel of passengers with detailed guidelines for operation. MHA also granted exemption for the conduct of board examination for class X & XII considering the academic interest of a large number of students.

1.28 The Government has maintained that the lockdown was implemented to contain Covid-19 pandemic in the country. Movement of people was restricted during the lockdown as a strategy to contain the corona outbreak. The lockdown was a success in terms of limiting the spread of the disease.

1.29 The Ministry of Health and Family Welfare has shared the following data on the cases and deaths averted during the lockdown period (23rd March to 30th June 2020):

Cases averted	14-29 lakh
Deaths averted	37,000 – 78,000

1.30 Apart from this, the following positive outcomes of the lockdown periods helped in terms of ramping up preparedness –

- i Augmentation of Health Infrastructure
- ii Domestic Manufacturing capacities – PPEs, Masks, Ventilators, Sanitizers
- iii National Inventory of Human resources
- iv Capacity Building through dedicated online platform (iGOT)
- v Community participation & Awareness
- vi Behaviour change – Jan Andolan initiated

1.31 The Indian Public Health Association (IPHA), Indian Association of Preventive and Social Medicine (IAPSM) & Indian Association of Epidemiologists have shared the following details in its “3rd Joint Statement on COVID-19 Pandemic in India–Public Health Approach for COVID-19 Control” on 25th August, 2020:

- (i) Lockdown as a strategy for control should be discontinued and limited restrictions for short periods may be imposed in epidemiologically defined clusters only in areas with no community transmission after weighing the impact of the same on the livelihood of the target population.
- (ii) In large cities (Y class) with substantial spread there is no advantage of creating containment zones and aggressive testing rather the focus should be to prevent deaths from COVID-19 and not on containing the infection.

- (iii) In Y class cities with moderate spread Containment zones (CZ) should be revamped with clear roadmap and timelines for periodic review by expert committee, with the aim to test all suspects, isolate all infected individuals for proper treatment. All CZs should be de-contained in a maximum of 14 days.
- (iv) In small cities and rural townships with mild/limited spread the existing testing and cluster containment strategy may be continued. Although a testing strategy attached with mandatory isolation, needs to be reviewed in view of social stigma. In small cities stigma is a major factor preventing persons from coming forward for testing.
- (v) In rural areas, syndromic surveillance by ASHA and village Nigrani Samiti and periodic review at PHC level could be done.

1.32 The Associations further submitted that the primary purpose of the lockdown was to slow down the pandemic and gain time for preparedness to fight it. There is no evidence that any useful purpose would be served by weekend or intermittent or night time lockdown, banning of domestic flights and large sized containment zones.

1.33 President, Public Health Foundation of India mentioned that the adverse impacts of Covid19 were felt globally and India was no exception. The impact of the epidemic itself and the response to it had multiple effects and some effects were unavoidable. It is debatable whether the initial lockdown should have been confined to the megacities and not involved the entire country. Threat perception of a raging global pandemic was high at that time due to the news and visuals emerging from North America and Europe as well as alarmingly high mortality rates predicted for May-June by 'international experts'. An initial lockdown of only the megacities where the virus had entered via international airports might have been a selective first step but it is difficult to retrospectively make that judgment.

1.34 Indian Medical Association submitted that the Government recognized the pandemic Covid-19 at the early stage and acted swiftly by announcing Lockdown 1.0 and initiated several measures in coordination with the State Governments. The first phase saw near complete shutdown of all services, manufacturing, travel and local movement of people, business, etc. Only essential supply was allowed. Each of the subsequent phases saw progressive levels of relaxations and resumption of services and life, along with demarcation of areas viz. red, orange and green zones as per the level of COVID-19 cases in communities. The lockdowns slowed the spread of COVID-19 and provided some time for health care systems to be put in place to deal with the pandemic. Several lakh cases, and deaths, were averted, especially during the first few phases of the lockdown.

1.35 The WHO Representative to India, appreciated the response of the Government of India to pandemic COVID-19 describing the Lockdown Measures as "timely, comprehensive and robust". WHO has, however, cautioned that lockdowns alone would not eliminate corona virus and India must take necessary measures to prevent a second and third wave of infections.

Phased Re- opening (Unlock-1.0)

1.36 On 30th May, 2020, the NEC issued guidelines for Phased Re-opening (Unlock-1) with country's economic on focus. Under these guidelines, lockdown was limited to Containment Zones

up to 30.06.2020. Hotels, restaurants and other hospitality services, shopping malls, religions places/ places of worships for public were allowed with guidelines issued by MoH&FW. Night curfews were in effect from 9 p.m. to 5 a.m. in all areas and State Governments were allowed to impose suitable restrictions on all activities. No restriction on inter-State and intra-State movements of persons was put. However, States/ UTs based on reason of public health and its assessment of the situation were allowed to regulate movement of persons with the condition to give wide publicity in advance regarding restriction placed on such movement and procedures to be followed.

Re- opening (Unlock-2.0)

1.37 The Unlock-2 provided restrictions limited to Containment Zones only and night curfews were in effect from 10 p.m. to 5 a.m. in all areas. Training institutions of the Central and State Governments were allowed to function with SOP specifying restrictions on certain activities, but State borders remained open to all. Inter- and intrastate travel was permitted. Limited international travel was permitted as part of the Vande Bharat Mission. Educational institutions, metros, recreational activities remained closed till 31 July. Only essential activities, such as intensive contact tracing, house-to-house surveillance, and other clinical interventions" were permitted in containment zones. Further guidelines regarding usage of Aarogya Setu and masks were reiterated.

Re-opening (Unlock 3.0)

1.38 Phased Re-opening (Unlock-3.0) from August 2020 removed night curfews and permitted gymnasiums and yoga centres to reopen. Educational institutions remained closed till 31 August. All inter-and intra State travel and transportation was permitted. However, Maharashtra and Tamil Nadu imposed a lockdown for the whole month, while West Bengal was forced to impose lockdowns twice a week.

Unlock 4.0 (1-30 September)

1.39 The Unlock 4.0 phase provided for lockdown in force in the Containment Zones till 30th September 2020. Outside the containment zone, however, some activities were given permission. Metro Rail was allowed to be reopened in graded manner from 7th September. Marriage functions with gatherings of upto 50 people and upto 20 people funereal/last rites ceremonies were permitted. Religious, entertainment, political, sports, academic functions and gatherings of up to 100 people were allowed. Face coverings/masks were made compulsory in public places, workplaces and during transport.

Unlock 5.0 (1-31 October)

1.40 On September 30, 2020, the NEC issued guidelines for activities permitted in Unlock Phase 5.0. with respect to the opening of schools and coaching institutions, it was left to the State/UT Governments to decide after 15th Oct, in a graded manner. Lockdown remained in force strictly in the Containment Zones till 31st October, 2020. Also, swimming pools being used for training of

sportsperson was allowed to open. Cinema halls that had remained closed was opened from 15th October 2020, with 50% of their seating capacity.

Unlock 6.0 (1-30 November)

1.41 The Ministry of Home Affairs announced on 27th October, 2020 Unlock 6.0 guidelines for the month of November directing State and Union Territories Governments to enforce Covid-19 Appropriate Behaviour. The Central Government asked the States and UTs to take a call on reopening of State and private Universities for research scholars, schools and coaching institutes, and gatherings of over 100 people. Social, academic, sports, entertainment, cultural, religious, political functions and other congregations, in closed spaces with a maximum of 50 per cent of the hall capacity with a ceiling of 200 persons continued.

1.42 The Committee is of the view that if we had not hit the history books for guidance, the reality would have hit us harder. The Government of India learnt from its past experience and took successful measures like janta curfew, imposition of 4 months long lockdown and its gradual opening, travel restrictions and other social distancing measures to contain the spread of Corona virus. The Committee appreciates the measures but also observes that there have been few glaring lapses in the battle against pandemic like shortage of emergency supplies, red-tapism, shortage and quality of testing kits, delay in domestic production etc.

Management of COVID-19 and State of preparedness

1.43 The Committee was given to understand that the main purpose of implementing the lockdown measures was to contain/ slow down the spread of Coronavirus by breaking the chain of transmission and to provide additional time to ramp up capacities at all levels. During this period, the capacities and health infrastructure were ramped up. It was estimated that an arrangement was made for a total of 3914 facilities in the country with 3,77,737 Isolation beds (without ICU support), 39,820 ICU beds and 1,42,415 oxygen supported beds along with 20,047 ventilators. In terms of healthcare logistics, cumulatively 213.55 lakh N95 masks, 120.94 lakh PPEs and 612.57 lakh HCQ tablets were distributed.

1.44 The Committee was informed that the laboratory network was being continuously strengthened. Adequate laboratory reagents are available with ICMR. The number of sample tested for detection of COVID-19 has been substantially growing every day. The sharp focus was on “Test, Trace, Treat, Technology” strategy in coordination with the States/UTs. Effective clinical management of all COVID-19 positive patients was done under the expert advice of specialist doctors of AIIMS, New Delhi and doctors manning ICUs in State hospitals. This tele-consultation exercise was extended to various hospitals which have bed capacity ranging from 500-1000 on twice a week basis. Enhanced focus on “Test, Trace, Treat”, further augmented with various measures has facilitated widespread COVID-19 testing by States/UTs.

1.45 The Union Health Ministry has issued a number of guidelines and the same have been made available on the website of the Ministry (www.mohfw.gov.in) targeting various groups/activities such as (i) Travel (ii) Behavioural Health, (iii) Citizens, (iv) Hospitals, (v) States / Departments / Ministries, (vi) Employees, (vii) Integrated Disease Surveillance Programme (IDSP), (viii) Clinical Management: Guidelines on Clinical management of COVID-19 was

updated and widely circulated that included case definition, prevention of infection control, laboratory diagnosis, early supporting therapy, management of severe cases and complications. Involvement of various cadres of personnel and volunteers across sectors and like Department of Defence, AYUSH, National Cadet Corps (NCC), National Services Scheme (NSS), Nehru Yuvak Kendra Sangathan (NYK), public sector enterprises, and private sector that can be involved in COVID related work and maintenance of other essential medical services have been worked out by pooling manpower resources. Webinar and Online capacity building courses for medical and non-medical personnel engaged for logistics and surveillance related duties for Covid management have been arranged by Ministry of Health & Family Welfare. Online training and webinars for physicians and nursing personnel is being conducted by AIIMS and training Modules have also been made available on iGOT (online platform) by DOPT (<https://igot.gov.in/igot/>). The training modules have been translated to regional languages. The health infrastructure and other capacities are being expanded to reduce the case fatality ratio and COVID-19 effects.

PM's Jan Andolan against Pandemic

1.46 The Secretary also apprised the Committee about the PM's announcement on 8th October, 2020 of launching of Jan Andolan against the Pandemic Covid-19. During the course of the Jan Andolan, the people of the country would be made aware of Covid Appropriate Behavior viz wearing of masks, maintaining social distancing, washing and sanitization of hands. It was maintained by the Secretary that Jan Andolan would be intensively implemented in all the States.

1.47 The Committee appreciates the PM's call for Jan Andolan against Pandemic. The Committee agrees that pandemic Covid-19 can be contained and controlled by adhering to Covid Appropriate Behavior across the country and therefore, each State Government must make their best efforts to live up to the objective of the Jan Andolan.

Strategic Approach

1.48 Taking cue from the past pandemics and outbreaks of major viral disease outbreaks, India followed a scenario based approach for the following possible scenarios:

- i. Travel related case reported in India,
- ii. Local transmission of COVID-19,
- iii. Large outbreaks of COVID-19 disease amenable to containment,
- iv. Widespread community transmission requiring mitigation measures,
- v. India becomes endemic for COVID-19.

1.49 The details of the scenario, inference and approach adopted by Government of India are given below:-

Scenario	Inference	Approach
Only travel related cases	No community transmission in India	<ul style="list-style-type: none"> • Continued activities at Points of Entry Surveillance • Concurrent review and strengthening of all core capacities

Local cluster of indigenous cases (with no travel history)	Signalling start of local transmission	<ul style="list-style-type: none"> • Cluster containment strategies • listing of contacts, • deciding on the containment zone, • perimeter control (exit and entry controls) and • focused actions in the containment zone for <ul style="list-style-type: none"> • isolation of cases, • home quarantine of contacts, • social distancing • measures (school closure, office closure, ban on gatherings) and • Communicating the risk to public.
Large outbreaks amenable to containment	Local community transmission within a specified large geographic area	<ul style="list-style-type: none"> • Cluster containment strategies as above with: <ul style="list-style-type: none"> • geographic community wide quarantine • strict perimeter control • strict implementation of social distancing measures • Focused actions in the containment zone for <ul style="list-style-type: none"> • Surveillance and testing • Rapid operationalization of surge capacities for hospitals and laboratories • Resource mobilization: Logistic and manpower • Chemoprophylaxis for healthcare workers and close contacts
Large outbreaks	Widespread community transmission	<ul style="list-style-type: none"> • Abandon cluster containment strategy and Points of Entry surveillance • Minimize mortality and morbidity while ensuring essential services and continuity of operations to minimize impact on health and non-health sectors • Exit Screening (based on risk assessment to other countries) • Mitigation measures : <ul style="list-style-type: none"> • triage of patients (through screening clinics), • surge capacity of hospitals for isolation and • ventilator management and • large scale IEC activities.
COVID-19 becomes endemic	Pool of susceptible population will decrease –	<ul style="list-style-type: none"> • Programmatic approach shall be followed – akin to that being followed post Pandemic Influenza 2009 (H1N1 outbreak)

	stabilization of incidence of new cases	<ul style="list-style-type: none"> • Routine surveillance as an epidemic prone disease and sentinel surveillance to know public health burden of the disease.
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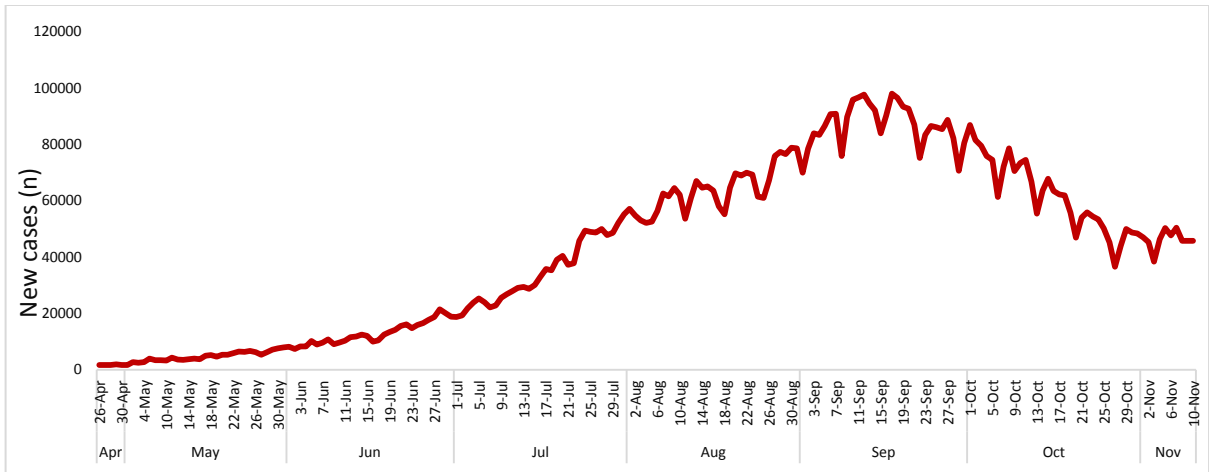
1.50 The key to managing outbreaks, especially public health emergencies of large magnitude involved Whole Of Government approach and strengthening core capacities like (i) Legislation and policy, (ii) Coordination, (iii) Surveillance, (iv) laboratory capacity (v) Hospital preparedness, (vi) logistic management, (vii) Human resource and capacity building and (viii) Risk communication.

Scale of Incidence

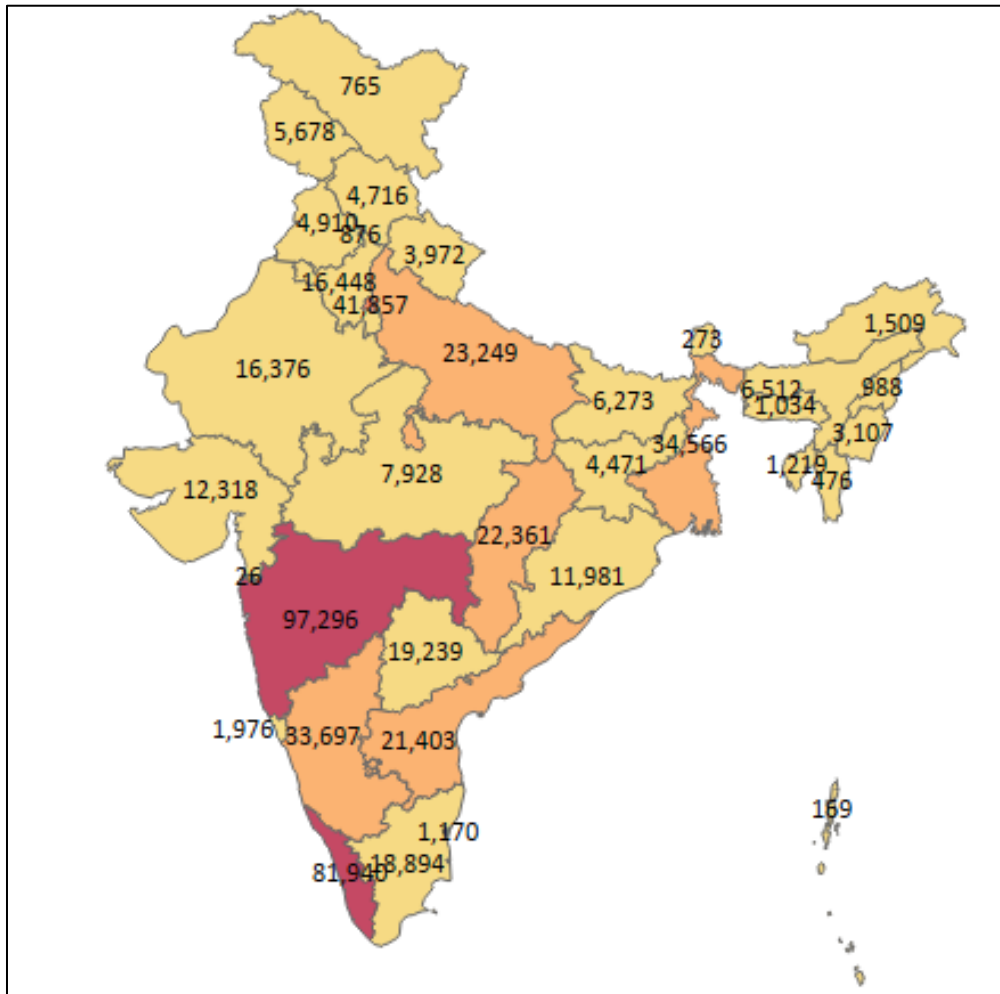
1.51 The Secretary, Department of Health and Family Welfare during his deposition before the Committee on 16th October, 2020 furnished the latest statistics of incidence of COVID 19 in India vis-à-vis in other countries which are enumerated below:

- i. Currently more than 39 million cases have been reported all over the world and has caused more than 11 lakh deaths worldwide. The highest number of reported cases and deaths are in USA which is more than 82 lakh and 2.22 lakh respectively. After that Brazil has 1.52 lakh deaths and 51.7 lakh cases. In India, 73.7 lakh cases have been reported since inception, of which 64.53 lakh cases have been cured and 8.04 lakh are active cases.
- ii. The case fatality rate of India or the death rate due to COVID is 1.52 percent which is one of the lowest in the world. The death rate in USA is 2.71 percent followed by 2.95 percent in Brazil and 1.73 percent in Russia. It is much higher in Spain with 3.5 percent, 2.62 percent in South Africa, 4 percent in France and 6.5 percent in Britain.
- iii. India has 81 deaths per million, whereas it is 672 in USA, 716 deaths per million in Brazil and 718 deaths per million in Spain. While India has conducted more than 9 crore tests, USA has done 11 crore tests and all other countries have had fewer tests than India. Number of cases per million population is 5,341 in the country, while in the USA it is 24,780 per million, 24,277 in Brazil, 9,278 in Russia and 9,900 in the UK.

1.52 The trend of daily new cases of COVID-19 from March till 10th November 2020 as furnished by the Ministry is indicated as under:



1.53 The spread of India’s Active Cases in the Political Map (data as on 8th November 2020) as furnished by the Ministry is indicated as under:



1.54 The Committee observes that after a steady increase in the number of Covid Cases across the country, there has been a downtrend in Covid Cases. However, the Committee strongly feels that the threat of Covid-19 is still looming large on the country keeping in view the second and third wave in European countries and spike in Delhi. The Secretary, Department of Health and Family Welfare also expressed concern over the possible spike in the incidence of the Covid cases due to super spreading forthcoming festive events in the country and advent of the winter season. The Ministry should, therefore, take effective measures to control the scale of incidence of Covid-19 in the country. The Committee also recommends the States with high case load to adopt robust strategy for containment and mitigation of Covid-19.

CHAPTER 2

CONTINGENT PLAN

2.1 The Committee decided to make an assessment of the contingent plan in combating Covid-19 by the Government. The Ministry of Health and Family Welfare is the nodal Ministry in devising policies and ensuring their implementation. A better understanding about the contingent plan could be appraised only through the interaction with the officials of the MoHFW. Accordingly, the Committee heard the views of the Secretaries of Department of Health and Family Welfare and Department of Health Research respectively in its two meetings held on 5th March, 2020 and 4th August, 2020. In its meeting held on 5th March, 2020, the Committee also heard the views of the Secretary, Ministry of AYUSH.

Oral evidence of the Secretary, Department of Health and Family Welfare in the Committee meeting held on 14th February, 2020

2.2 In his deposition during the course of examination of Demands for Grants (2020-21) on 14th February, 2020, the Secretary, Department of Health and Family Welfare apprised the Committee about the outbreak of Corona Virus (nCOVID-19) and action taken by the Ministry to prevent the incidence of the disease. The Secretary submitted that though the transmission was huge but the percentage of mortality or fatality in this disease is less than SARS. He submitted that as on 13th February, 2020, in China, the new confirmed cases for the day were 1820 and in total, there were 46473 cumulative confirmed cases. Three confirmed cases were reported in Kerala and all three cases had travel history from Wuhan. Travel advisories were issued and quarantine centres were set up. Screening of passengers was initiated at 21 Airports, 12 major Seaports and 65 minor seaports and land crossings particularly bordering Nepal. A total of 2481 flights had been screened covering a total of 2,69,268 passengers.

2.3 The Committee was also informed that 17,678 passengers were under community surveillance and 525 were found to be symptomatic and referred to 45 hospitalized in the Integrated Disease Surveillance Programme (IDSP) network. The Secretary also submitted that guidelines were issued to States on surveillance and contact tracing, laboratory samples collection, packaging and transport, clinical management protocol and prevention and control in healthcare facilities.

Oral evidence of the Secretary, Department of Health Research in the Committee meeting held on 5th March, 2020

2.4 The Secretary, Department of Health Research during his interaction with the Committee on 5th March, 2020 shared in detail, about the virus, its impact and preparatory measures taken to contain it. Elaborating the background of the virus, he mentioned that the Corona virus group had six viruses and the Covid-19 is the seventh virus in the same group. The symptoms of virus are fever, dry cough, body pain and difficulty in breathing. The WHO declared it as a public health emergency of international concern on 30th January, 2020. Kerala reported its first case in India on 6th January, 2020. Kerala Government did well in managing Covid-19 with the help of ICMR-NIV and the Ministry of Health. The Secretary

mentioned about the following steps taken by the Ministry to contain the pandemic at an early stage:

- (a) Screening at 21 Airports, 12 major seaports and 65 minor seaports and land crossings particularly bordering Nepal.
- (b) Universal screening for all flights from Singapore, Thailand, Hong Kong, Japan, South Korea and China at earmarked aero-bridges.
- (c) Universal screening also started for flights from Vietnam, Malaysia, Nepal, Indonesia, Iran and Italy.
- (d) A total number of 5,89,438 passengers were screened at Airports and 16,076 at Ship Ports.

2.5 The Government had evacuated 645 Passengers from Wuhan, China through special aircrafts and kept them for 14 days quarantine in Army camp, Manesar and Chhawla camp of ITBP. Secretary submitted that 132 crew members and six passengers from India were evacuated from Japanese ship on 27th February and were kept in the Manesar camp and their first test was negative. Further, 112 people, including nationals of Myanmar, Bangladesh, Maldives, China, South Africa, USA and Madagascar alongwith some of the spouses of Indians were evacuated from China.

2.6 The Secretary mentioned that there were 106 viral laboratories under the Department of Health Research, of which 31 viral research laboratories had been activated and started testing and as on 5th March, 3,777 samples had been tested from 3,123 individuals. Till that date, the maximum number of people under observation were from Delhi followed by Punjab, Kerala, Tamil Nadu, Uttar Pradesh, Gujarat. Community surveillance is also being done through the IDSP regularly.

2.7 The Committee was apprised that the target is to increase the number of VRDLs to 125 by the end of this year and further expand the number of VRDLs. There is another Scheme- "Development of Tools and Support to Prevent Outbreaks of Epidemics" which has been providing testing kits during other seasonal diseases. The Committee was also apprised that advisories were issued by the Ministry of Health & Family Welfare in view of the emerging global scenarios. The guiding principles were surveillance, laboratory diagnosis, hospital preparedness, logistic management, capacity building and risk communication.

2.8 The Ministry apprised the Committee about Government's operation plan that inter-alia included:-

- i involvement of District Collectors;
- ii preparation of micro plans;
- iii mobilization of health force and training of rapid response teams;
- iv training of workforce by the Rapid Response Team;
- v active surveillance and contact tracing covering all households;
- vi arrangement for sample collection;
- vii transportation and testing;
- viii identification of health facilities for isolation of suspects;
- ix passive surveillance through identified health facilities;

- x home quarantine and daily follow up of all contacts;
- xi information management and daily sitreps;
- xii social distancing measures in the containment zone;
- xiii risk assessment such as closure of schools;
- xiv closure work places and ban on gatherings;
- xv risk communication.

Oral evidence of the Secretary, Department of Health and Family Welfare in the Committee meeting held on 4th August, 2020:

2.9 The Secretary, Department of Health and Family Welfare during his deposition before the Committee on 4th August, 2020 highlighted the broad timelines of the information received on the outbreak of COVID-19 and the follow up steps taken by the Government. He informed that of the total COVID-19 positive cases the world over, it was limited only to mild-disease stage in 80 percent of the people of which, only 15 per cent needed hospitalization and only 5 percent cases are critical and need ventilators. Global Case Fatality Rate (CFR) is 3.8% while in India CFR is 2.10%.

2.10 The Secretary submitted that as part of contingent plan, Government announced Janta Curfew followed by long duration of lockdown and efforts made to contain the spread of COVID-19 during continuing unlocking phase. Growth-rate of COVID cases during initial stage of lockdown was 36% while during the unlocking period, it was reduced to 3.3%. Lessons learnt and experiences gained from outbreak of viral diseases/epidemic, viz. Avian influenza (Bird flu) during 2006-2008, H1N1 in 2009 and Zika Virus & Nipah Virus during 2016-2019 was utilized by the Government to work out a preemptive, pro-active and graded response to combat COVID-19. The lockdown provided the much needed time for making arrangement to the extent of 34 times more isolation beds, 20 times more ICUs, 35 times more daily handling capacities of the hospitals and opening of 1331 test labs with 6.61 lakh actual daily tests through RT -PCR and rapid antigen tests. Tracking plan followed the testing of the positive case i.e. origin of infection and probability of the capacity to spread the infection in the population, provided the scope for surveillance over chain of transmission.

2.11 The Committee was also informed that the incidence of COVID-19 cases appear large because of aggressive testing policy but the fact remains that 83% of total cases were reported from 10 States only and the recovered cases on that day were more than double than the number of active cases. The Secretary further submitted that AIIMS, New Delhi was conducting skill enhancement of doctors through video-conferencing on every Tuesday and Friday every week with duration of two and half hours where issues pertaining to various aspects of treatment of COVID-19, viz, prescription of medicines, use of oxygen, high- flow nazal cannula or ventilators etc. were deliberated upon and the strategies planned.

2.12 Data-bank of final-year students, interns and retired doctors alongwith their mobile numbers and addresses was prepared in each State to avail their service, if the need arose. The Secretary informed that the Government of Karnataka has utilized the services of retired doctors on a large scale. Again the effective clinical management of COVID-19 led to reduction of mortality rate to 2.1% in India which was lower in comparison to the global mortality rate. As various sectors of economy were being unlocked, there was perceived threat

of people being infected by COVID-19 at a rapid pace, therefore, COVID Appropriate Behaviour, viz., distance of two yards, mask-wearing and hand- hygiene and public-hygiene was emphasized upon.

2.13 The Secretary further submitted that people's participation and service of opinion makers, people's representatives, viz., MLAs and MPs were required for successful implementation of mitigation plan intended to combat the challenges posed by COVID-19.

STRATEGIES ADOPTED TO CONTAIN COVID-19

2.14 The Ministry, in its written submission, stated that the Government of India was following a containment strategy to break/suppress the cycle of transmission. The key activities under containment strategy being adopted for COVID-19 management were:

- i. Delineation of containment and buffer zones as per MoHFW guidelines based on geographic dispersion of cases and contacts.
- ii. Enforcing strict perimeter control around containment zones to restrict public movement except for essential services
- iii. House to house search in containment zones for early detection of cases and their facility/home isolation as per MoHFW guidelines.
- iv. Ensuring special surveillance in areas such as urban settlements and those predicted as hotspots as per ITIHAS (based on Aarogya Setu and telecom data, mapping of cases, identification of clusters, contact tracing etc.)
- v. Contact tracing by local teams and placing contacts under home quarantine/facility quarantine.
- vi. Testing of suspect cases and contacts as per laid down guidance of ICMR.
- vii. Facility based treatment in dedicated COVID treatment facilities
- viii. Maintaining essential services in containment zones with adherence to COVID appropriate behaviour by personnel deployed for such purpose.

2.15 The Ministry has submitted that even during unlock phase, the aforesaid containment strategy is being followed for managing clusters or large outbreaks of COVID.

2.16 The Ministry, however, clarified that India has not followed a mitigation strategy. Such strategy implied, allowing the virus to run through the population in an effort to mount herd immunity in the community while protecting the vulnerable population. In the absence of definite pharmaceutical intervention such as drugs or vaccines, the only intervention is use of masks, hand hygiene and social distancing. Non adherence of such non-pharmaceutical interventions by the people may result in large number of cases and deaths in a short period of time. Countries (UK, Sweden and USA) that planned for mitigation as an intervention in the early part of the Pandemic have experienced large number of cases and deaths. Further, it would take substantive time for such herd immunity to develop.

2.17 The Committee however differs from the viewpoint of the Ministry as it feels that all the steps taken to contain control and minimize the incidence may appropriately be called the Mitigation Plan.

Role of National Center for Disease Control (NCDC) and Integrated Disease Surveillance Programme (IDSP)

2.18 The National Center for Disease Control (NCDC) is a premier institution undertaking crucial tasks related to surveillance and response to epidemic prone disease in the country. NCDC conducted epidemiological investigation into COVID outbreaks for COVID assessment in various States. NCDC participated in Joint Monitoring Group and National Task Force for periodic review, planning & preparing the testing strategies. NCDC's apex laboratory provided laboratory support to Delhi and other States in north India and over 1,33,049 samples have been tested by RT-PCR with an average turnaround time of 24 hours.

2.19 The Ministry of Health and Family Welfare in collaboration with WHO technical support has developed and implemented a web-enabled Integrated Health Infrastructure Platform (IHIP), electronic information system to serve as a single, centralized mechanism to integrate health information across all health and health-relevant data from various national programs and entities. The Integrated Disease Surveillance Programme (IDSP) component of IHIP has been launched so far in 9 States (Karnataka, Himachal Pradesh, Andhra Pradesh, Uttar Pradesh, Odisha, Telangana, Kerala, Manipur and Maharashtra) in a phased manner. Training has been completed in many States and action is being initiated to launch the same in remaining States. IDSP would help surveillance, contact tracing and monitoring of containment activities in COVID affected and non-COVID affected areas. By trainings, video conferencing and visits to various State/UTs as Cluster containment activities for COVID-19, these were being carried out routinely by district level IDSP units. Enhanced influenza like illness (ILI) and severe acute respiratory infections (SARI) surveillance is another important component for early detection of COVID cases. Capacity building by training the human resource on COVID-19 surveillance, Contact Tracing and Testing and Data Management is a continuous process being done by IDSP.

2.20 The Committee is of the view that the unprecedented outbreak of Corona-virus required a well planned and coordinated response from the Central as well as State Governments for successful containment of the pandemic. There has to be an integrated as well as a decentralized response to outbreak of pandemic Covid-19 for rescuing the common masses. The disease trend data under IDSP is crucial for generating the required response to contain the outbreak especially when Inter Sectoral Coordination for zoonotic diseases is one of the main programme components of IDSP. The Committee is constrained to observe the failure of NCDC-IDSP in generating the required response in the wake of the pandemic. The Committee feels that NCDC-IDSP should have been utilized in a more effective manner especially when the sole objective of IDSP is to detect and respond to outbreaks in the early rising phase through trained Rapid Response Teams (RRTs). The Committee, therefore, strongly recommends for revitalizing the enshrined role and responsibility of NCDC for effective control of the disease along with strengthening of the Central Surveillance Unit (CSU), State Surveillance Units (SSU) and District Surveillance Units (DSU). The Committee also recommends the Ministry to effectively implement the various programme components under IDSP. The Committee would like the Ministry to

launch Integrated Disease Surveillance Programme in the remaining States i.e. beyond existing 9 States. The Committee observes that there is an urgent need to assess the financial requirement for NCDP-IDSP for its revitalization. The Committee, in this connection, strongly recommends the Ministry to chalk out strategy and specific course of action to revamp the institutional and Human Resource Management structure and further strengthen NCDP-IDSP and pursue with the Ministry of Finance for higher budgetary allocation to NCDP-IDSP.

Advisories and Guidelines for COVID-19:

2.21 The Ministry has issued a number of guidelines and the same have been made available on the website of the Ministry (www.mohfw.gov.in) targeting various groups/activities such as (i) Travel (ii) Behavioural Health, (iii) Citizens, (iv) Hospitals, (v) States / Departments / Ministries, (vi) Employees etc.

2.22 Some of the important guidance documents are:

- i Guidance for sample Collection, Packaging and Transportation for COVID-19
- ii Guidance on surveillance for human infection with SARS COV-2
- iii Norms of assistance from State Disaster Response Fund (SDRF) in wake of COVID-19 outbreak
- iv Guidelines on dead body management
- v Guidelines for notifying COVID-19 affected persons by Private Institutions
- vi Guidelines on rational use of Personal Protective Equipment
- vii Guidelines on disinfection of common public places including offices
- viii Advisory for quarantine of migrant workers
- ix Guidance document on appropriate management of suspect/confirmed cases of COVID-19 - Types of Covid-19 dedicated facilities
- x Guidance note for enabling Delivery of Essential Health Services during the COVID 19 Outbreak
- xi Guidelines to be followed on detection of suspect or confirmed COVID-19 case in a non-COVID Health Facility
- xii Additional guidelines for quarantine of returnees from abroad / contacts / isolation of suspect or confirmed cases in private facilities
- xiii Updated Additional guidelines on rational use of Personal Protective Equipment (setting approach for Health functionaries working in non-COVID areas)
- xiv Preparedness and response to COVID-19 in Urban Settlements
- xv Guidance note for Immunization services during and post COVID outbreak
- xvi Guidelines on preventive measures to contain spread of COVID-19 in workplace settings
- xvii Guidance note on Essential RMNCAH+N Services during and post COVID
- xviii Clinical Management Protocol for COVID-19.

2.23 The Committee observes that plethora of guidelines issued by the Ministry in the course of the containment of outbreak of pandemic Covid-19 also caused ambiguity in interpretation of multiple guidelines. The contradiction in guidelines and the resultant

chaos among the general masses could have been averted by making the public aware of the provision of guidelines and better implementation of the advisories. Needless to say, particularly the separate guidelines on the quarantine issue by different State Governments created more panic and confusion.

Surveillance in the community

2.24 The Ministry further submitted that the Integrated Disease Surveillance Programme (IDSP) had issued advisory to all States/UTs on 17.01.2019 for SARI surveillance to pick up any travel related case reported in the community and follow up contacts of suspect/confirmed cases. Community surveillance was introduced initially for travel related cases and subsequently for clusters of cases being reported. The Ministry of Health & Family Welfare released containment plans to contain cluster and large outbreaks on 2nd March and 4th April, 2020 respectively and these plans were updated from time to time. The containment plans envisage a strategy of breaking the chain of transmission by (i) defining containment and buffer zones, (ii) applying strict perimeter control, (iii) intensive active house to house search for cases and contacts, (iv) isolation and testing of suspect cases and high risk contacts, (v) quarantine of high risk contacts, (vi) intensive risk communication to raise community awareness on simple preventive measures and need for prompt treatment seeking and (vii) strengthening of passive ILI/SARI surveillance in containment and buffer zones.

2.25 The Committee has been informed that on 24th July, there were 24,923 active containment zones in the country. During house to house surveillance elderly and other high risk population (in particular those with co-morbidities) were identified and followed up. In high density populations like urban settlements, such high risk population were moved out of such settlements into quarantine facilities. IDSP covered and enabled cumulative total of 32,68,042 persons from 37 States/UTs, out of that IDSP, 11,60,152 have completed 28 days of observation period. Hence the total number of persons under IDSP follow up was 21,07,890 as on 24th July, 2020. That was besides the follow up of confirmed and suspected cases in containment zones from time to time.

2.26 The Committee believes that contact tracing, testing and isolating are the crucial components for Covid-19 containment strategy. The Committee is of the view that poor contact tracing and slow testing in the initial phase of pandemic led to the increased number of infections in the country.

Hospital Infrastructure

2.27 The Ministry, in its background note, submitted that for appropriate management of suspect/confirmed COVID-19 cases, a three tier arrangement of health facilities has been implemented in consultation with the State Governments as per the following details:

- (a). COVID Care Center (CCC) to care for mild cases are being set up in hostels, hotels, schools, stadiums, lodges etc., both public and private. If need be, existing quarantine facilities could also be converted into COVID Care Centers. Functional hospitals like CHCs, etc, which may be handling regular, non-COVID cases might also be designated as COVID Care Centers as a last resort.

- (b). Dedicated COVID Health Centre (DCHC) that shall offer care for all cases that have been clinically assigned as moderate. These should either be a full hospital or a separate block in a hospital with preferably separate entry/exit/zoning. Private hospitals might also be designated as COVID Dedicated Health Centres. These hospitals would have beds with assured Oxygen support.
- (c). Dedicated COVID Hospital (DCH) shall offer comprehensive care primarily for those who have been clinically assigned as severe. These Hospitals should either be a full hospital or a separate block in a hospital with preferably separate entry/exit. The Ministry further submitted that private hospitals might also be designated as COVID Dedicated Hospitals. These hospitals would have fully equipped ICUs, ventilators and beds with assured oxygen support. Tertiary care hospitals under ESIC, Defence, Railways, paramilitary forces, Steel Ministry etc. were also being leveraged for case management. States have opted for public private partnership with many private hospitals coming forward to work as stand-alone COVID hospitals. DRDO set up large field hospitals with capacities ranging from 1000 to 10,000 isolation beds.

2.28 To a specific query about steps to be taken to enhance the health infrastructure in the country and the requisite funds for the purpose, the Department of Health & Family Welfare has submitted that the announcements made under the Atma Nirbhar Bharat underlines the commitment of the Government for the health sector in terms of increase public expenditure on health by investing in health and ramping up health infrastructure for management of infectious diseases at the District and Block levels. A proposal named Prime Minister Atma Nirbhar Swasth Bharat Yojana (PM-ASBY) for strengthening the public health system for effective preparedness and response was under consideration of the Government. The Committee has been informed that the activities proposed under PM-ASBY include the following:

- (i) Strengthening Surveillance of Infectious Diseases and Outbreak Response
- (ii) Strengthening surveillance capacity of Points of Entry
- (iii) Strengthening laboratory capacity with integrated public health labs in all the Districts. Strengthening of VRDL network of laboratories and setting up of new BSL 2-3 laboratories.
- (iv) Strengthening emergency response through Health Emergency Ceration Ccntres and Mobile Hospitals
- (v) Early case management through infectious disease blocks in Central Hospitals and in district hospitals and strengthening health and wellness centers in rural and urban areas
- (vi) Leverage digital technology for infectious disease management through National Digital Health Mission and strengthening digital services
- (vii) Research on epidemiology, drugs, diagnostics and vaccines by Department of Health Research/ ICMR

2.29 The Committee observes that the Pradhan Mantri Atma Nirbhar Swasth Bharat Yojana is an ambitious program of the government that encompasses vital components to consolidate and enrich health infrastructure in the country. The Committee recommends that government should not leave any stone unturned in implementing its each and every component to achieve its cherished goal.

Availability of Beds

2.30 One of the most crucial aspects of the pandemic was seeking a hospital bed for those affected with Covid. States have opted for public private partnership with many private hospitals to work as stand-alone COVID hospitals. DRDO has set up large field hospitals with capacities ranging from 1000 to 10,000 isolation beds.

2.31 Beds dedicated for Covid (As on 25th July, 2020) in central hospitals and hospitals with other ministries are as follows:

State	Hospital	Total beds	COVID beds
Manipur	RIMS	1060	50
Meghalaya	NEIGRIHMS	700	180
Delhi	LHMC and associated Hospitals	1252	147
	Dr. RML Hospital	1572	242
	Safdarjung Hospital	2873	289
	AIIMS, Delhi & Jhajjar	3515	1515
Bihar	AIIMS, Patna	820	680
Chhattisgarh	AIIMS, Raipur	800	400
M. P.	AIIMS, Bhopal	793	248
Odisha	AIIMS, Bhubaneswar	922	218
Rajasthan	AIIMS, Jodhpur	960	290
Uttarakhand	AIIMS, Rishikesh	960	355

2.32 States upload on the COVID portal the number of beds allocated by the States in different COVID facilities. Availability of beds as on 13.10.2020 is as shown below:-

Status of COVID Dedicated Facilities and availability of beds as on 13.10.2020

S. No.	Equipment	Status As on date (13.10.20)
1.	Dedicated COVID-19 treatment facilities	15,239
2.	Isolation Beds (without oxygen support)	12,73,100
3.	Isolation Beds (with Oxygen support)	26,4107
4.	ICU beds	76,709
5.	Ventilators supported beds	39,476

Category	No of Facilities
Cat. I - Dedicated COVID Hospitals / DCH	220

Cat. II - Dedicated COVID Health Center / DCHC	4153
Cat. III - Dedicated COVID Center / DCCC	8880
Grand Total	15239

2.33 Additionally, it was decided to use railway coaches as COVID Care Centre for the very mild/ mild cases. So far, the State Governments have requisitioned for 736 coaches for being used as COVID Quarantine Centres against which Railways have provided 813 coaches having 12472 beds. Till 21.07.2020, total number of 454 COVID patients were admitted in these COVID Care Centres out of which 330 patients were discharged. Out of Rs. 620 crores allocated to Railways, 140 crores have been allocated for conversion of coaches into COVID Care Centers.

2.34 The Committee observes that the total number of Government hospital beds in the country was grossly inadequate keeping in view the rising incidence of Covid-19 cases. Attention of the Committee has also been brought to Media Reports which highlighted the abysmally low number of beds in Government hospitals in the country especially at the peak of the pandemic. Data from National Health Profile–2019 states that there are total 7,13,986 Government hospital beds available in India which amounts to 0.55 beds per 1,000 population. As per Reports, 12 States stand below the national level figure. The Committee notes that lack of hospital beds and the inadequate ventilators further complicated the efficacy of the containment plan against the pandemic. As the numbers of cases were on the rise, a frantic search for vacant hospital beds became quite harrowing. Instances of patients being turned away from overburdened hospitals due to lack of vacant beds became the new normal. The scenario of patients holding oxygen cylinder rushing from pillar to post in search of bed in AIIMS Patna is a testimony to fact that tear apart humanity. The Committee is aggrieved at the poor state of healthcare system and therefore, recommends the Government to increase the investment in public health and take appropriate steps to decentralize the healthcare services/facilities in the country.

2.35 The Committee is pained to observe that in RML hospital out of the 1572 beds, only 242 beds were dedicated COVID beds whereas in Safdarjung Hospital, out of 2873 beds, only 289 were reserved for Covid patients. The Committee fails to understand the rationale behind the miniscule number of beds reserved for Covid patients in the Central Government Hospitals especially at a time when the number of covid patients were increasing rapidly in the capital city. The Committee, therefore, desires the Ministry to submit a note on the rationale for allocating such limited number of beds for COVID patients. The Committee would like to be apprised regarding the status of beds exclusively reserved for COVID patients in the capital of the country.

2.36 The Committee has been given to understand that Railways have provided 813 coaches having 12472 beds for conversion of coaches into COVID Care Centers. As per information submitted by the Ministry till 21.07.2020, only 454 COVID patients were admitted in these COVID Care Centres. The Committee fails to comprehend the underutilization of the available resources especially at a time when people struggled to

find a bed in the hospitals. The Committee expects a convincing response from the Ministry on the issue.

Increasing demand of non-invasive Oxygen Cylinders

2.37 On 16th October, 2020, the Secretary, Department of Health and Family Welfare informed the Committee that the Ministry has requested the National Pharmaceutical Pricing Authority (NPPA) to fix the price of Oxygen as non-invasive Oxygen has been found to deliver good results. Since the hospitals are using Oxygen on a large scale, the consumption of oxygen is increasing. The overall production in the country is roughly in the region of 6,900 metric ton every day. Out of 6,900 metric ton, the highest consumption of medical oxygen was reported in mid-September, in and around 24th or 25th September, when the consumption was almost 3,000 metric ton of oxygen a day. He also submitted that during the pre-Covid days, the consumption of medical oxygen was almost 1,000 metric tons per day and the rest of the 6000 metric tons of oxygen was being used in the Industry. Therefore, there is a strong need to ensure that the oxygen inventory is in place and oxygen prices are controlled.

2.38 The Committee agrees with the Department that the pandemic has led to an unprecedented increase in the demand of non-invasive Oxygen Cylinders and instances of lack of Oxygen Cylinders in the hospitals had also been reported. The Committee, therefore, strongly advocates National Pharmaceutical Pricing Authority to take appropriate measures for capping the price of the Oxygen Cylinders so that the availability as well as affordability of the Oxygen Cylinders is ensured in all hospitals for medical consumption. The Committee also recommends the Government for encouraging adequate production of Oxygen for ensuring its supply as per demand in the hospitals.

Laboratory support

2.39 The Ministry, in its Background Note, submitted that starting with just one laboratory for testing of samples for COVID-19, the network of existing laboratories has been expanded vastly to test samples for COVID-19. As on 10th November, 2020, the total number of labs for COVID-19 testing is 2082 out of which 1143 are Government laboratories and 939 are Private laboratories as per table:

Sr. No.	COVID-19 Tests	Total Labs	Government Labs	Private Labs
1	Real-Time RT PCR for COVID-19	1116	507+	609
2	TrueNat Test for COVID-19	838	601+	237
3	CBNAAT Test for COVID-19	128	35+	93

2.40 The Committee appreciates the efforts of the Ministry for augmenting the testing infrastructure in such a short period of time and believes that testing, isolating and treating holds the key for containing the virus.

2.41 ICMR had also undertaken a detailed exercise to upgrade diagnostic capacity development in the country. Adequate numbers of testing kits are also available and the same is being monitored by ICMR. RT-PCR test recommended by ICMR is considered the Gold Standard for diagnosis of COVID-19. In addition, rapid antigen test has been introduced for testing in containment zones and in hospital settings. Those found positive by this test are considered as ‘true positives’. Those found symptomatic but late test negative should be sequentially tested by RT-PCR. Besides the Gold Standard RT-PCR, TrueNat and CBNAAT techniques are also being used for testing. In addition, Rapid Antigen testing is being utilized for point of care testing in containment zones and hospitals. States are conducting sero-prevalence studies using antibody based testing for identifying susceptible population.

2.42 As regards, the testing criteria, the Ministry submitted that the strategy for COVID-19 testing in India has evolved over the months with the changing trajectory of the current COVID-19 pandemic. At the start of the pandemic, only international travelers from affected countries and regions were being considered for testing. The modified testing criteria now include high risk contacts, health care workers, patients of severe acute respiratory infection. Subsequent changes in testing strategies also included Influenza like illness (ILI) patients and Severe Acute Respiratory Illness (SARI) patients in containment zones, buffer zones and hospital settings, as well as symptomatic ILI among returnees and migrants within 7 days of illness. In response to a query regarding the number of tests conducted from March to October, the Ministry submitted the following data:

Month wise details of COVID-19 tests conducted (March to October 2020)

Month	Tests
March	33330
April	864517
May	2937283
June	4993407
July	10532295
August	23977081
September	33069878
October	33878288

2.43 The Ministry clarified that at the beginning of the pandemic, testing was confined to international travelers from affected countries and thus the numbers were comparatively low as compared to later when testing was extended to contacts, health care workers as well as asymptomatic contacts. As per estimates, the laboratories functional in March 2020 were testing only 30% of their full capacity.

2.44 The Committee was informed that ICMR has instituted fast track mechanisms for validation of RT-PCR diagnostic material (RT-PCR kits, antibody ELISAs/ Rapid kits, RNA extraction kits and VTMs). A total of 24 Institutions have been identified and designated to perform validation. Status of validation of kits is as follows:

- i. ICMR-National Institute of Virology has very effectively used the SARS-CoV-2 virus isolated at the Institute to develop IgG ELISA test. Technology transfer has been effectively made to seven indigenous companies. The kits are available in the market. IgG ELISA is useful to conduct sero-surveys in vulnerable populations and also understand the proportion of population infected and recovered from COVID-19.
- ii. To facilitate testing at district level, ICMR has also tapped the TrueNat machines for TB diagnosis. The Truenat COVID19 screening and confirmatory test has been validated by ICMR and now the machines have been deployed to testing even in district level hospitals. Since TrueNat platform comes with an inbuilt sample collection in viral lysis buffer, the virus is inactivated and the biosafety requirements are minimal while handling the sample. Similarly, alternate platforms working on GeneXpert and Abbott machines engaged in testing TB and HIV viral load testing respectively have also been mapped and operationalized.

2.45 As regards the variability in RT-PCR Testing due to use of different kits, the Ministry apprised the Committee that variations do exist between the RT-PCR kits manufactured by different companies due to variations in the factors that *inter-alia* include sample volume, primers, probes/fluorophores, enzyme systems and target genes, etc. The validation procedures aim to keep these variations at a minimum level by comparing all the different kits with the results of a single standard kit. However, post validation, the quality of the kits differ while manufacturing is done on a large scale. Batch testing is being done to test quality at this stage. The Ministry submitted the following data regarding the specificity and sensitivity of different COVID-19 Tests:

Type of Kit	Acceptance Criteria
RT-PCR Kit	Sensitivity: 94.7% and above (71 out of 75 samples positive) Specificity: 98.8% and above (84 out of 85 samples negative)
RNA Extraction Kit	95% concordance among positive 90% concordance among negative samples > 95 % samples showed amplification in internal control
VTM	100% concordance among spiked samples 100% samples showed amplification in internal control
Antibody Rapid Kit	Sensitivity: >90% Specificity: 99% and above
ELISA / CLIA kit	IgM: Sensitivity- > 90%, Specificity-99% and above IgG: Sensitivity- > 90%, Specificity- 95% and above

2.46 The Committee observes that only 33, 330 and 8,64,517 tests were conducted in the month of March and April respectively which increased to 33,878,288 in the month of October. The Committee believes that poor contact tracing and less testing could have been a factor for the exponential growth of COVID cases in the country. The Committee is also worried at the use of less reliable diagnostic tests which increase the chances of false negatives. Though the Rapid Antigen Tests may give faster results but are less reliable than the gold standard RT-PCR tests. Large scale use of such tests with low specificity and

sensitivity may end up giving false negatives and subsequently derail the Covid-19 containment strategy. The Committee is of the view that the Government must assess the veracity of Rapid Antigen Test vis-à-vis RT-PCR and other diagnostic tests conducted to bring forth the true picture of the testing capacity in the country. The Committee, therefore, strongly recommends the Ministry to ramp up the testing facilities in the country for more accurate tests. The Committee strongly recommends the testing rate through the more reliable RT-PCR tests.

2.47 The Committee also underlines the need to encourage domestic medical device manufacturing industry so that the import of diagnostic kits from other countries is minimized. The Committee, therefore, recommends the Government to boost investment and innovation in the medical device industry in the country.

Nationwide Sero-survey

2.48 ICMR conducted a nationwide serosurvey to estimate the overall seroprevalence of SARS-CoV-2 infection. As per information submitted by the Ministry, the first sero-survey conducted by ICMR in May 2019 which indicated that less than 1% of the population was exposed to SARS-Cov-2 infection. In containment zones where the transmission is expected to be high, the sero-prevalence was found to be higher. These findings indicate wider spread of infection limited to pockets or containment zones and not entire cities. The ongoing control measures in terms of testing, contact tracing, quarantining of contacts and isolation of positives as well as non-pharmaceutical interventions need to continue in order to prevent the spread of infection.

2.49 To a specific query on findings of other rounds of serological survey conducted by ICMR, the Ministry submitted that ICMR conducted population sero-surveillance involving about 60 districts with a sample size of about 24,000. The first round was conducted in April – May 2020 and the second round August - September 2020. The National seroprevalence was 0.7% in the first round and 6.6% in the second round. Both these seroprevalence studies highlighted that a substantive population are still susceptible to COVID infection. In the Committee meeting held on 16th October, 2020, the Secretary, Department of Health Research informed that in rural areas the sero-prevalence is almost 4 percent whereas it is 8 percent and 16 percent in urban areas and urban-slums respectively.

2.50 On the reason behind the different results of sero-survey conducted in Delhi, the Ministry submitted that the difference could be due to a number of variables including methodology adopted by the investigators, difference in population groups sampled, sensitivity and specificity of kits, different time periods during which the tests were conducted etc. For these reasons, no statistical inference can be drawn. The details of sero-surveys conducted in Delhi are as follows:

Sl. No.	Dates of Sero surveys	Sample size	Overall Sero prevalence	Kit used for testing	Whether district wise sero prevalence calculated	Remarks
1	June 27-10 July, 2020	21387	22.83%	ICMR approved ELISA (COVID Kawach- sensitivity:	Yes	Conducted by NCDC in collaboration

				92.1% specificity-97.7%)		with Delhi govt.
2.	August 1 to August 7, 2020	15,239	28.35%	ICMR approved ELISA (COVID Kawach- sensitivity: 92.1% specificity-97.7%)	Yes	Maulana Azad Medical College and Delhi govt.
3	September 1 to September 05	17,409	25.1%	ERBALISA Covid19 kit (sensitivity-99.12%; specificity-99.3%)	Yes	Maulana Azad Medical College and Delhi govt.

2.51 The Committee understands that Covid-19 Seroprevalence survey is crucial for studying the extent to which the Corona virus had spread among the Indian population. The Committee observes that sero-survey tests account for the presence of antibodies amongst the persons who might have suffered from SARS-COV-2 virus. The Committee notes that despite limitations due to volley of variable factors, the data received from tests and surveys provides useful information on the trends in new infections and better understanding of the pandemic. The seroprevalence survey would enable the Government to formulate its strategy and the course of action plan to contain the expansion of the COVID-19.

Capacity building and Health Resource Management

2.52 The Ministry, in its background Note, submitted that Rapid Response Teams (RRTs) of the States/UTs were trained in 2014 in management of a similarly placed virus namely MERS-CoV outbreak. More recently (in Nov-Dec, 2019) these Rapid Response Teams of all States/UTs, APHO/PHOs and Regional Directors of Ministry of Health and Family Welfare have also been trained on management of high risk pathogens in context of Ebola virus disease outbreak in Democratic Republic of Congo. Immigration officers have been sensitized to traveler's history of travel to China. A National level Training of Trainers was organized by MoHFW in collaboration with the World Health Organization on 6th March, 2020 with 270 participants from all States/UTs participating and 1000 persons joining through Video link. States were asked to replicate the trainings at State and district levels so as to cover all districts and health facilities by 20th March, 2020. Various cadres of personnel and volunteers across sectors and departments that can be involved, in not only COVID related work but also for ensuring maintenance of other essential medical services, have been worked out, pooling manpower resources from Defence, AYUSH, NCC, NSS, NYK, public sector enterprises, and private sector. The respective roles of these cadres have also been mapped.

2.53 The Ministry further submitted that a SoP for reallocation of residents/PG students and nursing students as part of hospital management has been prepared. An 'Advisory for Human Resource Management of COVID-19' has been prepared providing guidance to States/UTs to build the capacities of human resources including the medical manpower who help managing patients in hospitals; as well as non-medical personnel, front-line workers, who may be

involved in non-medical duties such as logistics, surveillance etc., for COVID-19 management.

2.54 The Training Resources for medical and non-medical personnel on infection prevention and control, clinical management including ventilation, logistics etc. is being updated regularly and is available on the website of Ministry of Health & Family Welfare. State Government and institutions are also being encouraged to conduct required training by mobilizing necessary resources. Online training and webinars for Physicians and Nursing personnel is being conducted by AIIMS on management of patients with COVID-19, septic shock, ventilation strategy, management of aerosol generating medical procedures, infection and prevention control practices, psychological care of patients etc. In addition to that, training modules have also been made available on iGOT online platform by DOPT (<https://igot.gov.in/igot>) where pre-curated content can be accessed on all devices- smart phones, tablets, laptops, PCs - by multiple learners simultaneously at the time and place of their choice. The training modules have been translated to regional languages. Currently, there are 12 courses in different languages which have been uploaded under the MoHFW tab on the website including courses on topics like-

- i. Basics of COVID-19
- ii. Quarantine and isolation
- iii. Infection prevention through PPE
- iv. Psychological care of patients with COVID-19
- v. Infection prevention and control
- vi. Laboratory sample collection and testing
- vii. Clinical management of COVID-19
- viii. Management of COVID-19
- ix. ICU Care and Ventilation Management

2.55 Similarly, additional Human Resources such as anaesthetists, physicians and other specialists, doctors, nurses and other necessary medical and paramedical staff have been engaged by the States\UTs. Additional incentives are also being provided to staff on COVID duties. Insurance cover of Rs. 50 lakhs has been provided to 22 lakhs health professionals, including front line workers and ASHAs, involved across the country in COVID-19 management, under the Pradhan Mantri Garib Kalyan Yojana, for a three months period up to June 2020. As on 13.07.2020, a total of Rs. 130 crore have been spent on insurance of health workers under the PMGKY.

2.56 President, Public Health Foundation of India submitted that India has a shortage of health workers. For attainment of Millennium Development Goals (MDGs) and delivery of Universal Health Coverage, WHO recommended 44 health workers per 10,000 population whereas presently, India has 22 health workers per 10,000. There is also marked maldistribution of these human resources across the country, with rural areas experiencing shortages and several States having much lower health worker density than the national average.

2.57 Indian Public Health Association (IPHA), Indian Association of Preventive and Social Medicine (IAPSM) & Indian Association of Epidemiologists submitted that States like Tamil Nadu and Gujarat with existing public health cadre are relatively better placed in handling such

public health crisis on their own. They suggested an early establishment of a dedicated, efficient, and adequately resourced public health cadre as Indian Health Service (IHS) in the Center and across States as recommended by various national committees and expert groups since 1946 on the pattern of Indian Administrative Service (IAS).'

2.58 The Committee finds that the healthcare workers lack the skills required for epidemic outbreak investigation, contact tracing, counselling, home care and community mobilization. The Committee underlines an urgent need for capacity building and maintaining the pool of health resources to fight against the outbreak of the pandemic. The Committee strongly supports the demand for the 'Indian Health Service' (IHS) in the Center and across States as a dedicated, efficient, and adequately resourced public health cadre on the pattern of Indian Administrative Service (IAS). Creation of Indian Health Service (IHS) can help in streamlining the healthcare delivery as envisaged in the National Health Policy 2017.

2.59 The Ministry further submitted that capacity building initiatives to conduct large scale containment operations for active case search and tracking has been carried out which include training of trainers of State Surveillance Officers, Rapid Response Teams and grass root level workers/volunteers identified for surveillance activities, ASHAs, Anganwadi Workers, Auxiliary Nurse Midwives, National Service Scheme, Indian Red Cross Society volunteers, Nehru Yuvak Kendra Volunteers, Ayush Students and National Cadet Corps.

2.60 Accredited Social Health Activists (ASHA) and Anganwadi workers are playing a key role in contact-tracing, surveys and awareness generation. They observed a two-day strike (7-8 August 2020) protesting against inadequate assistance from the government in the COVID response including lack of safety equipment, payment of salary and risk allowance.

2.61 The Committee applauds the ASHA, ANM and Anganwadi workers who were at the forefront of community surveillance and risked their lives at these challenging times. The Committee expresses its anguish over the instances of ASHA workers being mistreated engaged for contact tracing and that too in the absence of safety equipment like masks, PPE kits for them. The Committee is also pained to note that community health workers were denied wages even though they are the foot soldiers of the healthcare system. It is too much to expect from the community health workers to accomplish big task without proper training, incentives and support from the health system. The Committee strongly advocates for strengthening the network of ASHAs, ANMs and other community health workers and the necessary support in the healthcare delivery system. The Committee also recommends the Ministry to improve the quality of training imparted to health workers so as to enable them to provide effective and efficient delivery of healthcare services. Regular training to the community health workers and Anganwadi workers particularly in the post COVID scenario of increasing incidence of Covid-19 cases and complexities involved in the post Covid-19 treatment of infected persons has become more relevant and an inevitable intervention.

2.62 The Committee expresses concern over the large numbers of vacancies in secondary and tertiary public hospitals which considerably increases the dependence on private providers and contractual workers. In its earlier reports, the Committee has been pointing out gross shortage of healthcare workforce in the country. The Committee urges upon the

Ministry to fill up the posts of specialist lying vacant at Community Health Centres (CHC); doctors at Primary Health Centres (PHC), ANMs and nurses at accentuated pace to meet India's health needs without any further delay.

2.63 Attention of the Committee has also brought to Integrated Disease Surveillance Programme (IDSP) which is mandated to conduct different training programmes for epidemiologists, microbiologists, entomologists, finance consultants and other support staff. FETP is a two week long training course designed to train Disease Surveillance Officer (DSOs)/Epidemiologists to enhance their epidemiological skills in outbreak investigations. As per the information available on IDSP website, the total 756 DSOs have been trained through FETP program throughout the country till April 2016. Further the IDSP conducted one FETP for 21 DSOs/epidemiologists from 24th December, 2018 - 5th January, 2019 at PGIMER, Chandigarh and One FETP 20 epidemiologists between 10th - 22nd September, 2018 at PHFI, Delhi.

2.64 The Committee would like to highlight that the National Commission for Allied and Healthcare Professions Bill, 2020 as introduced in Lok Sabha intends to strike a working balance between medical professionals and allied and healthcare professionals. The Bill aims to strengthen the health workforce and also increase access to quality health services through qualified and competent set of allied and healthcare professionals.

2.65 The Statement of Objects and Reasons (SOR) to the Bill stipulates that as per estimation of the World Health Organization, by the year 2030, the global economy is projected to create around forty million new health sector jobs mostly in the middle and high income countries, However, despite the anticipated growth in jobs there shall be projected shortage of fifteen million health workers to achieve the sustainable development goals in low and lower middle income countries.

2.66 The Committee recognizes the crucial role of Epidemiologists in underlying the distribution of disease and the strategy for its control and therefore better trained health workers in epidemiology are fundamental for a robust surveillance system. The Committee observes that the Workforce Development Action Package under the Global Health Security Agenda (GHSa) sets a target of one trained field epidemiologist per 200,000 population. India, being a member of GHSa should positively work on capacity building of the frontline epidemiology workforce.

2.67 The Committee, in its 117th Report on the Allied and Healthcare Professions Bill 2018, has exhaustively examined the different clauses of the Bill. The Committee had recommended for need of de-medicalisation and bringing forth the Allied and Healthcare Profession to the forefront of patient care and safety. With the unprecedented testing times of the current pandemic where the health sector world over is struggling with heavy disease burden the allied health sector needs to be strengthened. The Committee, therefore, recommends the Ministry that along with medical professionals, the quality management of nursing and allied professionals in the country must also be ensured.

Logistics

2.68 The Ministry, in its background note, submitted that at the onset of COVID pandemic, there were no indigenous manufacturers of PPEs with requisite standards. That capacity was up-scaled with involvement of Ministry of Textiles, Department of Pharmaceuticals, Central

Drugs Standard Control Organisation (CDSCCO), Ministry of Consumer Affairs, Directorate General of Foreign Trade (DGFT), National Pharmaceutical Pricing Authority (NPPA) by promoting indigenous manufacturers and ensuring market availability. A technical committee under DGHS reviewed and revised specifications to enable indigenous manufacturers to manufacture and provide coveralls in requisite number.

2.69 The Committee has been informed by the Ministry that as on 23rd July, 2020, nearly 109 domestic manufacturers have cleared quality tests so far and orders for over 1.62 Crore PPEs have been placed with them. Successful efforts were made in conjunction with Ministry of External Affairs to place order for PPE Kits from abroad. Orders for 30 lakh PPEs were placed on foreign sources. A total orders of 1.92 crore PPEs have been placed by the Central Government so far. Initially Central procurement was done. As on 23rd July, 2020, the Ministry has already supplied 1.17 Crore PPE Kits and 2.50 crore N-95 masks to States.

2.70 The Ministry further submitted that with the country now attaining self sufficiency, the PPEs made available on GeM and in addition to the central supply, States have also been requested to assess their own stocks, and procure the same accordingly. As on 23rd July, 2020, Govt. has a buffer stock of 11.45 crore tablets of Hydroxychloroquine, of which 6.45 crore has been issued to States/UTs. Similarly, and of a central stock of 26.8 lakh tablets of Azithromycin, 21.5 lakh tablets have been issued to the affected States so far. Again, 18,013 ventilators had been allocated to States of which 14,616 had been delivered.

2.71 The country is self-sufficient in oxygen and oxygen cylinders. The Ministry of Health & Family Welfare has placed orders for 102400 oxygen cylinders of which 80,629 have been delivered to the States as on 17th July, 2020.

2.72 The Committee notes that the healthcare workers had to work under huge stress due to shortage of PPE kits amidst impending threat of corona virus infection as a result, quite many of them had to lose their precious lives. The Committee pays tribute to the doctors and nurses who have sacrificed their lives while combating Covid-19. The Ministry needs to ensure that there is no shortage of personal protective equipment (PPE) kits. The Committee also recommends the Ministry to ensure the adequate supply of oxygen cylinders with appropriate price caps.

2.73 The Committee observes that disposal of biomedical waste has become a big challenge in the wake of the pandemic. The Committee, therefore, strongly recommends the Ministry to ensure that the States strictly implement the guidelines on management of corona virus related bio-medical waste and take all sorts of requisite safety measures.

Risk Communication

2.74 Population Foundation of India viewed the strategies adopted as a systems response and as a community response. System response was through the timely decision of the Ministry of Health and Family Welfare. Government of India (GOI) in its guidelines to the State Governments on “Enabling Delivery of Essential Health Services during the COVID 19 Outbreak” dated 14th April 2020 has requested for provision of essential services, including

family planning, immunization and other critical maternal and child health services. Convergence among the departments of Health, Women and Child Development, Education, Rural Development, Panchayat Raj and others for food distribution has been a good initiative. Civil Society Organizations (CSOs) have also stepped up particularly in the area of awareness generation and distribution of food commodities. There were concerted efforts on communication and awareness building through digital platforms. As regards community response, there was increased involvement of gram panchayats in awareness generation, vigilance and screening activities. Also, Village Health Sanitation and Nutrition Committee (VHSNC) members across states played a crucial role in educating the community on preventive measures of hand washing, physical distancing and use of masks.

2.75 The Ministry submitted that the MoHFW website is being updated daily to provide information on current status of COVID-19 spread in India. Media briefing/ press releases are held daily. Communication material and toolkits in the form of pamphlets, poster, audio and AV films have been provided to the States. Communication material is also being hosted on MoHFW website and through social media. Dos and don'ts are being widely circulated through SMS. Caller-tune messages are being used through telecom subscribers in 13 Languages Community to brief about action taken by Ministry through electronic and print media as well as social media. Technical Officials from Ministry have attended various shows in Doordarshan/TV Channels to brief community at large. A dedicated call centre / helpline (1075) has been started to guide community at large which is being used by the citizens very effectively and on a regular basis. As on 21-07-2020, a total of 34,83,622 calls have been received on the COVID-19 helpline 1075.

2.76 The Committee notes the Ministry's initiative to ensure appropriate risk communication through SMS and caller tunes. However, the Committee feels that information dissemination regarding covid-19 in rural areas is still inadequate. The Committee, therefore, recommends the Ministry to encourage active participation of self help groups, the Panchayats and the Gram Sabhas for better public health messaging. The Committee also recommends the Ministry to take more inclusive measures for bringing a behavioral change regarding hand-washing and mask wearing among the masses.

SWOT ANALYSIS

2.77 A SWOT analysis of the Government's contingent and mitigation plans pertaining to COVID-19 as received from various stakeholders is as follows:-

Strengths	Weaknesses
(i) Coordinated national response and proactive surveillance	(i) Inadequate healthcare spending with no focused budget for Covid
(ii) Early impact of lockdown on virus dissemination and deaths	(ii) Inadequate primary and secondary healthcare infrastructure and staffing in many areas. Absence of organized urban primary healthcare has been a major weakness
(iii) Step up in National capacity for manufacture of medical equipment, test kits and drugs	(iii) Although health infrastructure was massively upgraded but the scale and speed was not commensurate to
(iv) Increase in healthcare facility for quarantine, isolation, treatment and intensive care	

<ul style="list-style-type: none"> (v) Increase in testing labs and testing rates (vi) Diligent contact tracing to identify primary and secondary contacts of cases (vii) Capacity Building of all levels of workers through tailor made modules (viii) Risk communication through various means and campaigns like ‘Break the Chain’ (ix) Digital healthcare modals like tele-medicine, e-ICU etc. enabling access to quality healthcare (x) Delegation of powers to local administration under Disaster Management Act facilitated inter-institutional coordination (health, police, municipal, local govt. etc.) planning and response at district level (xi) Convergence among the Department of Health, WCD Education, Rural Development Panchayat Raj and others for Food distribution, IEC, local surveillance, availability of masks, sanitizers, screening and vigilance and awareness etc. (xii) ASHAs and Angandwadi workers playing a critical role in community outreach 	<p>the population size and demand for services for the peak transmission season</p> <ul style="list-style-type: none"> (iv) Districts and States with already fragile health infrastructure unable to cope with demand for testing, tracing and treatment during peak transmission (v) Gaps in implementation strategies and measures by some States especially in initial months (vi) Delays in coordination between the Centre and States (vii) Inadequate contact tracing in many areas leading to high rates of viral spread despite increased testing (viii) Lack of public health expertise at various levels of the health system (ix) Reverse migration during lockdown and the inability of the system to cope up with the huge migrating population (x) Excessive dependence on Rapid Antigen Tests which have low sensitivity (xi) Data collection system not providing complete, timely and accurate data on newly tested persons, ratio of RT-PCR to other tests, Covid-19 related deaths, co-morbidities, antibody surveillance studies and hospital bed availability (xii) Multiple guideline with differences in interpretations (xiii) Although first lockdown was appropriate to identify and locate the active Covid-19 transmission zones and facilitated source reduction and containment of the disease especially in metros but further lockdown could have had a more nuanced and tailored approach incorporating risk of infection and disease transmission (xiv) Economic slowdown precipitated by global pandemic and restrictions of travel and trade to prevent the spread of the virus also impacted the country. Poor and vulnerable population (elderly, women, children and infants) were disproportionately affected.
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Opportunities	Threats
<p>(i) Covid-19 pandemic has exposed the broken links of economic system and linkages of health to economic progress. The provides an opportunity to increase investments in health sector significantly (3.0% of GDP)</p> <p>(ii) Enhanced investment in health should have both short and medium term perspective. In short term, opportunities should be utilized to upscale current size of human resources for health particularly in smaller towns and rural areas. With a medium to long term perspective, increased investment should be undertaken for creating health infrastructure with a decentralized approach.</p> <p>(iii) Provides an opportunity to develop integrated healthcare system where service provisioning can be by both public and private sector and individual patient may have choice. Eligibility criteria of Ayushman Bharat maybe expended to other vulnerable population groups and expanding the package of services by including outpatient care for women, children, elderly and NCDs and empanelling more hospitals from rural and remote districts</p> <p>(iv) R&D research and innovation can be harnessed by creating a network of labs and institutions engaged in fundamental research and transnational research, linking them with the industry to develop self-reliance in healthcare technology pharmaceuticals and diagnostics</p> <p>(v) Making ‘AtmaNirbhar Bharat’ and stress on “Vocal for Local”</p> <p>(vi) India’s manufacturing capacities for PPEs, Masks, ventilators, testing kits etc. have been immensely augmented</p> <p>(vii) To maintain and expedite digital healthcare models with inbuilt safeguards</p> <p>(viii) Increased testing capacities</p> <p>(ix) Mortality kept low due to focus on systems and manpower</p>	<p>(i) Spikes in Covid cases still being seen in affected regions and India yet to reach its peak</p> <p>(ii) Unpredictable pandemic with possibility of second wave like in Europe</p> <p>(iii) Inability to stop or slow down transmission to rural areas and small towns</p> <p>(iv) Lack of threat perception in sections of the people</p> <p>(v) Crowd density in urban areas especially slums, areas of indoor employment and in public transport</p> <p>(vi) Unaddressed issues of communicable, non-communicable diseases, maternal and child health issues, rampant malnutrition</p> <p>(vii) Loss of livelihood of many leading to various concuss</p> <p>(viii) Closure of schools and administrative institutions led to suboptimal performance and anxiety</p> <p>(ix) Lack of firm action by administration to prevent large gatherings</p> <p>(x) Non-adherence by people to public health measures like physical (social) distancing, masks and hand-washings</p> <p>(xi) Population density, high public morbidity</p> <p>(xii) Violence on healthcare workers</p> <p>(xiii) Psycho-social impact on the people</p> <p>(xiv) Poor risk perception at the individual level and stigma associated with the disease</p> <p>(xv) Dependency on global economic and supply chain systems</p> <p>(xvi) Violence against women and children</p> <p>(xvii) Adverse impact on reproductive health care services such as clean and safe deliveries, contraceptives and pre and post natal care.</p>

2.78 As regards the contingent and containment plan against Covid 19, the Department of Health & Family Welfare submitted that the strength of containment strategy is past successes of managing epidemics and pandemics. It can break or suppress the cycle of transmission. This helped in shift of epidemic in timeline, blunting of peak of the epidemic and taking off immediate pressure on health systems as a result of which 3-4 months of lead time for instituting preparedness measures was possible. A successful implementation of the containment plan requires whole-hearted government approach, overhauling of human resource planning and community participation for effective containment.

2.79 Noting the SWOT analysis of contingent and containment plan of the Government shared by the stakeholders, the Committee feels that adequate primary and secondary healthcare infrastructure needs to be put in place especially in the rural areas by increasing requisite investment on physical infrastructure. The Ministry should also increase the number of VRDLs across different States so that testing capacity in the country is upgraded manifold. The Committee also strongly recommends that every State should establish at least one medical college and hospital as 'Centre of Excellence'. The Committee desires the Ministry to issue clear guidelines on facilities for teleconsultation and encourage the participation of the public through various awareness and outreach programs. Panchayat and community leaders need to be actively involved for dissemination of information regarding hand washing, physical distancing and use of masks. The Committee also advocates research and development and innovation in the healthcare sector and increase the medical device manufacturing capacity in the country.

2.80 The Committee is of the view that Districts and States with poor public health sector need to be identified on priority and provided the required infrastructure for tracing, testing and treatment by providing the required financial aid. The Committee calls upon the Ministry to make best use of the extra-ordinary situation arising out of the outbreak of pandemic COVID-19 for strengthening the primary and secondary healthcare services. The Ministry should take all the necessary measures to promote private consumption and investments in the country. A second wave of COVID has been witnessed in European countries and the Committee, therefore, feels that India must also be prepared to combat a possible second wave of Corona especially in the ensuing winter season and super-spreading series of festive-events.

CHAPTER 3

MANAGING MEDICAL RESEARCH AND DEVELOPMENT

3.1 The Pandemic COVID-19 has caused significant morbidity and mortality all over the world. However till date, there is no specific drug or vaccine to treat or prevent spread of this disease. Few repurposed drugs and broad-spectrum antivirals are being used for treatment and have shown varying benefits. Development of effective vaccines appears to be a promising tool to help develop immunity and reduce disease transmission.

CLINICAL TRIAL/RESEARCH STUDIES

3.2 The Ministry submitted that Guidelines on Clinical management of COVID-19 have been updated on 03.07.2019 and widely circulated. These include case definition, prevention of infection control, laboratory diagnosis, early supporting therapy, management of severe cases and complications. No specific anti-virals have been proven effective. However, symptomatic treatment for fever and pain, appropriate rehydration, supplemental oxygen therapy and use of drug Hydroxychloroquine has been advised for mild to moderate cases. In addition, provisions for Investigational Therapies has also been made for using Remdesivir, Convalescent plasma and Tocilizumab for managing severe cases under close medical supervision.

3.3 MoHFW has also supported the use of drug Hydroxychloroquine for prophylaxis for asymptomatic healthcare workers managing COVID-19 cases, contacts of confirmed cases of COVID-19 and asymptomatic frontline workers, such as surveillance workers deployed in containment zones and paramilitary/police personnel involved in COVID-19 related activities.

3.4 The Ministry in its background note submitted that ICMR convenes the National Task Force on COVID-19 Chaired by Member Niti Aayog and co-chaired by Director, AIIMS, Delhi. Under the aegis of this Task Force, four research groups have been constituted to study/carry: (i) Operational research; (ii) Epidemiology & surveillance; (iii) Clinical research; (iv) Diagnostics. Several research studies including the following are worth mentioning.

- i. ICMR-National AIDS Research Institute (NARI) has taken lead as the country coordinator for WHO Solidarity Trial which was initiated to look at the beneficial effects of Hydroxychloroquine (HCQ), Lopinavir-Ritonavir combination therapy, Interferon beta-1a and Remdesivir. The trial has been initiated on 30th April, 2020. Based on conflicting results, now HCQ and Lopinavir-Ritonavir have been dropped.
- ii. To guide evidence-based policy decisions, an observational study has been concluded to understand the benefits of using hydroxy-choloroquine on health-care workers. Five sites have participated in the study, however results are being analyzed.
- iii. ICMR has just concluded PLACID trial to understand the effect of convalescent sera in moderately ill COVID patients in 450 subjects at 60 sites and the results are being analyzed.
- iv. Recently, a Nation-wide COVID-19 clinical registry has been launched by ICMR to systematically document the clinical signs and symptoms of COVID-19 patients in a uniform clinical proforma. This activity is an important step to understand various disease presentations and plan treatment modalities accordingly.

- v. ICMR has also launched a network of National Bio-repositories for collecting and storing various samples of COVID-19 patients. Such samples are a precious resource to aid in development of diagnostics, studying various bio-markers of disease severity etc.
- vi. Three special COVID supplement of ICMR's scientific journal – Indian Journal of Medical Research (IJMR) has been released, recently. This includes 24 editorials, perspectives, policy pieces, protocols, short commentaries, review articles and original research papers from ICMR and non-ICMR researchers. The supplement highlights the high quality of research conducted in India towards understanding COVID-19.

3.5 The Committee takes note of the different initiatives taken by ICMR for devising treatment protocol for Covid-19. However, the Committee observes that in the initial phase there was certain ambiguity in the treatment protocol for Covid-19 which is somehow attributed to the mutating strain of Corona virus. The Committee understands that devising a full proof treatment plan will have to be substantiated by different phases of clinical trials and have to be governed by strict protocols. The Committee, therefore, recommends ICMR to widen the scope of its clinical research and studies and keep on updating its database which could prove beneficial in containing and mitigating Covid-19 as well as such future outbreaks. The Committee also recommends ICMR to collaborate with other international institutes and pharmaceutical companies to test the safety and effectiveness of different drugs and devices.

Present line of treatment or drugs being used in tackling Covid-19

3.6 As novel drug development is a time and resource intensive process, repurposing of drugs has been taken up. Keeping in view the need for pharmacological interventions for COVID-19, a Task Force under the aegis of the Science & Technology Core Group on COVID19, has been constituted on Repurposing of Drugs for COVID19 (in short “TFORD-COVID19”), which has identified several drugs those could be potentially repurposed for COVID-19 management. The task force has so far identified 19 molecules for such purpose.

Hydroxychloroquine

3.7 As per information submitted by the Ministry, currently, hydroxychloroquine (HCQ) is recommended for use as Prophylaxis (specifically, pre-exposure prophylaxis) and as Treatment of mild to moderate COVID-19 cases. Hydroxychloroquine has demonstrated in vitro activity against SARS-CoV2 and was shown to be clinically beneficial in small single center studies though with significant limitations. Nonetheless, several large observational studies with severe methodologic limitations have shown no effect on mortality or other clinically meaningful outcomes. As is the case with other antivirals, HCQ drug should be used as early as possible in the disease course to achieve any meaningful effects and should be avoided in patients with severe disease. The commonest side effects are nausea, vomiting, abdominal cramps and headache. However, following intake of HCQ, the side effects related to any of the following systems viz. ophthalmic, hematologic, dermatologic, endocrine & metabolic, gastrointestinal, hepatic, nervous system and cardiovascular can rarely be experienced by a person taking this medicine.

3.8 The Health Secretary informed that HCQ was used for a prophylactic (protection) purpose and also for front line health care workers, although, one group of studies indicate its effectiveness in protection against COVID-19, with mild symptom and other group of studies expresses indifference to its use.

3.9 The Ministry submitted that India is part of the ongoing global SOLIDARITY Trial (with support from WHO), which is being coordinated by the ICMR-Institute named NARI, for one arm of which HCQ was a component. This arm of treatment has been dropped from Solidarity Trial.

Remdesivir

3.10 The revised clinical management protocol for COVID-19, outlines the use of Remdesivir as an investigational therapy. Emergency Use Authorization (EUA) allows a physician to use this drug when they feel that there is no choice left considering the disease condition. The physician is expected to take informed consent from the patient/legal representative. The data emerging from its use has to be submitted to CDSCO. Like other investigational drugs, its use in treatment of Covid can only be ascertained once evidence is established by the ongoing research studies.

Lopinavir/Ritonavir

3.11 Originally used for the management of HIV/AIDS, Lopinavir/Ritonavir have also been re-purposed for the management of COVID-19. This is not recommended for the management of COVID-19 according to the revised clinical management protocols for COVID-19 released on 13th June, 2020. It is, rather, being used as one of the arms (originally there were four arms) in the SOLIDARITY Trial. However, the emerging data on its efficacy from other studies suggests that it may not be effective.

3.12 The Ministry, on 21st October, 2020, shared the following on the COVID-19 clinical management protocol of drugs:

S. No.	Clinical severity	Drug/therapy
1	Mild	Paracetamol
		Hydroxychloroquine*
2	Moderate	Paracetamol
		Hydroxychloroquine
		Steroids (Dexamethasone/ Methylprednisolone
		Prophylactic dose of Low Molecular Weight Heparin (LMWH)
		Oxygen therapy
3	Severe	Paracetamol
		Steroids (Dexamethasone/ Methylprednisolone
		Prophylactic dose of Low Molecular Weight Heparin (LMWH)
		Oxygen therapy

** For mild cases with high risk features for severe disease (such as age > 60 years; Hypertension, diabetes, chronic lung/kidney/ liver disease, cerebrovascular disease and obesity) under medical supervision.*

3.13 In addition, severe cases may require drugs to manage Septic shock, Acute respiratory distress syndrome (ARDS) and other complications. Also, provisions have been made in the clinical management protocol for use of investigational therapies like treatment with (i) Convalescent plasma, (ii) Tocilizumab and (iii) Remdesivir for managing moderate to severe cases, not responding to usual therapy, under strict medical supervision.

3.14 The Committee is of the view that only those drugs whose efficacy for treating COVID-19 patients have been established should be used for hospitalized patients and the drugs should be prescribed only after multicentric trials and detailed study. The Committee, therefore, recommends the Ministry to issue clear guidelines for safe use of drugs. The Committee notes that there have been instances where certain drugs were prescribed for COVID-19 but clinical trials gave unfavorable results. The Committee, in this connection, strongly recommends the Ministry to issue strict guidelines against use of such drugs when the evidence conclusively shows that it does not work for Covid treatment. The Committee believes that only drugs with reliable data and research should be used among Covid patients, especially for patients with co-morbidities.

Status of Vaccine Development in the country and abroad

3.15 The world is racing against time to develop the vaccine against Novel Corona-Virus. Responding to the queries of the Members related to vaccine, the Secretary Department of Health and Family Welfare submitted that as per WHO, on 25th August 2020, 31 vaccine candidates were under clinical evaluation and 142 candidates were in pre-clinical evaluation stage.

3.16 Following is the status of the vaccine candidates in advanced stages (phase III clinical trials ongoing) of clinical evaluation:

- a) Three inactivated vaccines from China are in phase III clinical trial stage in China.
- b) One recombinant vaccine (non-replicating viral vector vaccine – ChAdOx1-S) developed by University of Oxford/AstraZeneca is in phase III trials in Brazil.
- c) RNA vaccine of Moderna (in collaboration with NIAID) and Pfizer are also approved for phase III clinical trials.

3.17 In India, Department of Bio Technology (DBT) has been pro-active in responding to the emerging situation to support advancement of vaccine candidates and related technologies by actively partnering with CEPI (Coalition for Epidemic Preparedness Innovations), through the DBT supported Ind-CEPI Mission. DBT would be actively supporting the Indian component of the applicants selected in response to the call (i) 'Proven vaccine technologies, applicable for large scale manufacturing, (ii) Rapid response against novel Coronavirus, 2019-nCoV' issued by CEPI.

3.18 Indian laboratories, both private and public are taking a wide variety of approaches to develop vaccines against COVID-19. The leading vaccine manufacturers in India are using well-defined vaccine development platforms, which were successfully used for other vaccines in the past for potential COVID-19 vaccines.

3.19 The Committee has been apprised of the vaccine development approaches for COVID-19 including the following:

- i. Whole virion inactivated vaccines
- ii. Recombinant vaccines:
 - a) RNA / DNA vaccines;
 - b) Non-replicating viral vector vaccines;
 - c) Replicating viral vector vaccines; and
 - d) Protein sub-unit vaccines;
- iii. Live attenuated vaccines
- iv. Virus Like Particles (VLP) vaccines

Indigenous Vaccines

3.20 On a specific query related to the efforts to develop anti COVID-19 vaccine in the country, the Ministry submitted that the several private or public Indian laboratories are involved in developing COVID-19 vaccine and some are at the advanced stages of development and one has already entered the clinical trial. If successful and the proposed milestones are not deferred due to unforeseen circumstances, the first vaccine may be available in the Indian market by early next year. In many cases, they are collaborating with the academic institutions in India and abroad where the R&D has been and is being done to develop the vaccine prototype.

3.21 The Ministry has submitted that Serum Institute of India (SII) and ICMR have partnered on clinical development of two global vaccine candidates: ChAdOx1-S, which is a nonreplicating viral vector vaccine developed by University of Oxford/AstraZeneca is undergoing phase III clinical trials in Brazil. The other candidate which is being supported by SII for further clinical development is the glycoprotein subunit nanoparticle adjuvanted vaccine developed by Novavax from USA.

3.22 On the status of the vaccines undergoing trials in India, the Ministry on 9th November, 2020 submitted the following information:

Name	Manufacturer	Clinical trial stage
COVAXIN*	Bharat Biotech	Phase II Human Clinical Trial – completed DCGI approval for Phase III Human Clinical Trials – received
ZyCoV-D*	Zydus Cadila	Phase II Human Clinical Trial – ongoing
Covishield*	Serum Institute of India	Phase II Human Clinical Trial – ongoing
Oxford Vaccine	AstraZeneca and Serum Institute of India	Phase III advanced – ongoing

* As per ICMR website (<https://vaccine.icmr.org.in/covid-19-vaccine>)

3.23 With regards to the role of vaccines in controlling the ongoing outbreak, the Indian Public Health Association (IPHA), Indian Association of Preventive and Social Medicine (IAPSM) & Indian Association of Epidemiologists in its "3rd Joint Statement on COVID-19 Pandemic in India – Public Health Approach for COVID-19 Control" concluded that Vaccines have no role in current ongoing pandemic control. However, the vaccine may play a role in

providing personal protection to high-risk individuals like Healthcare Workers (HCWs) and elderly with co-morbidities. While being optimistic the prevention and control strategy should also prepare for the worst. It must assume that an effective vaccine would not be available in near future. False sense of hope that this panacea is just around the corner should be avoided. The Associations were of the view that the testing strategy needs to be pragmatic from a public health perspective, promoting differential/targeted testing of high-risk individuals and discontinuing universal testing at this stage. Vaccines do not have any role in current ongoing COVID-19 pandemic control in India.

3.24 The Committee understands the urgency among the global scientific community for development of a vaccine against Covid-19. However, the Committee strongly emphasizes the need to ensure highest level of ethical and procedural standards in the vaccine research studies. The vaccine should pass the strictly regulated route of all phases of clinical trials and the data should be made available in the public domain. The Committee, therefore, strongly recommends the Ministry to follow a transparent approach so that any irregularity in the approval/production of vaccine is avoided.

3.25 The Committee also urges the Ministry to devise a plan for the availability of the vaccine. For this to happen, the vaccine production capacity in the country has to be considerably ramped up for making the vaccine accessible to its citizens. The Committee, therefore, recommends the Ministry to collaborate with Serum Institute of India and other vaccine manufacturers so that vaccines are easily available at an affordable rate to the general public. The Committee calls upon the Ministry to subsidize the vaccine cost for the weaker sections of the country, especially in rural and urban slum areas. The Ministry should be cautious in its efforts to check instances of black-marketing and shortage of vaccines. The Committee also recommends the Ministry to administer the vaccines according to the WHO's "strategic allocation" approach or a multi-tiered risk-based approach.

Strategy of smart vaccination

3.26 The Secretary DHR, in the Committee's meeting held on 16th October, 2020 stated that a high level Committee under Dr. Paul with co-chairmanship of Secretary, Health has been constituted to chalk out plan for smart vaccination. The Secretary submitted that there are mainly three groups, viz, core group, bridge group and general population. Once the core group is vaccinated, there is least chance of spread of the diseased and there would not be requirement for vaccination of whole population of the country. With all preventive measures such as wearing masks and through smart vaccination, the pandemic can be contained without vaccinating the entire population.

3.27 The Committee is of the view that smart vaccination may be used as an immediate strategy but subsequently the whole population should be vaccinated. The Committee also recommends the Ministry to upgrade its cold-chain storage system so that country wide vaccination can be carried out without any hurdles.

Convalescent plasma

3.28 The Committee has been given to understand that convalescent plasma is a means of passively providing antibodies to the patient and has been used previously in many viral illnesses with equivocal results. Currently, it is being used in treatment of moderate to severe COVID 19 patients under emergency with authorization from various agencies worldwide. Though large data sets are available which document the safety of using convalescent plasma, the studies stating the effectiveness of plasma are only observational in nature. The published randomized controlled trials from China and Netherlands do not show any mortality benefit in the patients receiving convalescent COVID19 plasma as compared to those who receive only the usual care for COVID19. A recent meta-analysis on 20 controlled and uncontrolled studies in use of convalescent plasma in COVID19 remained undecided on both the safety and effectiveness of convalescent plasma as a therapeutic option in hospitalized patients of COVID-19.

3.29 The Committee notes that convalescent plasma therapy has been used against other diseases in the past and has shown good results. The Committee recommends ICMR to conduct high-quality trials to examine the efficacy of plasma therapy on the mortality of COVID-19 patients and if the research outcome is favourable, efforts must be made for dissemination of use of convalescent plasma therapy.

The concept of Herd immunity

3.30 The Ministry has submitted that the two plausible interventions for the cessation of COVID outbreaks are (i) when the virus is allowed to spread through susceptible populations and they build up herd immunity or (ii) an effective vaccine becomes available. This apart the virus may mutate to become a mild virus, the chances of which are remote. In either of these situations, the virus may not die down completely. Sporadic cases or outbreaks may appear and it may also become endemic.

3.31 In case of SARS-CoV-2 virus, the option of letting it go through the population, waiting for herd immunity to emerge had been adopted by some European countries and USA initially. UK quickly abandoned the strategy when the tally of cases and deaths began to increase. Similarly, the Swedish response of not introducing social distancing had led to one of the highest mortality rates (currently at 50 COVID-19 deaths per 100,000 people) from COVID-19.

3.32 If similar intervention is followed in India, and the pandemic virus is allowed to pass through the population, the mortality numbers could be very high. Given the stage of the pandemic in India now, the current strategy of slowly opening up economic activities, while maintaining physical distancing norms, and tracking the spread of the pandemic through India, with early isolation and treatment of infected persons seems an appropriate way forward.

3.33 The Committee is of the view that letting people get infected with the virus till they develop herd immunity would result in a high mortality rate. The Committee agrees that given the poor health infrastructure in the country, the effect could be really adverse. The Committee notes that the trials of the vaccines are still underway and providing vaccine dose to a population of 1.3 billion will take time. The Committee, therefore, believes the best strategy available at present is to increase the testing capacity and isolate the affected

persons to contain the further spread of the virus and keep infected persons under appropriate medical observation.

TESTING CAPACITY

3.34 As per the information submitted by ICMR, from January 2020 till date, there has been a calibrated and phased expansion of testing strategy based on evidence of spread of the virus to avoid indiscriminate testing and conserve resources. As on 10th November 2020, a total of 12,07,69,151 samples have been tested for COVID-19. Action was taken to increase the number of labs, streamline the supply of testing kits and include point of care devices in testing arena. ICMR has shared the following details about the testing strategy:-

- i. The testing capacity has been expanded significantly as reflected in the table below:-

Date	Testing Labs	Total Tests done	Testing Capacity per day
1 st April	151	4208	30,000
1 st May	254	9,02,654	90,000
1 st June	676	38,37,207	1,65,000
31 st July	1321	1,88,32,970	6,82,340

- ii. **Approval of new Labs:** As of 10th November 2020, the total number of labs approved for COVID-19 testing has increased to 2082 including 1143 Government labs and 939 labs in the private sector.
- iii. **Mentor Institutes-**Creating 14 regional hubs at AIIMS like Institutes as well as other Medical Institutes of excellence to enable handholding and fast-track approvals of COVID testing facility across various Government and private Medical Colleges.
- iv. Testing capacity has been scaled up from about 1,500 tests per day to more than 6.42 lakh tests per day as on 30th July. In addition to RT-PCR, testing platforms have also been expanded to include TrueNat, CBNAAT and Rapid Antigen point-of-care test.
- v. ICMR conducted a quick study on effectiveness of pooled testing to minimize wastage of testing reagents and accordingly issued guidelines for pooled testing in low prevalence zones (<2%);
- vi. To ensure seamless availability of diagnostic kits and reagents all across the country, 15 depots have been created at ICMR Institutes. More than 75 dedicated staff of ICMR and facilities at ICMR Institutes have been earmarked to execute the task and ensure timely supply of reagents to all States.

- vii. Best efforts have been put in to overcome the crisis in terms of limited availability of imported RT-PCR testing kits, RNA extraction kits and Viral Transport Media (VTMs) by engaging with Indian Missions in source countries.
- viii. Multidisciplinary and multi-departmental teams of senior officials have been aligned to work against all odds towards procurement of testing reagents, kits etc.

Laboratory Preparedness: Role of Indian Council of Medical Research (ICMR) in diagnosis of COVID-19:

3.35 ICMR-National Institute of Virology (NIV), Pune functions as the resource centre for the Viral Research & Diagnostic Laboratories (VRDL) network and providing technical training for performing molecular and serological assays for virological diagnosis. NIV, Pune also performs the important task of standardizing assay procedures for the network as well as quality control and quality assurance activities.

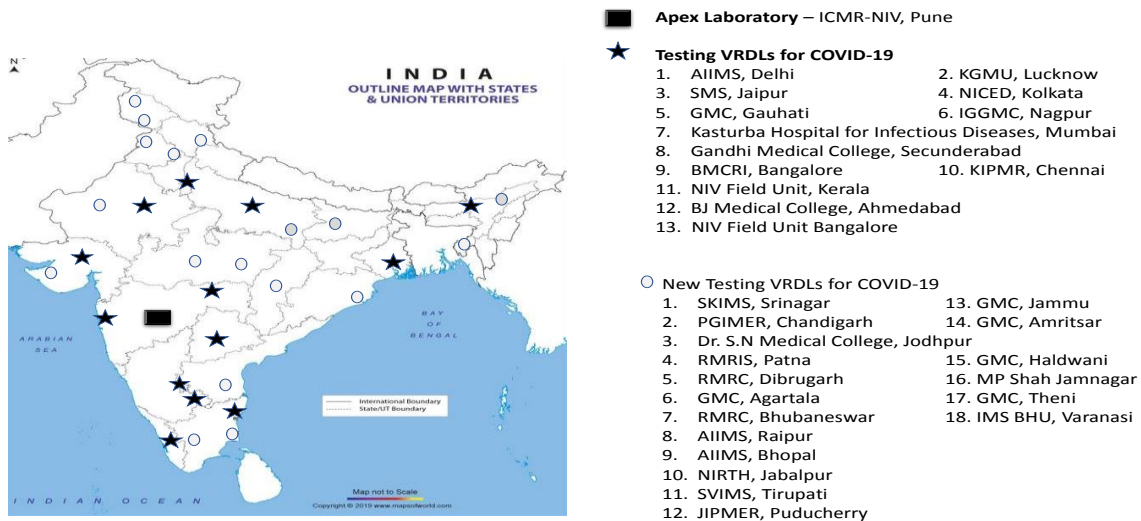
3.36 In the preparedness for the COVID-19 outbreak in India, NIV Pune served as the apex laboratory to optimize the conventional and real-time *Polymerase chain reaction (PCR)* assays targeting different genomic regions of SARS-CoV-2 and initiate testing of suspected cases. NIV Pune supplied the primers, probes, PCR reagents, positive and negative controls to all laboratories and also created standard operating procedure for the Real Time PCR assay. Further, NIV also undertook quality control activities.

Expansion of testing capabilities and selection of testing laboratories for SARS-CoV-2

3.37 Following the increase in the load of screening samples from suspected cases with symptoms and travel history to China or asymptomatic persons with travel history to Wuhan after 15th January 2020, it was decided that strategically located VRDLs needed to start testing for SARS-CoV-2 in addition to the apex laboratory at NIV Pune. VRDLs were chosen based on their location in cities with international airports receiving travelers from China, the capability of the VRDLs to perform real-time PCR assays, and their involvement in the ongoing testing for influenza viruses within the network. A total of 13 VRDLs across 11 States were selected for SARS-CoV-2 testing. As the number of suspect cases increased after 26th February, DHR/ICMR decided to commission 18 more labs to meet the increased demand.

3.38 Initial support was provided to National Centre for Disease Control (NCDC), Delhi. However, afterwards, NCDC started testing on its own and shared the numbers tested daily with ICMR.

Figure 1 depicts the number of VRDLs commissioned for testing samples of COVID-19 patients



Testing conducted at VRDLs and NIV, Pune:

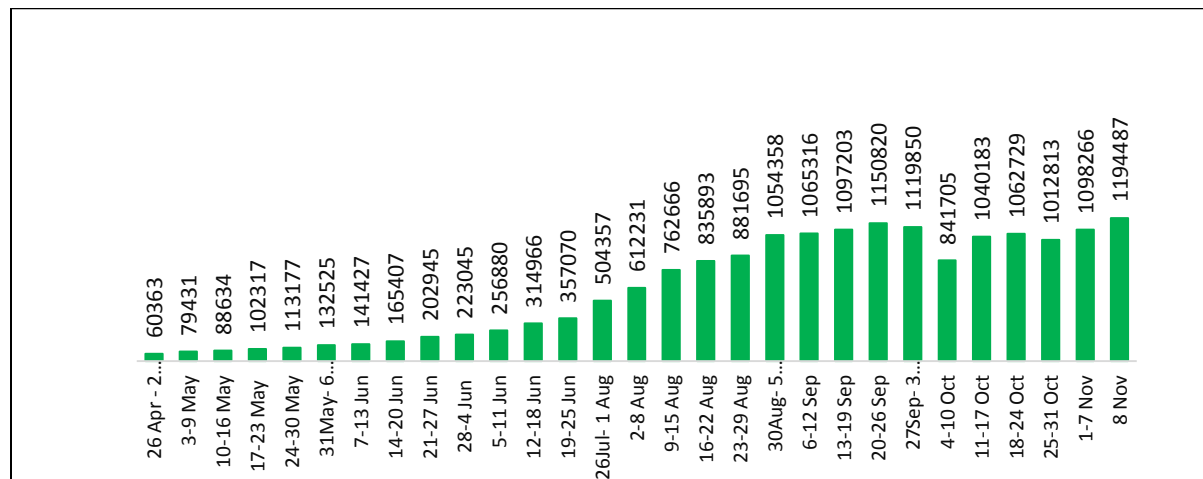
3.39 The VRDLs have been provided with a screening assay for detecting COVID-19. If any positive case is detected by VRDLs, it is shipped to NIV for reconfirmation, using three different assays. Once confirmed by NIV, Pune- the results are declared as positive. Further, for quality control purpose, first 10 negative samples and all positive samples are sent to NIV, Pune for re-testing.

3.40 As on March 4, 2020, a total of 3492 samples from 2838 individuals were tested by the network. This included testing of 1308 samples from 654 individuals evacuated from Wuhan, China and quarantined at ITBP and Manesar Camp. They were tested twice on days 0 and 14. Subsequently another 236 individuals evacuated from Wuhan and Diamond Princess Ship, Japan on 27th February 2020 were tested on day 0. Repeat testing were done on day 14.

3.41 In the Committee's meeting held on 16th October, 2020, the Secretary, Department of Health Research submitted that initially there was a shortage of testing kits but now the kits are manufactured in the country. Almost 1000 kits manufacturers, Viral Transports Medium and Swabs have been validated and are available on GeM. The Secretary further submitted that initially the cost of RTPCR testing kit was Rs. 4500 which has been reduced to Rs. 318. The RTPCR testing has also been expanded to more than 2000 labs. At places where RTPCR is not available, CBNAAT and TrueNat is being used for testing.

3.42 The Committee was also apprised that the CBNAAT and TrueNat were being used in TB diagnosis and the same has been repurposed for Covid diagnosis. The Secretary informed that out of total testing, almost 4 percent testing has been done through TrueNat. The DNA Nudge test started by BBC has been used in India since April and is presently carried out in 2500 locations. At places where TrueNat installation is not possible, the Ministry has been conducting Rapid Antigen testing since June, and the same has been appreciated by WHO. The Secretary also apprised the Committee on Feluda Test for Covid-19. FELUDA is an acronym for FNCAS9 Editor Linked Uniform Detection. It uses CRISPR-Cas technology for detection of gene specific SARS-COV-2 virus.

3.43 The trend of weekly average of daily tests conducted in the country as furnished by the Ministry is indicated below:



3.44 The Committee is of the view that the pandemic Covid-19 has highlighted the need for creation of a robust network of laboratories in the country. The Committee observes that though in the beginning only ICMR-National Institute of Virology (NIV) was tasked with the initial testing of suspected cases but in a short span of time, testing capacity was escalated and other viral research and diagnostic laboratories were commissioned. Even then identification of only 13 VRDLs across 11 states in a country with 1.3 billion population is indicative of the fact that the testing capacity was highly inadequate. It is quite disheartening to note that many States did not have the required infrastructure for testing facilities. This led to overburdening of the labs and caused inordinate delays in giving the test results. The Committee is, therefore, of the considered view that the laboratory infrastructure in the country needs to be strengthened along with the technical workforce required to operate these labs.

3.45 The Committee observes that initially only NIV-Pune was equipped to carry out Covid-19 testing; However by 1st April, testing facilities were increased to 151 labs and by 31st July, testing capacity was expanded to 1321 labs which further has been expanded to 2082 labs as on 10th November, 2020 (1143 labs in Government Sector and 939 labs in the private sector). This ramping up of testing capacity within few months is commendable. The Committee, however, finds that testing facility is only limited to bigger districts and cities. Lack of testing facilities in rural areas has also resulted in under reporting of cases. The PHCs and the CHCs are still largely devoid of any testing facilities and the required technical workforce. The Committee strongly recommends the Ministry to establish a strong network of Viral Research & Diagnostic Laboratories (VRDLs) in the country to tackle the constantly increasing incidences of Covid-19 cases.

3.46 The Committee is of the view that a differentiated approach with aggressive testing in containment zones and cities with high level of infection could have arrested the spread of infection. However, with unlocking, the infection has now spread to different parts of the country. The Committee also believes that Tracing, Tracking, Testing, Treating and Technology (5Ts) are the answer to tackling Covid-19 and the Ministry has been working on all the fronts. However, the Committee still feels that the coordination between the

Centre and the States needs further strengthening for better result. The required infrastructure to imbibe the 5Ts cannot be established overnight rather it demands adequate financial aid and specialized human resources.

3.47 The Committee notes that at present, India has the second highest number of total Covid positive cases after USA. However, inspite of the scaling up of testing, the number of tests per million population in India is only 44,524 whereas for USA, it is 287,354 (source: Worldometer 18th September, 2020). Brazil which has the third highest number of Covid positive cases is also conducting 68,666 tests per million population. The Committee, therefore, recommends the Ministry to further increase the number of Covid-19 tests in the country.

3.48 The Committee was given to understand that various diagnostic kits being used in carrying out Covid-19 Testing, include kits imported from other countries. The Committee is of the view that with an enabling policy framework, the Indian medical device industry could grow by leaps and bounds. The Committee strongly advocates providing support to the indigenous medical device manufacturing industry to make India self sufficient and promote local production under PM's flagship programme of Atma Nirbhar Bharat- that focuses on self reliance and local production. The Committee, therefore, recommends the Ministry to formulate specific schemes for providing financial incentives as well as infrastructure assistance to the industry that would work like 'Sanjeevani booti' to already slackening economy growth. The Ministry should devise segment specific approach for consumables, implants, diagnostic imaging and kits and other medical devices to boost up healthcare industry.

3.49 The Ministry also submitted that as on 9th November 2020, India has conducted a cumulative 83990 tests per million population. The State/UT wise break up of the same is detailed at Annexure I.

3.50 The Committee is concerned at the low number of Tests per Million population in States such as Arunachal Pradesh, Nagaland, Madhya Pradesh and West Bengal etc. The Committee, therefore recommends the State Governments to shed their lackadaisical approach and continue tracking, testing and isolating so that Covid cases do not spike in the winter months.

Strategy of the Government to ensure Bio-Security against Biological Weapons

3.51 Committee's attention has been drawn to the fact that Covid-19 like viruses infecting large populations across the globe and emerging as a pandemic, can be used as biological weapons against enemy nations. Bio-security therefore is a critical area of concern. The Department of Health & Family has submitted that a holistic approach is needed for ensuring bio-security against biological weapons, that inter-alia include:

- i. approach for deterrence, prevention, protection and response against biological weapons.
- ii. Engagement with agencies and active participation in ongoing International treaties.
- iii. Strengthening bio-safety and bio-security platforms in India

- iv. Instituting robust bio-repositories for high risk emerging/reemerging infectious pathogens
- v. Strengthening disease surveillance including at animal-human interface
- vi. Training and capacity building for management of public health emergencies arising from use of bio-weapons.
- vii. Strengthening research and surveillance activities related to development of diagnostics vaccines and drugs.

3.52 The Committee underlines the need of bio-safety to protect the world community from any activity signaling bioterrorism. The adverse effects of Covid-19 pandemic have taught the lesson on the importance of controlling biological agents and the need of strategic partnerships among different nations. The Committee, therefore, feels that the present time is the most appropriate for the Government to formulate effective laws to counter bio-terrorism. The Committee also believes with expanding network of VRDLs, ICMR would serve as an important platform for diagnosis and surveillance of existing as well as emerging viral infections and thus make the country bio-secured against life-threatening viruses and the menace of bio-terrorism.

3.53 The Committee agrees with the Ministry that a holistic approach is needed for ensuring bio-security against biological weapons. The Ministry should also engage with agencies and actively participate in ongoing International treaties. The Committee strongly recommends the Ministry to conduct more research and work towards training and capacity building for management of public health emergencies arising from use of bio-weapons.

Air Pollution and Covid Management

3.54 The Committee is also concerned at the growing pollution in major cities of the country. Studies have highlighted that air pollution during the time of pandemic will cause additive adverse effect on health and well being. The fact that air pollution can aggravate co-morbidities and other respiratory illnesses cannot be denied. Air pollution will increase the risk associated with Covid and could lead to fatal outcomes. The Committee, therefore, recommends the Ministry to encourage undertaking of necessary health research projects on air pollution and better Covid management. Further, the Committee is of the view that the Ministry should also liaise and coordinate with the Ministry of Environment Forest and Climate Change to find immediate solution for bringing down air pollution so that it does not aggravate the pandemic situation. The Committee also recommends the Government to make arrangement of adequate health infrastructure to combat the challenges of air pollution and manage its adverse impact on the Covid patients.

NEED TO STRENGTHEN RESEARCH & DEVELOPMENT

Budgetary allocation to DHR/ICMR

3.55 The Committee while examining the Demand for Grants (2020-21) of the Department of Health Research noted that the projected budgetary demand for ICMR was Rs. 2300 crore and

for Bhopal Memorial Hospital and Research Center, the demand was Rs. 165.22 crores. After merger of ICMR with BMHRC, the total budgetary demand amounts to Rs. 2465.22 crores. The Committee further observed that against the projected demand of Rs. 2465.22 crores, Rs. 1795.71 crores were allotted to ICMR+BMHRC leading to a shortfall of Rs. 669.51 crores.

Projected demand and actual allocation in BE 2020-21

Component	Projected Demand	Allocation in BE 2020-21	<i>Rs. In crores</i>
			Shortfall
Schemes	305.50	262.29	43.21
ICMR	2300.00	1795.71	669.51
Bhopal Memorial Hospital & Research Centre (BMHRC)	165.22		
Total ICMR+BMHRC	2465.22		
DHR Sectt Expenditure	42.00	42.00	0.00
Grand Total	2812.72	2100.00	712.72

3.56 The Committee observes with concern that as compared to other Departments involved in scientific research, the budgetary allocation of Department of Health Research has been one of the lowest in 2019-20, i.e, Rs. 1900 crores. For the year 2020-21, the budget marginally increased to Rs. 2100 crores. The Committee, in its 119th Report on the Demands for Grants for the year 2020-21 of the Department of Health Research, had expressed its deep concern over the lower budgetary allocation during 2020-21 vis-à-vis projected demands under various components of DHR schemes/ICMR. The Committee had highlighted that the shortfall in allocations under the schemes would severely impact the establishment of new Viral Research & Diagnostic Laboratories; Multi Disciplinary Research Units in Medical Colleges (MRUs), Model Rural Health Research Units (MRHRUs) in States and funding of projects under the schemes of Human Resource & Capacity Development. The Committee reiterates its recommendations as made in the 119th Report that the budgetary allocation to Department of Health Research should be increased.

3.57 The Committee also emphasizes on the pivotal role played by ICMR in the fight against the pandemic. The Committee believes that Department of Health Research and especially ICMR are at the forefront in devising a suitable strategy in combating such outbreaks. In view of this, this Department and ICMR deserve a consistent budgetary support for its research resources activities. The Committee strongly recommends Ministry to increase the budgetary allocation to ICMR to broaden its research activities which would in turn help in formulation of better health outcomes.

Research and Development

3.58 The Ministry has submitted that investment in research, healthcare and public health infrastructure have been considered as vital investment for the health and protection of the nation. The Ministry further submitted that technology and innovation have been a major part of the response to COVID-19 pandemic. The scaling up of testing was facilitated by the indigenous production of testing equipments and kits, which were largely imported in the pre-COVID-19

era. This includes validation and scaling up of indigenous diagnostic technologies, such as the TrueNat platform, development and independent validation of the COVID KAVACH ELISA etc. The Ministry further submitted that development of low-cost, easy to use ventilators across multiple technology incubators, most notably in various IITs across the country has been taken up to respond to the need for delivering respiratory support to COVID-19 patients.

3.59 As per information submitted by the Ministry, earlier it was completely dependent on imported PPEs, but in last few months, India has developed its own PPE industry.

3.60 The AarogyaSetu app has been developed and deployed for risk stratification and contact tracing. Linking of Aarogya Setu App with ITIHAS is facilitating the field surveillance and to detect potential clusters of disease in advance. Teleconsultation through e-Sanjeevani application is providing online OPD services. Safe & structured video based clinical consultations between a doctor in a hospital and a patient in the confines of his home has been made operational.

3.61 Prof. Srinath Reddy, Public Health Foundation of India has shared the following R&D and Health (innovations) proposals to contain zoonotic viral epidemics like Covid19:-

- (i) 'One Health' surveillance systems are needed for tracing microbial outbreaks and linking wildlife, captive and free living veterinary populations and human communities. This will establish early warning systems of microbial 'spillover' across species and enable effective containment strategies to disrupt the chain of transmission without delays.
- (ii) Development, validation and scaled up production of low cost, easy to administer point of care diagnostic tests for accurate and early identification of virus in easy to obtain samples (e.g., saliva).
- (iii) Artificial Intelligence for diagnostic and prognostic algorithms, drug development and pandemic modelling.
- (iv) Vaccine Development and Evaluation: clinical assay development; design and conduct of Phase 1, 2,3 Clinical Trials; evaluating possible laboratory correlates of immune protection and Phase 4 post-marketing surveillance for vaccine effectiveness in the population and delayed adverse effects.
- (v) Discovery And Development of Effective Treatments: Drugs for Prevention; Drugs for Treatment; Monoclonal Antibodies; Non-Allopathic treatments and Non-Drug treatments.

3.62 Apart from basic, clinical and technology related research, public health research needs to be supported in the following segments:- (i) infectious disease epidemiology; (ii) research on associated conditions that increase risk of viral infections, especially co-morbidities; (iii) socio-behavioural factors that support or impede epidemic control; (iv) health system capacity and pathways for a quick and effective surge response in the health system capacity in response to a public health emergency; (v) role of the private sector at various levels of healthcare; (vi) enablers and barriers to epidemic related technology; (vii) ability of health information systems to provide ready, reliable and disaggregated information to enable rapid and location specific responses. Public health institutes must be provided financial support to conduct multi-disciplinary research on these areas.

3.63 The Indian Medical Association has submitted that research projects on COVID-19 may benefit the country either in the short term or in the long term in the following manner:-

- (a) For short term benefits, research should focus on learnings that will enhance prevention of spread of COVID-19, through the development, testing, and use of, vaccines; or they should accelerate COVID-19 testing, and/or improve treatment outcomes.
- (b) For long term benefits, research should look at how future outbreaks of serious infectious diseases, new or existing, can be contained within a minimized local zone, and prevented from uncontrolled spread in the general community and across the country/globe. Learning will include understanding of measures that will have political, administrative, technical, and technological ramifications.

3.64 The Committee expresses concern over inadequate investment on public health research despite the fact that innovation play pivotal role in controlling the spread of disease. The country lacks resilient field surveillance to detect potential cluster of diseases. Lack of investment leads to dependence on imports of diagnostic kits and development of vaccine and drugs which ultimately enhances 'out of pocket expenditure' of common populace. The Committee strongly recommends the higher investment on research and development and innovation in the field of health research at multiple levels to contain zoonotic virals like COVID-19 and to establish One Health Surveillance System with potential warning system of microbial spill over. The Committee is distressed to note the recent UIS data (UNESCO Institute of Statistics data) expressing that India invests only 0.65 percent of GDP on Research and Development. India's GERD as a percentage of GDP was 0.67 in 2017 and 0.65 in 2018. The Gross domestic expenditure on R&D (GERD) as a percentage of GDP is the total intramural expenditure on R&D performed in the national territory during a specific reference period expressed as a percentage of GDP of the national territory. The Committee notes that India's GERD is well below the world average and the GERD of other countries. Countries like United States of America spend almost 2.84 percent of its GDP on research whereas China also spends 2.19 percent of its GDP on research. The Committee deprecates the fact that India's lower appropriation on Research speaks volumes of how neglected the R&D sector has been in the country. The Committee, therefore, strongly recommends that the Ministry should at least increase its spending on research to the world average of 1.72 as a percentage of GDP within two years. The Committee also recommends the Ministry to set specific expenditure targets for R&D and for promotion of science, technology and innovation (STI). This dedicated separate budgetary allocation should be supported even in financial crisis situations so that research activities do not suffer in the wake of any unforeseen circumstances.

3.65 The Committee strongly underlines the pivotal role of research and development and would like the Ministry to strive hard for an innovation enabling infrastructure in the country. The Committee applauds ICMR in leading the fight against the pandemic and strongly believes that dedicated research institutes on the lines of ICMR should be established across the country. The Committee also recommends the Ministry to increase funding for machine learning and artificial intelligence based projects and also promote international collaboration in Science & Technology. The Ministry should also explore AI tools and innovative methods for providing personalized treatment to Covid-19 patients.

Research as a career opportunity

3.66 The Committee expresses concern over the low number of researchers in the country and lack of research culture among students. As per the UIS data, there are almost 252 researchers per million population in India against 1,370 researchers in China. The Committee opines that the Ministry should focus on linking research with education and teaching and give incentives for increasing the retention rate in Health Research Field. The Committee strongly recommends the creation of a pool of talented health research personnel with upgraded skills of faculty of medical colleges, mid-career scientists, medical students, etc. The Department should also chalk out specialized training courses regarding infectious disease epidemiology risk on viral infection especially co-morbidities micro behavioral factors and related multi-disciplinary research and support the trainees to take up research projects for addressing critical national and local health problems. The Committee, in this connection recommends the Ministry to launch health specific research programs for generation of a research culture in the country and encourage the young undergraduates/postgraduates to pursue research in science and technology. The Committee desire the Ministry to provide financial assistance to institutions for conducting research in health specific areas. Financial incentive in form of research grants should also be provided to young graduates proposing to undertake health research projects. The Ministry should also assess the quality and outcome of research projects from time to time by evaluating the research outcomes and results.

CHAPTER - 4

COVID MANAGEMENT UNDER AYUSHMAN BHARAT-PMJAY SCHEME

4.1 While deliberating the parameters of the pandemic, the Committee also took an opportunity to understand the benefits of treatment available to the patients under the aegis of Ayushman Bharat PM-JAY Scheme. It was given to understand that Ayushman Bharat (AB), launched in 2018, marks a paradigm shift to move from sector and selective approach of health service delivery to a comprehensive range of health care service. Ayushman Bharat aims to holistically address healthcare covering prevention, promotion and ambulatory care, at primary, secondary and tertiary level by adopting a continuum of care approach. Considering the importance of this flagship Health insurance Scheme of the Government, the Committee decided to hear the views of the Ministry of Health and Family Welfare and National Health Authority on Covid Management through the scheme of Ayushman Bharat/Pradhan Mantri Jan Arogya Yojana (PMJAY). Accordingly, the Secretary, Department of Health and Family Welfare, Secretary, Department of Health Research and the Chief Executive Officer, National Health Authority, gave a presentation on the subject before the Committee in its meeting held on 16th October, 2020.

Oral evidence of Secretaries, Ministry of Health and Family Welfare and Chief Executive Officer, National Health Authority:

4.2 Elaborating the status of Covid in the country, the Secretary, Department of Health and Family Welfare informed that till that date, 39 million cases have been reported all over the world and have caused more than 11 lakh deaths worldwide. USA has the maximum number of Covid cases in the world, i.e 82 lakh and 2.22 lakh deaths have been reported in the USA. Brazil has reported 51 lakh 70 thousand cases and 1 lakh 52 thousand deaths. In India, 73 lakh 70 thousand cases have been reported and presently the numbers of active cases are 8 lakh 4 thousand. The Secretary mentioned that the case fatality rate of India or the death rate due to COVID is 1.52 percent which is one of the lowest death rates in the world. The death rate in USA is 2.71 percent, 2.95 in Brazil, 1.73 in Russia, 3.5 percent in Spain, 2.62 percent in South Africa, 4 percent in France and 6.5 percent in Britain.

4.3 The Secretary, MoH&FW submitted that Ayushman Bharat consists of two interrelated components, i.e. (i) the first component pertains to creation of 1,50,000 Health and Wellness Centres (ABHWCs) to provide comprehensive health care (CPHC) services to all; and (ii) The second component Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) provides health cover of Rs. 5 Lakh per family per annum, for secondary and tertiary care hospitalization, to around 10.74 crore families covering (more than 50 crore individuals). He further submitted that under AB-HWCs, 1.5 lakh Health and Wellness Centres will be established by Dec, 2022. There are 48,606 functional AB-HWCs at the moment and 1,04,862 approvals have been given till 14th October, 2020.

4.4 The Chief Executive Officer, National Health Authority informed that free COVID testing and treatment was conducted for PMJAY beneficiaries. NHA has notified 64 packages for testing and treatment across 32 States/UTs and also supported State Governments in engaging private healthcare providers. HEM Lite Module to fast-track hospital empanelment was also launched and 141 hospitals have been empanelled. NHA also launched Direct Lab Empanelment (DLE) module for ICMR registered labs. The IT system was also modified for

providing treatment to non AB-PMJAY beneficiaries. NHA also provided Call Centre Support and a National Covid-19 helpline “1075” was set up.

Efforts made for Covid-19 management through scheme of Ayushman Bharat and PMJAY

4.5 The Ministry, in its written submission, shared that Public Health and Hospitals’ being a State subject, the institutional response for COVID-19 management has been driven by the respective States. The States have deployed health officials working in various public healthcare facilities including AB-HWCs for COVID-19 related tasks as per the local needs and context, for surveillance, awareness creation, triaging and other works. Ayushman Bharat - PradhanMantri Jan Arogya Yojana (AB-PMJAY) conceived to provide quality health care to the poor population in the on-going pandemic has proven to be more critical than imagined. Continuous efforts have been made to ensure that no beneficiary of the AB-PMJAY scheme is deprived of right to avail free and quality treatment under the scheme in spite of the pandemic.

4.6 The Committee was also informed that with the help of AB-PMJAY, access to private facilities was provided free of cost to the scheme beneficiaries. In order to achieve this, on April 4, 2020, specific packages for testing for COVID and treatment for COVID were notified. A total of 64 packages have been notified under AB-PMJAY for testing and treatment of COVID. National Health Authority (NHA) also provided flexibility in designing of the packages to the States. So far, the COVID-19 testing and treatment numbers registered in the IT system of scheme are approximately 5,07,393 COVID tests and 2,46,581 COVID treatments. However, as most of the cases of COVID testing and treatment are already happening free of cost in public hospitals, some of the tests and treatments of AB-PMJAY beneficiaries may not have been booked on the scheme’s IT system.

4.7 The Ministry further submitted that to ensure continued supply of essential healthcare services especially for non COVID critical illnesses and to balance out the reduction in supply of these services due to the lockdown, an express empanelment mechanism, Hospital Empanelment Module (HEM) Lite was launched. A total of 535 applications (all private) were received, out of which 141 hospitals have already been empanelled under HEM Lite. A new transaction management system (TMS) to allow State Governments to extend treatment to non-AB-PMJAY beneficiaries on NHA’s IT platform was launched and few States like Madhya Pradesh are availing this facility. NHA also introduced a Direct Lab Empanelment (DLE) module for empanelment of ICMR registered labs to increase the number of testing facilities for AB-PMJAY beneficiaries. In addition to the activities under AB-PMJAY, National Health Authority is also providing assistance to States in their response to the COVID-19 pandemic. The NHA has been striving to ensure that all the existing resources are optimally utilized to meet the healthcare needs. Following were the interventions by NHA during the response to pandemic –

- i. NHA operated and managed the National COVID Helpline -1075 set up by the Government to provide citizens with all necessary information and guidance. This was a centralized toll-free helpline to ensure that all incoming queries are addressed and redirected to the respective states for action. More than 34 lakh calls were handled by the centre during mid-March 2020 to 30th September 2020.
- ii. For taking precautions and measures and to be safe during the current COVID pandemic, NHA initiated a campaign on automatic voice-enabled tele-calling for

COVID precaution advisory. The main objective of this campaign was to disseminate important information to beneficiaries over 60 years of age across the country. A total of 5 Crore numbers were reached out.

- iii. NHA also conducted a detailed verification of patients as per the data shared by ICMR. A team of over 300 tele-callers was engaged towards this exercise. A total of 31.36 Lakh calls were attempted by NHA on the data shared by ICMR till early August 2020.
- iv. NHA also undertook the cleansing and verification of AarogyaSetu data whereby data provided in the 'AarogyaSetu' application by the citizens was validated through a 3-step process to obtain accurate and complete information. NHA also handled over 20 Lakh calls on behalf of the AarogyaSetu application.

4.8 In response to a specific query regarding the number of beneficiaries who got free Covid testing and treatment, the Ministry submitted that AB-HWCs are not employed in the task of undertaking COVID tests or treating COVID patients. However, as on 02.10.2020, details of screenings of Non Communicable Diseases at functional AB-HWCs are as below:-

- i. Screenings for Hypertension - 547.81 Lakhs
- ii. Screenings for Diabetes - 451.55 Lakhs
- iii. Screenings for Oral Cancer- 281.47 Lakhs
- iv. Screenings for Breast Cancer - 155.13 Lakhs
- v. Screenings for Cervical Cancer- 105 Lakhs

4.9 The Ministry also submitted that till 5th October, 2020, 2,46,581 cases of COVID-19 treatment and 5,07,393 cases of COVID-19 testing worth Rs. 518.00 crore and Rs 94.00 crore respectively have been authorized under AB-PMJAY across States/UTs. Some of these numbers are still being compiled as preauthorization of COVID patients are delayed due to isolation and other COVID related protocols.

4.10 As regards insurance coverage for beneficiary/beneficiaries who succumb to COVID-19, Ayushman Bharat – PMJAY provides health cover for secondary and tertiary care hospitalization of the entitled beneficiaries. Therefore, compensation for the families of beneficiary/beneficiaries who succumb to COVID-19 is beyond the mandate of AB-PMJAY. However, Under Pradhan Mantri Garib Kalyan Package one of the component is Insurance Scheme for Health Workers Fighting COVID-19', which was launched w.e.f. 30.03.2020 to provide comprehensive personal accident cover of Rs. 50 lakh to around 22.12 lakh public healthcare providers, including community health workers, who might have to be in direct contact and care of COVID-19 patients and who might be at risk of being suffered by the pandemic.

4.11 The Ministry further submitted that on account of the unprecedented situation, private hospital staff/ retired/volunteer/ local urban bodies/contract/daily wage/ ad-hoc/outourced staff requisitioned by States/ Central hospitals/autonomous hospitals of Central/States/UTs, AIIMS & INIs/ hospitals of Central Ministries could also be drafted for COVID19 related responsibilities. These cases are also covered under the PMGKP Insurance scheme for Health Workers fighting COVID-19.

4.12 The Committee is of the view that the AB-HWC which is envisaged to provide comprehensive health care to all must be positioned with the required infrastructure including well equipped modules, technical facilities and the requisite technical human resources. The Committee believes that higher investment in the health sector will facilitate revival of health sector and the HWCs, in the wake of any future pandemic, can act as the first effective point of quality healthcare delivery services. The Committee feels that HWCs with its cadre of health workers and emphasis on community engagement are pivotal to the rural healthcare system of the country. The Committee, therefore, strongly advocates strengthening of the HWCs and developing a strong public health workforce at the grassroots level.

4.13 The Committee is equally apprehensive about the ground realities. Covid testing and treatment may not be available in all public hospitals. Given the fragile network of our public hospitals that struggled to deal with the increasing cases of Corona, instances of private hospitals charging exorbitant medical fees for Covid treatment are being reported. In such a scenario, where only the affluent could afford treatment, the Committee feels that free Covid treatment under PMJAY could provide a sigh of relief to the entitled beneficiaries and the economically weaker sections of the society. The Committee, therefore, recommends the Ministry to constantly make efforts to minimise the out of pocket expenditure of patients due to Covid and update the details of the beneficiaries on the scheme's IT System.

4.14 The Committee notes that NHA has introduced a process of temporary empanelment for the hospitals to avail benefits of Ayushman Bharat Jan Arogya Yojana (AB PM-JAY) through HEM Lite. The Committee welcomes such an initiative considering the gross shortage of adequate healthcare facilities. However, the Committee recommends the Ministry to effectively scrutinize the whole procedure of temporary empanelment of hospitals so that instances of fraudulent healthcare behaviour are avoided. The Committee also recommends the Ministry to empanel more hospitals especially in areas and States with weak health infrastructure to ensure continued supply of essential healthcare services.

4.15 The Committee appreciates the new Transaction Management System (TMS) that allows the State Government to extend treatment to non AB-PMJAY beneficiaries. The Committee recommends the Ministry to strengthen its monitoring mechanism and implement the new transaction management system (TMS) in States. The Committee welcomes the Direct Lab Empanelment (DLE) module for empanelment of ICMR registered labs and feels that this will go a long way in expansion of physical testing infrastructure.

4.16 The Committee also appreciates the helpline services offered by NHA, however, outreach of these services in the rural areas needs to be ensured. The Committee, therefore, recommends the Ministry to create adequate awareness of these services in the rural areas as well.

4.17 The Committee would like the Ministry to ensure that the benefits of the Pradhan Mantri Garib Kalyan Yojana actually reach to, healthcare providers, including community health workers, fighting COVID-19. The Ministry should also assess the implementation of the Scheme at the ground level.

Key concern areas of Ayushman Bharat and PMJAY in combating COVID-19

4.18 The Ministry, while flagging the key concern areas under Ayushman Bharat-PMJAY in combating Covid-19 submitted that the response towards Covid-19 is being led by the States/UTs through designated Covid-19 hospitals. There has been a lack of awareness regarding the availability of COVID-19 treatment under AB-PMJAY. Many States/UTs are providing COVID-19 related treatments to all citizens free of costs irrespective of any eligibility criteria, therefore, PMJAY beneficiaries are not keen to use their PMJAY wallet on COVID related treatment. There is also lack of awareness regarding availability of COVID-19 treatment and testing under AB-PMJAY. Restrictions on the mobility due to partial or full lockdown have also deterred beneficiaries from availing services under AB-PMJAY. Lack of demand for non-COVID services has been noticed because people are afraid to visit hospitals due to fear of infection. The non availability of requisite ID documents at the time of hospitalization is also a major concern. Besides, several States have issued instructions to defer elective surgery which has also been a matter of concern, The Ministry has highlighted the following challenges being faced by the private hospitals:

i. Infrastructure challenges

- a) Appropriate infrastructure (e.g. separate entry & exit, patient transfer facility, dedicated COVID ward, etc.)
- b) Separate isolation facilities to manage the contagion
- c) Availability of critical care facilities (e.g. ICU, ventilation, emergency care equipment's)

ii. Availability of medical and allied professionals

- a. Incidence of COVID infection among healthcare staff is high
- b. Hospitals require additional staff because existing staff needs to be quarantined for specific days
- c. Arrangement of accommodation and other facilities as staff is reluctant to go home because of heightened risk of infection to family members.
- d. Unwillingness among the staff to participate in COVID management is a big concern

4.19 To a specific query about quality of SECC data and omission of several poor people, the Committee was informed that though, at present, there is no provision to update or revise the list of beneficiaries, the States/UTs implementing AB-PMJAY have the flexibility to add other categories of beneficiaries at their own cost under the State Schemes, which are being implemented in alliance with AB-PMJAY. This has increased the coverage under the scheme to over 13.13 Crore families. Further, the possibility for use of National Food Security Act data is also being explored for identifying beneficiaries and improving communication with potential beneficiaries. Also, IT platform, Health Benefit Packages, Empanelled Healthcare providers of PMJAY can be used by other Central Government departments running similar health protection scheme. With this in view, National Health Authority (NHA) is actively consulting with other Ministries and Departments implementing social security schemes in the country.

4.20 The Committee is disappointed to note that many poor people have not been included under the scheme due to old SECC data and there is no provision to even update or revise the list of beneficiaries. The Committee is not convinced by the argument that State Governments can add beneficiaries at their own cost under State schemes. The Committee believes that States generally are fund-starved and it would not be appropriate to lay additional burden on them. The Committee, therefore, recommends that the Ministry and NHA must re-visit the idea of revising and updating the list of beneficiaries and not deprive poor strata of socially who should be given coverage under the scheme.

4.21 In response to another important query about denial of treatment by empanelled healthcare providers for Covid and non-Covid illness, the Ministry clarified that a strong system has been developed under AB-PMJAY for ensuring that hospitals do not deny treatment to its beneficiaries. If any specific case is brought to its notice, strong action will be taken against the erring hospital. The outbreak of COVID-19 has created an unprecedented load on the healthcare infrastructure. Further the situation was aggravated because of the non-participation of large number of private healthcare providers due to several reasons including increased overhead expenditure related to procurement of PPE and sanitization materials. During the lockdown period, it was observed that while 19% pre-CoVID active AB-PMJAY hospitals (private) had closed down their operations during the CoVID times, 34% hospitals had scaled down their operations by more than 50%, and 25% hospitals had scaled down their operations by less than 50%. Thus, 79% private hospitals have been impacted during COVID times. This is based on the comparison of utilization data pre-COVID (Jan to March'2020) and post Covid (April to June'2020).

4.22 Elaborating on the reasons for the same, the Ministry submitted the following points:-

- a. Several large empanelled hospitals were converted into dedicated Covid-19 centers. Therefore, they could not admit non-Covid patients.
- b. Many hospitals could not provide treatment during COVID times due to high costs of infrastructure and manpower related issues which are as under :
 - I. Infrastructure challenges
 - i. Additional infrastructure expenses towards arranging separate entry & exit, patient transfer facility, dedicated COVID ward, etc.
 - ii. Separate isolation facilities to manage the contagion
 - iii. Availability of critical care facilities (e.g. ICU, ventilation, emergency care equipment's)
 - iv. Arrangement of expensive personal protective equipment (PPE), medical consumables etc.
 - II. Availability of medical and paramedical staff
 - i. High incidence of COVID-19 infection among healthcare staff
 - ii. Requirement of additional staff because existing staff needs to be quarantined for specific days
 - iii. Arrangement of accommodation and other facilities as staff is reluctant to go home because of heightened risk of infection to family members.
 - iv. Unwillingness among the staff to participate in COVID management
- c. Many hospitals are fearful about the infection from COVID as they lack proper facilities for screening of incoming patients

4.23 The Committee has also been given to understand that NHA has a well-defined grievance mechanism to address issues faced by scheme beneficiaries to ensure that disputes and grievances related to denial of treatment or demanding of money by hospitals, and any other types of grievances involving beneficiaries, healthcare providers and other stakeholders under AB PM-JAY are resolved in an efficient, transparent and time-bound manner, Grievance Redressal Guidelines and Central Grievance Redressal Management System (CGRMS) have been developed for the purpose.

4.24 Grievance redressal under AB-PMJAY has a three-tier system at District, State, and National Level. At each level, there is a dedicated nodal officer viz. District Grievance Nodal Officer (DGNO), State Grievance Nodal Officer (SGNO) and National Grievance Nodal Officer (NGNO). Also, at each level, there is a committee formed viz. District Grievance Redressal Committee (DGRC) at district level, State Grievance Redressal Committee (SGRC) at State level and National Grievance Redressal Committee (NGRC) at national level to address the grievances.

4.25 An IT-enabled and web-based grievance redressal system has been developed which enables a person to register a grievance on the portals viz. <https://grievance.pmjay.gov.in> or <https://cgrms.pmjay.gov.in>. A grievance can also be lodged on the portal, through national call centre 14555 or through mail, letter, fax etc. which are acknowledged, recorded, escalated & resolved as per well-defined process. Any complaint regarding denial of treatment by an empanelled hospital is considered as SOS grievance and Turn Around Time of 6 hours has been defined to resolve them. Complaints or grievances received through any medium are immediately assigned to respective Grievance Nodal Officer designated at State and district level for necessary action. The concerned officer takes necessary action to resolve the case either through direct channel or placing it before the committee.

4.26 The Committee understands the crucial situation arising due to pandemic Covid-19 and the resultant challenges being faced with respect to the health infrastructure as well as services. Since all the resources stand diverted towards tackling the pandemic, people have been facing problems in availing treatment for covid as well as non-covid illness. The Committee believes that people may not be aware about the grievance redressal system and ways and means of registering their complaints. The Committee, however, feels that monitoring of empanelled hospitals must be done to ensure that treatment is not denied to anyone because it will have a direct impact on the out of pocket expenditure of the poor patients. The Committee believes that it is the moral duty of the Government to take care of its poor citizens especially in critical times like these. The Committee recommends to the Ministry as well as NHA that all empanelled hospitals must be monitored, fresh directions issued and those found guilty be penalised for denying treatment to anyone.

4.27 The Ministry has also shared the following SWOT analysis of Covid Management under AB-PMJAY:-

SWOT: AB-PMJAY w.r.t. COVID management

Strengths	Weaknesses
<ul style="list-style-type: none"> i. Wide network of 23,000+ hospitals ii. Robust IT platform with dynamic adaptive capabilities e.g. TMS Lite iii. Huge beneficiary base of 13.13 Crore families gives strong bargaining power 	<ul style="list-style-type: none"> i. Smaller hospitals find it challenging to provide Covid-19 treatment due to overheads ii. State Governments not proactive in leveraging AB PM-JAY as they are funded from NHM, NDRF, SDRF, DMF iii. Beneficiaries not utilizing their AB PM-JAY wallet as Covid-19 treatment is free
Opportunities	Threats
<ul style="list-style-type: none"> i. IT platform can be used to provide treatment to Covid-19 patients & monitor service delivery ii. Increase hospitals empanelment for effective service delivery iii. Build confidence in beneficiaries about AB-PMJAY mechanism 	<ul style="list-style-type: none"> i. Since State/UTs are directing Covid-19 response, awareness of AB-PMJAY's role in COVID management is missing ii. Non Covid treatments impacted due to low demand, mobility restrictions, fear of infection etc. iii. Frontline staff (PMAMs) diverted towards Covid-19 duty

4.28 The Committee is quite apprehensive that lack of awareness especially in the rural areas may be major reason for ignorance about healthcare benefits under the AB-PMJAY Scheme. As a result of such ignorance many entitled beneficiaries still remain outside the ambit of the Scheme. The Committee, therefore, recommends, especially in the remotest and rural areas, to utilise the existing community healthcare workforce, community leaders, gram panchayat etc in disseminating information about the Scheme. Periodic awareness campaign about the rights of the beneficiaries should be conducted. The Ministry needs to make special efforts and sensitize the entitled beneficiaries so that instances of patients paying additional amount in case of any additional medical procedure are avoided.

4.29 The Committee is of the view that engagement of both private and public sector is a must for ensuring robust delivery of healthcare services under the Scheme AB-PMJAY. The Committee understands that Covid treatment rate and charges for other health package for small private hospitals may not be sustainable which would discourage private hospitals from empanelling under the Scheme. The Committee, therefore, recommends the Ministry to rationalize the package rates especially in rural areas where people suffer due to a weak primary healthcare infrastructure.

4.30 The Committee notes that Ayushman Bharat envisages ensuring robust tertiary healthcare services and therefore, recommends the Ministry to make constant efforts to achieve its envisaged goal of 1.5 lakh Health and Wellness Centres (AB-HWCs) to provide comprehensive health care (CPHC) services to enrich the physical infrastructure in fight against pandemic/epidemic like situation. The Committee would like the Ministry to ensure availability of adequate and trained human resources for effective functioning of the HWCs.

4.31 The Committee would also like the Ministry to ensure that the private as well as public hospitals follow the appropriate guidelines on the isolation facilities, separate entry & exit, patient transfer facility etc to manage the contagion. The Committee opines that directing the whole health machinery towards Covid-19 while neglecting other healthcare services is not the right approach. The Committee, therefore, recommends the Ministry to also ensure that basic healthcare services like immunization, maternal, neonatal healthcare facilities, health check-ups, screenings etc are not disrupted in the Health and Wellness Centres.

Budgetary Allocation

4.32 The National Health Authority submitted that the budgetary allocation for AB-PMJAY for 2020-21 is Rs. 6400 out of which Rs. 1350 crore and Rs. 250 crore have been allocated under National Rural Health Mission and National Urban Health Mission respectively for setting up of Ayushman Bharat - Health & Wellness Centers. On a specific query with regards to the enhancement in the budgetary allocation during the pandemic, NHA conceded that adequate Budget Provisions have been made for the scheme and in case of requirement, additional funds would be provided.

4.33 The Committee has been given to understand that AB-PMJAY is completely funded by the Government and the costs are shared between Central and State Governments. The Government of India decides a national ceiling amount per family that is used to determine the maximum limit of the central share of the contribution. The actual premium fixed through open tendering process or the maximum ceiling of the premium is decided by Government of India, which is shared between Central Government and States/UTs in the ratio as per the extant directives issued by Ministry of Finance, from time to time.

4.34 The optimum utilization of the allocated funds has always been advocated by the Committee. The Committee, in this connection, recapitulates its recommendation/observation made in its 118th Report on the Demands for Grants (Demand No.42) for the year 2020-21 of the Department of Health and Family Welfare about the gross underutilisation of funds under the Scheme. It was pointed out that funds to the tune of Rs. 6400 crore were allotted in BE 2019-20 under AB-PMJAY which was reduced to Rs. 3200 crore at the RE stage, due to underutilization of the budgetary allocation. The Committee reiterates its recommendation as made in the 118th Report desiring the Department to periodically track the progress of the Scheme in the States and ensure that the funds earmarked for the Scheme are optimally utilised. The Ministry must ensure that no course of action should remain incomplete while combating Covid-19 for want of fund.

Health packages and services under Ayushman Bharat

4.35 NHA in its written submission stated that AB-PMJAY was launched with 1393 Health Benefit Packages (HBPs) which included one unspecified surgical package. After the launch of scheme feedback on various aspects of HBPs was received. Accordingly, an exercise was undertaken to rationalize the benefit packages which have been coined as HBP 2.0.

4.36 24 Specialist Committees were constituted by NHA to review the Health Benefit Packages. This led to the creation of 1592 packages under 25 different specialties including

oncology, nephrology, cardiology and general medicine etc. NHA further submitted that hospitalization benefits under the scheme are provided to beneficiaries in a cashless manner. A beneficiary can avail any number of health benefit packages irrespective of the number of treatment episodes based on the clinical requirement till the wallet of Rs. 5 Lakh is completely exhausted.

4.37 The Committee has been apprised that NHA and SHAs have issued guidelines to the empanelled healthcare providers under AB-PMJAY to sensitize the beneficiaries on the gamut of cashless treatments they are entitled to under the scheme. A Central Grievance Redressal Management System (CGRMS) has also been developed for addressing any issue related to quality of treatment, denial of treatment or overcharging.

4.38 Further, to improve the quality of healthcare services being provided and also to encourage the participation of public, private and corporate healthcare providers, empaneled hospitals are additionally incentivized for accreditation. 10% incentive is being provided to the hospitals with entry level NABH accreditation and 15% for NABH full accreditation. Hospitals which are imparting Post-Graduate education are also incentivized at the rate of 10% over and above the base rate of HBP.

4.39 Also, to ensure quality treatment under AB-PMJAY, NHA has signed a MoA with DHR/ICMR and is working in collaboration with it for developing Standard Treatment Workflows/ guidelines (STWs/ STGs) for PMJAY package. NHA has so far developed approximately 580 STGs for various PMJAY packages and released 174 STGs.

4.40 Further, the quality of treatment is ensured through beneficiary engagement process which involves system-based messages to each beneficiary at the time of – e-card creation, hospitalization and discharge. Beneficiary feedback is also captured through outbound calls and post-paid letter after treatment. The feedback thus received is collated and studied to undertake process improvements. To keep the confidence of private healthcare providers in the AB-PMJAY's claim settlement process, guidelines have been laid down for payment of claim to hospital within 15 days of intra-state claim submission and within 30 days in case of portability (inter State) claims.

4.41 The National Health Authority submitted that a dedicated fraud and abuse control unit National Anti-Fraud Unit (NAFU) has been set up at National level to continuously track instances of fraud/abuse with respect to utilization data, generation of e-cards through monitoring tools on real time basis. The NAFU works closely with State Anti-Fraud Units (SAFUs) to implement the anti-fraud framework established by the NHA.

4.42 The Committee is of the view that the Ministry should make constant efforts to ensure delivery of quality treatment to the entitled beneficiaries under the AB-PMJAY Scheme. For this to happen, the Ministry needs to strengthen its monitoring mechanism and coordinate with the State Health Agencies (SHA) for effective implementation of the Scheme. Needless to mention, periodical review meetings and regular assessment of the quality of treatment under the Scheme should become the integral parts of such robust mechanism. NHA should also review the outcome audit of different procedure and packages and conduct periodic medical audits.

4.43 The Committee feels that undue delay in claims payment of private hospitals empanelled under the Scheme is equally a matter of concern. The Committee strongly

believes that the Ministry and NHA should make special efforts for ensuring timely payment of reimbursement claims of empanelled private hospitals to ensure uninterrupted treatment to needy patients. This would ensure transparency and good governance of the health domain free from instances of exorbitant extraction of money from the patients in the private hospitals.

4.44 In response to yet another specific query about the inclusion of AYUSH packages, the Committee has been apprised that National Health Authority (NHA) is coordinating with Ministry of AYUSH for developing packages related to alternative medicine system for AB PMJAY. In this regard, several meetings have been conducted between NHA and Ministry of AYUSH. Further, a task force team has been constituted to draw up the roadmap for integration. An expert committee was constituted by this taskforce to work out the modalities and share the list of probable packages of Ayurveda for consideration within AB-PMJAY. The recommendations of this expert committee have been shared with the States/UTs implementing AB-PMJAY to gather their inputs and feedback. Accordingly, based on the inputs from stakeholders a suitable decision will be taken regarding the inclusion of Ayush packages.

4.45 The Committee is glad to know that AYUSH packages are being included under AB-PMJAY. Given the importance of Indian System of Medicines in present times especially during pandemic Covid-19, when AYUSH products are being widely used in the country for prophylactic use, its inclusion is well timed and warranted for. The Committee hopes that these packages are finalized soon and included under the scheme.

CHAPTER- 5

COVID MANAGEMENT THROUGH AYUSH SYSTEM

5.1 India is endowed with a rich system of Medicine. Many ancient scriptures/texts envisage the use of a large number of natural remedies/medicines in boosting the immunity of a person. Management of epidemics/pandemics is not new to traditional Indian health systems. Janapadodhwamsa Vyadhi is a well-defined term for epidemics in the classical ayurvedic texts. The mode of transmission in such pandemics has been explained under Aupasargika Roga by Sushrutha. Even during those days, there have been references to covering the face during sneezing, yawning and laughing. From the beginning of the 20th century, practitioners of Unani, Siddha, Ayurveda and other traditional forms of medicines systems have significantly contributed to the management of outbreaks of various diseases. Utilization of traditional Chinese medicine in Wuhan to treat COVID-19 cases sets the example demonstrating that traditional health care system offers successful treatment of these patients. After decades of neglect, the ancient Indian healing system is poised to take its place in the healthcare mainstream. The demand for food supplements and immunity boosters is increasing across the globe as consumers move from curative medicine to proactive and preventive healthcare. Long-term health immunity is at the forefront of consumer concerns and it is bringing into spotlight various progressive alternatives to health and wellness. These supplements increase overall immunity and provide much needed nutrition that may prove to be crucial in a fight against pandemics.

Approach of Ayush Systems

5.2 The Ministry of AYUSH in its background note submitted that the holistic approach of AYUSH systems of medicine focuses on prevention through lifestyle modification, dietary management, prophylactic interventions for improving the immunity and simple remedies of the symptoms. Emphasis on avoidance of causative factors and enhancing the immunity against host of infections are characteristics of Ayurveda management. The preventive aspect of Homoeopathy is well known, and historically, Homoeopathy has reportedly been used for prevention during the epidemics of Cholera, Spanish Influenza, Yellow Fever, Scarlet Fever, Diphtheria, Typhoid etc.

5.3 The AYUSH approach to manage the outbreak broadly comprise of:

- i. Preventive and prophylactic,
- ii. Symptom management of COVID-19 like illnesses,
- iii. Add on Interventions to the conventional care.

5.4 The Ministry of AYUSH has notified the following general preventive measures:-

- i. Observe good personal hygiene.
- ii. Practice frequent hand washing with soap.
- iii. Follow respiratory etiquettes - cover your mouth when coughing or sneezing.
- iv. Avoid close contact with people who are unwell or showing symptoms of illness, such as cough, runny nose etc.
- v. Avoid contact with live animals and consumption of raw/undercooked meats.

- vi. Avoid travel to farms, live animal markets or where animals are slaughtered.
- vii. Wear a mask if you have respiratory symptoms such as cough or runny nose.

5.5 In addition, the Ministry advocated the following AYUSH specific preventive measures:

(i) The diet should be fresh, warm, easy to digest, containing whole cereals, seasonal vegetables etc. (ii) Frequent sipping of water boiled with Tulsi leaves, crushed ginger, and turmeric would be beneficial. (iii) Honey with a pinch of pepper powder is also beneficial in case of cough. (iv) Cold, frozen and heavy foods may be best avoided. It is always beneficial to avoid direct exposure to cold breeze. (v) Appropriate rest and timely sleep are advisable. (vi) The practice of Yogasana and Pranayama under the guidance of qualified Yoga instructor is recommended, and (vii) Common medicinal plants useful in similar symptoms are Tulsi (*Ocimum sanctum*), Guduchi (*Tinospora cordifolia*), Ginger (*Zingiber officinale*) and Turmeric (*Curcuma longa*)

5.6 On a specific query regarding the prescription and efficacy of Arsenicum album 30, the Ministry of AYUSH submitted that Arsenicum album is a Pharmacopoeial drug notified by Government of India and is a commonly used prescription in the case of respiratory infections in day to day homeopathy practice. The genus epidemicus (GE) [Homoeopathic medicine] is the remedy found to be most effective for an epidemic once data have been gathered from several cases. Keeping in view the positive results from the genus epidemicus as prophylactic during epidemic outbreaks of various viral diseases during recent past it was found out the Arsenicum album could modulate immunity. The dose recommended i.e. one dose of Arsenicum album 30 (4 pills of size 30 by adults and 2 pills of size 30 by children) daily, on empty stomach, for 3 days is considered to be safe for all the age groups and people per respective of their past medical history.

5.7 The Committee takes note of the preventive and prophylactic approaches that help in symptom management of COVID-19 like illnesses as also the lifestyle advocacies to boost immunity for prevention of various kinds of infectious diseases. The Committee recognizes the importance of traditional Indian system of medicine and the pivotal role it plays in boosting immunity and acting as a shield from various diseases. The Committee desires the people of the country to follow these advisories in their daily lives to protect themselves. The Committee would like the Ministry to create adequate awareness amongst the masses about the various guidelines relating to the dose of medicines to be taken up by the people. The Ministry should also ensure that the guidelines about the medicines to be taken up to modulate immunity be adequately disseminated so that patients take dose of medicine as per prescription of registered practitioner.

Oral evidence of the Secretary, Ministry of AYUSH in the Committee meeting held on 5th March, 2020

5.8 In the Committee's meeting held on 5th March, 2020, the Secretary, Ministry of Ayush highlighted the following points:-

- (a) The approach of Ayush system is more preventive and prophylactic. If the immunity, nourishment and hydration in this type of viral infection is maintained properly, then the susceptibility of infection is reduced.

- (b) The recommendation of expert group of WHO during Ebola outbreak in 2014 stipulates that “it is ethical to offer unproven interventions with as yet unknown efficacy and adverse effects, as potential treatment or prevention” keeping in view no vaccine or anti-viral were available. Indian traditional system of medicine have very good methods with evidence to address those diseases having similar symptoms which they want to bring in use.
- (c) Medicines that can be used as an efficacy of anti-viral and flulike symptoms or preventive or improving the immunity are Shamshamani Vati in Ayurveda, is an extract of Giloy and Nilavembu Kudineer in Siddha, Decoction of Behidana and Sapistan in Unani, Arsenicum album 30C in Homeopathy.
- (d) The AYUSH Ministry is in constant support of main stream health system with entire infrastructure and human resource, for the wider prevention of the outbreaks.

Statement of the Minister of Health and Family Welfare in the Rajya Sabha

5.9 On 14th September, 2020, Dr. Harsh Vardhan, Minister of Health and Family Welfare stated in the House that Ministry of AYUSH has contributed through various measures for the management and mitigation of Covid-19. The Ministry recommended guidelines of self-care for preventive health measures and boosting immunity. The Ministry of AYUSH has also issued health advisories from different systems of medicine on prophylaxis and immunity promotion which was translated into eight foreign languages and circulated to Indian Embassies. Various AYUSH Hospitals were designated as quarantine centres, isolation centres, Covid Care Centres and Covid Health Centres. Around 8.5 lakh Ayush healthcare professionals have been registered on covidwarriors.gov.in. Ministry of AYUSH has formed an “Inter-disciplinary AYUSH R&D Task Force”. The Task Force has formulated and designed clinical research protocols for AYUSH prophylactic studies and add-on interventions in COVID-19 positive cases. AYUSH-CSIR collaborative studies were initiated with AYUSH medicines for prophylaxis/treatment. A largescale population-based study through AYUSH Research Councils and 269 National Institutes under the Ministry on prophylaxis of AYUSH interventions in targeted populations in containment zones is underway. The Ministry of AYUSH has also initiated impact assessment of effectiveness, acceptance and usage of AYUSH advisories & measures in prevention of COVID 19 through a mobile application app known as AYUSH-Sanjivani app.

Steps taken by Ministry of AYUSH in containing and mitigating COVID-19

5.10 The Committee has been informed of the steps taken and contribution made by Ministry of AYUSH in containing and mitigating COVID-19 that are enumerated as under:-

- (a) The Ministry of AYUSH issued an advisory on 29.01.2020 on how to protect oneself from COVID-19 and how to stay healthy. The advisory specified hygiene measures like hand wash, use of mask etc. apart from simple home remedies were also suggested for people. Further, clarification on these precautionary measures issued on 04.02.2020 indicated that these advisories neither claimed effective treatment for Corona virus nor suggested any specific drug to combat corona virus. Primarily, the personal hygienic measures few herbal preparations and consultation with registered practitioners from respective system of medicine was suggested.

- (b) The Ministry has written a letter dated 06.03.2020 to all Chief Secretaries of States/Union territories with more specific suggestions on augmentation of General Immunity of people and about possible AYUSH intervention wherever required in coordination with Health departments of the States / UTs.
- (c) The Ministry of AYUSH vide its D.O. letter dated 16.03.2020 addressed to Ministry of Health & Family Welfare offered for integrating and utilizing huge AYUSH infrastructure to combat with the COVID-19 pandemic. Principals of all Ayurveda, Siddha, Unani and Homoeopathy (ASU&H) colleges (approximately 727 colleges) were also advised on 23.03.2020 for utilization of available infrastructure facilities like Hospital (IPD & OPD), pathology laboratory, ICU and manpower including medical & Paramedical Staff to combat with the COVID-19 pandemic. They were also advised to offer their services to local health authorities for utilization of the available facilities as per the need of the situation arose due to outbreak of Pandemic COVID-19. Accordingly, various AYUSH institutes hospital were utilized by State Governments as quarantine centre, isolation centre, COVID care centre and COVID health centre.
- (d) The Ministry of AYUSH has issued self-care guidelines on 31.03.2020 for preventive health measures and boosting immunity with special reference to respiratory health that included:
- (i) General Measures;
 - (ii) Ayurvedic Immunity Promoting Measures;
 - (iii) Simple Ayurvedic Procedures;
 - (iv) During dry cough/sore throat
- (e) In collaboration with M/o Health & Family, the Ministry of AYUSH has organized Training of Trainers including State AYUSH Principal Secretaries, State AYUSH Directors, AYUSH District Medical Officers and, Master Trainers from various colleges, National Institutes and Research Councils for COVID-19 Preparedness, Response and Containment. Further, AYUSH personnel are also being trained for Covid-19 management at igot.gov.in platform. More than 2 lakhs AYUSH persons have been trained and among them, 39,555 persons have been deployed by the States/UTs.
- (f) An Inter-disciplinary AYUSH R&D Task Force was constituted chaired by Prof. Bhushan Patwardhan, Vice Chairman, UGC with representation from scientists including ICMR, DBT, CSIR, AIIMS and AYUSH Institutions. The Interdisciplinary AYUSH Research and Development Task Force has formulated and designed clinical research protocols for prophylactic studies and add-on interventions in COVID-19 positive cases for thorough review and consultative process with experts of high repute from different organizations across the country for studying four different interventions viz. Ashwagandha, Yashtimadhu, Guduchi + Pippali and a poly herbal formulation (AYUSH-64). The task force has taken up the proposals received from Screening Committees of Councils and proactively explored possibilities based on available leads.
- (g) M/o AYUSH has launched interdisciplinary studies involving AYUSH interventions for COVID-19 based on recommendations of Task force. Clinical research studies on AYUSH provide for AYUSH interventions as prophylactic measures in high risk population

targeting approximately 05 lakhs population and as an add-on standard care for COVID-19 management.

- (h) Ayush Sanjivani mobile app developed by Ministry of AYUSH has been also launched to generate data on acceptance and usage of AYUSH advocacies and measures among the population and its impact in prevention of COVID-19 targeting 05 million populations.
- (i) The Ministry issued an order to the States/UTs on 1st April, 2020 to control dissemination of misleading information about AYUSH drugs and services amid COVID-19 outbreak,.
- (j) Considering the importance of immunity boosting measures in the wake of COVID -19 outbreak and in the interest of health promotion of the population, the Ministry of AYUSH, on 24th April, 2020, circulated the standardized composition of Ayush Kwath/Joshanda/Kudineer formulation for commercial manufacturing by Ayurveda, Siddha and Unani drug manufacturers across the country.
- (k) To make the process of product approval/licensing consistent at State/UT level for the purpose of effective quality control of Ayurvedic, Siddha, Unani and Homoeopathic medicines having underwent clinical trials/research studies for COVID-19, a directive was issued on 28th July, 2020 to all State/UT Licensing Authorities to forward license applications with details and results of the clinical trial/research study for verification by the Ministry of AYUSH.

5.11 The Committee observes that while there is a lot of discussion on COVID-19 control strategies from the mainstream approaches, it is also necessary to examine the contribution of the Ayurveda, Yoga and Naturopathy, Unani, Siddha, Sowa Riga and Homeopathy (AYUSH) system, which are now being focused as effective public health interventions. The Committee would like to point out that outbreak of COVID-19 has made the world community realize the significance of strong and resilient immune systems for good health. While curative medicines are crucial and indispensable in battling Pandemic COVID-19 viruses, body's immunity is the first and best line of defense against any disease. During recent times, this line of life style reflects the increasing demand for dietary supplements that improve nutrition and health system. The Committee would like to appreciate the advisories issued by the Ministry of AYUSH.

5.12 The Committee notes that the Ministry has formulated Interdisciplinary AYUSH Research and Development Task for studying four different interventions viz. Ashwagandha, Yashtimadhu, Guduchi + Pippali and a poly herbal formulation (AYUSH-64). However, due to scanty scientific evidence, this system of medicines gets very limited attention to the scientific community. The Committee, therefore, underlines the need to develop evidence based traditional medicines with scientific validation for better acceptability and higher credibility. Research and Development is vital for growth and promotion of traditional system of medicine and therefore, the Committee recommends the Ministry to make efforts for scientific validation of the traditional medicine by introducing necessary technological advancements to gain trust and acceptability. This would help to garner confidence of more and more people who in turn would opt for traditional medicine

to boost their immunity and prevent and protect themselves against various infectious diseases.

5.13 The Committee opines that the pandemic COVID-19 has highlighted the need for mainstreaming Indian system of medicine and employing the alternative and traditional medicinal systems. The Committee would like the Government to weigh the relative contribution of both system i.e. system of modern medicine & science and the AYUSH, as complementary to each other in the management of diseases. The New Education Policy, 2020 also calls for integration of Allopathy with AYUSH Systems of Medicine. The NEP, 2020 exhorts much greater emphasis on preventive healthcare and community medicine in all forms of healthcare education. The Committee believes that the integration of Indian system with Allopathy would not only give medical students better understanding of preventive healthcare and community medicine, as envisioned under NEP, 2020, but at the same time would help the AYUSH practitioners to equip themselves to dispense basic medical care at the primary healthcare level. The integration of AYUSH with Allopathy is a positive move that would help India move towards meeting the goal of universal healthcare by improving access and delivery in remote areas. The Committee, therefore, recommends the Government to make all out efforts for the integration of Allopathy with Indian traditional system of medicine.

Utilization of AYUSH manpower as Covid Warriors

5.14 The Committee has been also given to understand that Ministry of AYUSH has coordinated with Ministry of Health & Family Welfare for utilization of AYUSH manpower as COVID warrior for the management of COVID-19 with identified roles. More than 2 lakhs AYUSH persons have been trained and among them, only 39,555 persons have been deployed by the States/UTs. For increasing the deployment of trained AYUSH manpower, SOPs has been prepared and shared with Empowered Group-4 constituted by the Ministry of Home Affairs for augmenting human resources and capacity building and same is under consideration of Group-4 members.

5.15 The Committee appreciates the contribution of AYUSH doctors in combating COVID since the outbreak of the pandemic. The Committee believes that with the virus now spreading beyond metros and big cities and to rural and remote areas where an allopathic doctor is not always available or COVID centers/ hospitals with shortage of doctors, AYUSH doctors can be the first line of defense in those areas. The Committee is aware that AYUSH doctors have been filling up the gaps where there is scarcity of health human resources. The Committee feels that the basic training of the AYUSH doctors in the modern scientific systems would go a long way in the management of COVID-19 especially in rural areas and would reduce burden of the allopathic doctors in the management of COVID-19 virus.

5.16 The Committee notes that out of 2 lakh trained AYUSH doctors, only 39,555 have been deployed by States/UTs. The SOPs for the deployment of trained AYUSH manpower has been prepared and same is under consideration. The Committee recommends the Ministry to expedite deployment of remaining trained Ayush doctors in the light of increasing number of COVID patients with each passing day. The Committee also

recommends the Government to train more and more AYUSH doctors to overcome the shortage of doctors and to achieve the goal of universal health coverage.

5.17 The Ministry has also submitted that initially, permission to Research Councils and National Institutes under the Ministry of AYUSH in some of the States/UTs Governments for clinical and population based research studies under taken by them with AYUSH intervention on Covid-19 was delayed due to lack of clarity in policies and guidelines for undertaking such research. However, the issue was resolved in most of the States/UTs after the Ministry issued a Gazette notification dated 21.04.2020 with appropriate guidelines.

5.18 The Committee deprecates the delay in permission to Research Councils and National Institutes under the Ministry of AYUSH in some of the States/UTs Governments for clinical and population based research studies due to lack of clarity of policies and guidelines. This shows the apathy of the Government in formulating guidelines with regard to research activities under AYUSH system. The Committee, at the same time, recommends that AYUSH Research Councils and the National Institutes must undertake such research projects that would help in management of pandemic COVID-19 and extend protection to common masses against life threatening diseases.

Quality control and licensing of AYUSH drugs

5.19 Attention of the Committee has been drawn to quality control of AYUSH drugs/medicines and various AYUSH products like boosters whose demand has grown immensely in the wake of the pandemic. Grant of license for manufacturing of ASU drugs monitoring/ensuring quality control of AYUSH drugs/products and misleading advertisements are the areas of concern. To a specific query about quality control of AYUSH drugs, the Ministry has submitted that enforcement of the legal provisions related to quality control of Ayurveda, Siddha, Unani and Homoeopathy medicines as prescribed in the Drugs and Cosmetics Act, 1940 and Rules, 1945 is vested with the State Licensing Authority and Drug Controllers appointed by the State Government. Ministry of AYUSH, under Section 33(P) of the Drugs and Cosmetics Act, 1940 issues guidelines and advisories to States and Union Territories for smooth implementation of the quality control provisions pertaining to ASU medicines. The Ministry has also informed that product approval is given by the concerned State Licensing Authority (AYUSH) in accordance with the provisions of Drugs & Cosmetics Rule 158-B for proof of safety and effectiveness. Quality standards of the classical/generic formulations are provided in the respective pharmacopoeia and formulary of Ayurveda, Siddha and Unani drugs. For patent and proprietary drugs, in-house standards are required to be submitted to the concerned State Licensing Authority for product approval. The Committee has also been informed a directive was issued by Ministry on 2nd April, 2020 to all State/UT Licensing Authorities and Drug Controllers of AYUSH to expedite the process of granting approval/license/renewal of license for manufacturing of ASU immunity boosting healthcare products and sanitizers

5.20 The Ministry has submitted that Central Sector Scheme of Pharmacovigilance of ASU&H Drugs has been implemented since November 2017 to ensure quality control of AYUSH drugs. Through this scheme, a network of National Pharmacovigilance Centres, five Intermediary system-wise Pharmacovigilance Centres and sixty three Peripheral Pharmacovigilance Centres have been established and made functional since August 2018 to inculcate the culture of reporting Adverse Drug Events and misleading advertisements of

ASU&H drugs for regulatory action. Eleven more Peripheral Centres have recently been added to the network. The pharmacovigilance centres have reported 7589 cases of misleading advertisements and 449 cases of Adverse Drug Events since January 2019 up to July, 2020. Year wise breakup of misleading advertisements reported is as follows:

S. No	Year and period of reporting	No of cases reported
1	August 2018 to March 2019	1127
2	April 2019 to March 2020	4950
3	April 2020 to July 2020	1512
	Total till July 2020	7589

5.21 Since April, 2020 misleading advertisements related to COVID-19 are being reported on daily basis under the Pharmacovigilance initiative. Pharmacovigilance centres have reported 139 misleading advertisements related to COVID 19 till July 2020. Since, legal action is vested with the State Licensing Authorities, appropriate action on such instances of misleading advertisements is taken as per the extant Rules and guidelines issued by the Ministry of AYUSH.

5.22 The Committee expresses its concern over the reported adverse reactions of number of ASU&H drugs introduced in market since January, 2019. The reference to 139 misleading cases by Pharmacovigilance centres related to COVID-19 pandemic in last four months is testimony to this fact. It appears that the regulatory framework for the quality control of Ayush drugs is not stringent to prevent threat of misleading claims/ medications. The Committee believes that these cases have put a question mark on the quality of traditional medicines available during outbreak of pandemic COVID-19. The Committee cautions the Ministry of AYUSH that the current pandemic should not let the unscrupulous sellers/manufacturers of AYUSH drugs/products to increase their profits by misleading the consumer in the name of health immune boosters. The Committee strongly recommends the Ministry of AYUSH to strictly monitor the cases of misleading advertisements and protect the consumers of AYUSH products.

5.23 The Committee appreciates the pharmacovigilance initiative taken by the Ministry with the aim to prevent the adverse drug reaction and safeguard the public health. This is a positive step to showcase that Indian traditional system of medicine is not only safe but also scientifically validated. The Committee, however, cautions that the fake claims and misleading advertisements about ASU&H drugs would not only damage the credibility of AYUSH medicines but also create distrust amongst the users of ASU&H drugs as well. The Committee, therefore, recommends the Ministry to evolve stringent regulatory framework to tackle the problems of failed samples and ensure quality control of AYUSH drugs. Strict and exemplary action in a time bound manner must be taken against the manufacturers involved in manufacturing of spurious/low quality AYUSH drugs. The Ministry ought to fix the responsibility of the officials concerned who approve low/substandard quality drugs. The Ministry must sensitize physicians, pharmacists, patients, the pharmaceutical industry and other stakeholders towards reporting adverse drug reactions. The Ministry should also make efforts to strengthen State Government ASU&H Pharmacies and drug testing laboratories in tackling the menace of misleading advertisement and low quality AYUSH drugs.

5.24 The attention of the Committee was drawn to the provisions of Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 which prohibits advertisements of drugs and remedies that directly or indirectly gives a false impression regarding the true character of the drug; or (b) makes a false claim for the drug; or (c) is otherwise false or misleading in any material particular. The Committee urges upon the Ministry to strictly follow the provisions of the Drugs and Magic Remedies (Objectionable Advertisement) Act, 1954 that prevent publication of inappropriate/misleading advertisements. The Committee, in this connection, recommends the Ministry to monitor advertisements issued regarding usage of AYUSH drugs and take actions against reported misleading advertisements and false claims in a time bound manner. The Committee further recommends the Ministry to direct States/UTs for ensuring strict monitoring/vigilance of quality control of ASU&H drugs as also the adherence of general guidelines for development of traditional medicine.

5.25 The Committee understands that since the product approval to AYUSH drugs is given by the concerned State Licensing Authority (AYUSH) in accordance with the provisions of Drugs & Cosmetics Rule, due precautions needs to be exercised by licensing authorities so that unscrupulous manufacturers do not get any corridor for bringing spurious products into the Indian market. Even though the power to grant license and legal actions against fake claims and misleading advertisements is vested with the State Licensing Authorities, the Ministry also owe accountability to follow up the matter with the State Governments and instruct the State licensing Authority to take suitable action in a transparent and time bound manner.

5.26 The Committee also takes into cognizance the directives issued by Ministry on 2nd April, 2020 to all States/UTs Licensing Authorities and Drug Controllers of AYUSH to expedite the process of granting approval/license/renewal of license for manufacturing of ASU immunity boosting healthcare products and sanitizers. The Committee however, would like to caution that Government should instruct the State licensing authorities not to rush through the process of granting approvals to new ASU products at the cost of public health. Despite the growing demand in the wake of the COVID-19 pandemic, the usual safety standards and approval mechanisms for AYUSH products must be strictly followed and there should be no compromise with safety of the people who are using these products. The Committee, therefore, recommends the Ministry to grant approvals/license only after following the due procedure, strict monitoring of the products, keeping in mind the rights of consumers and protect lives of the people using the AYUSH products.

Research and Development

5.27 The Ministry did not respond to the Committee's specific query about the percentage of funds allocated to research and development out of the total allocation for Ministry of AYUSH. However, the Ministry furnished details of the funds allocated and utilized by the Research Councils during last five years is at Annexure II.

5.28 The Committee finds the trend of budgetary allocation to six research Institutes and its utilization during the last 5 years as satisfactory. In the year 2017-18, total BE was Rs. 553.00 crore and RE was Rs. 638.50 crore while the actual expenditure during the year was Rs. 638.50 crore. In the year 2018-19, total BE and RE was Rs. 659.90 crore and Rs. 721.53 crore

respectively and the actual expenditure during the year was Rs. 691.93 crore although Rs. 29.60 crore remained unutilized.

5.29 The Committee appreciates the absorption capacity of all the Research Institutes. Research, being an important component for achieving scientific validation of traditional system and making it widely accepted, the Committee believes that all research Institutes must yield the research outcome to achieve the objective of investment on R&D. Effective AYUSH products/drugs in the treatment of diseases would revitalize the AYUSH segment on Indian system of traditional medicine. The Government must continue its efforts for mainstreaming traditional system of medicine and integrating it with modern system of medicine. Adequate allocation of funds for projects would enable research Institutes to undertake research activities that help mainstreaming the AYUSH system. The Committee is of the view that mainstreaming traditional system of medicine is a long drawn process that requires continuous efforts from all the stakeholders alongwith continued budgetary support. The Committee also believes that there is ample scope for research and development within Indian system of medicine and given the present scenario of COVID 19, all out efforts need to be made to enhance research and development through requisite fund allocation. The Committee, therefore, recommends the Ministry of AYUSH to persuade Ministry of Finance for the higher allocation of budget in coming years so that research activities continue in the aftermath of Pandemic COVID-19.

5.30 On a specific query regarding research activities planned in AYUSH for next five years keeping in view the challenges posed by outbreak of COVID-19 and the projected demand/budget for the purpose, it has been submitted that the Ministry in collaboration with CSIR has taken up the following clinical research studies:

- a) Ashwagandha for the Prophylaxis against SARS-CoV-2 Infection: A Randomized Hydroxychloroquine Controlled Clinical Trial in Health Care Providers.
- b) A Randomized, Open Label, Parallel Efficacy, Active Control, Multi-Centre Exploratory Drug Trial to Evaluate Efficacy and Safety of AYUSH 64 as Adjunct Treatment to Standard of Care for the management of Mild to Moderate COVID-19 Patients.
- c) A Randomized, Open Label, Parallel Efficacy, Active Control, Multi-Centre Exploratory Drug Trial to Evaluate Efficacy and Safety of Guduchi + Pippali as Adjunct Treatment to Standard of Care for the management of Mild to Moderate COVID-19 Patients.
- d) A Randomized, Open Label, Parallel Efficacy, Active Control, Multi-Centre Exploratory Drug Trial to Evaluate Efficacy and Safety of Yastimadhu as Adjunct Treatment to Standard of Care for the management of Mild to Moderate COVID-19 Patients.

5.31 With respect to outcomes the Ministry has submitted that, the prophylactic clinical studies are yet to be started.

5.32 The Committee expresses its displeasure over the fact that the clinical research studies that was intended to be taken up by the Ministry of AYUSH in collaboration with CSIR are yet to see the light of the day. The Committee opines that on one hand the Government is determined to mainstream AYUSH system and explore scientific validation

of AYUSH advocacies and measures for the prevention of Covid-19, on the other hand, these clinical research studies are yet to be taken up. The Committee is of the considered view that research being an important component, the research studies should be taken up with utmost priority without procrastination. AYUSH has a major role to play in present pandemic as its main objective is to boost the immune system and maintain health so as to prevent the spread of the disease. The Committee believes that the outcome of these studies would help understand AYUSH interventions during pandemics like COVID-19 through scientific evidence & validation. Delay in research activities would not only stall the promotion of traditional medicine but also thwart the efforts for integration and mainstreaming of the Indian systems of medicine and Homeopathy into the existing public healthcare system. The Committee, therefore, strongly recommends the Ministry to start clinical research studies without further delay so that its outcome could be used to combat the present crisis.

5.33 The Ministry has also informed the Committee that a budget of Rs. 50 lakh has been sanctioned to each Research Council and National Institute for undertaking various research activities on Covid-19. The status of the research studies on Covid-19 conducted by the Research Councils and National Institutes is at Annexure-III.

5.34 The Committee observes that 59 research studies are being conducted by the Ministry of AYUSH at various AYUSH Research Councils and Institutes. Of these, many studies have been completed with promising results in preventing the threat of COVID 19. The trials indicated that alternative medicine therapies prevented severe COVID symptoms among people in quarantine. One of the primary criticisms leveled against the AYUSH system is the lack of scientific evidence for efficacy of AYUSH medicines. The Committee underscores the need of designing research studies to generate some tangible evidence in AYUSH against Covid-19. Promising results shown by these studies would progressively march ahead in scientifically validating traditional medicine. The Committee observes that participation of AYUSH medicines in addressing the COVID-19 challenge in India should not be restricted and rather seen as the extension of healthcare services and support to bio-medical system. The Committee hopes that with adequate monitoring and research directions, the Indian System of Medicines would emerge as a prominent platform in the management of increasingly frequent and virulent communicable diseases. The Committee, while appreciating the efforts of the Ministry, recommends that more and more research studies should be conducted by the Ministry of AYUSH.

5.35 On being asked about the number of COVID patients treated/being treated with Ayush system of Medicine and the success rate thereof, the Ministry submitted the State-wise details of the COVID patients treated/ being treated with AYUSH system of medicine which are as follows:

S. No.	Name of State	No. of COVID patients treated with AYUSH system of medicine	No. of COVID patients are being treated with AYUSH system of medicine	Success Rate	Remarks
1.	Gujarat	14,456	3,710	99.4%	None
2.	Haryana	1,498	353	71.85%	None
3.	Karnataka	1177	1000	95%	None
4.	Madhya Pradesh	12808	1744	99.6%	Among total cases, only 45 cases were referred. Further, among total 10,259 quarantined cases, 10029 improved after treatment and 230 are still under treatment.
5.	Maharashtra	10540*		100% (Ahmadnagar District)	*Govt. of Maharashtra has provided only the number of Covid-19 positive cases are being treated with AYUSH intervention. Further, success rate is reported only for one district i.e. Ahmadnagar (100%) in 5849 Covid-19 treated patient.
6.	Punjab	199	41	82.9%	Patients are treated/being treated in 3 districts including Gurdaspur, Patiala & Ludhiana as add on therapy to standard treatment.
7.	Tamil Nadu	12,953	0	100%	None

The Ministry of AYUSH apprised the Committee that States/UTs namely Uttar Pradesh, Nagaland, Jammu & Kashmir, Lakshadweep, Jharkhand, Arunachal Pradesh, Meghalaya, Tripura, Uttarakhand, Andhra Pradesh, Odisha, Assam, Goa, Mizoram, Manipur and Rajasthan have reported Nil information or patients are not being treated with AYUSH intervention in these States/UTs. Other States/UTs have not reported on this aspect.

5.36 The Committee is disappointed with the State-wise status about efficacy and effect of traditional medicines in treating COVID patients. The Committee believes that rigorous data are needed to show-case that remedies under AYUSH system are safe and effective and all the States should be seen as actively promoting the Ayush System. For this to happen, all States should have dedicated AYUSH COVID care centers where patients could be treated with the traditional medicine along with modern medicine. The Committee, therefore, recommends the Ministry to establish AYUSH COVID care centers in every state/UT of the Country. Further, the Ministry should maintain the data from each State to evaluate the efficacy of the system.

CHAPTER 6

MANAGEMENT OF POST-COVID COMPLICATIONS

Post-COVID Management Protocol

6.1 The Ministry has informed that in view of emerging views by experts that COVID may not be just an acute illness and may have long term sequelae, a series of steps have been taken to gain insights into post-COVID recovery phase. Four Sub-Committees have been constituted under DGHS to examine the sequelae of COVID-19 on acute event associated with COVID and post recovery complications of COVID. The Sub-Committees are meeting frequently to discuss emerging evidence on impact in the organ system such as cardiac, pulmonary, cerebral, respiratory, renal, and hepatobiliary systems. The Joint Monitoring Group under DGHS is also following up on the recommendations of these Sub-Committees. The Government has reviewed the current evidence base and a National level research protocol is under development. All AIIMS like institutions have been requested on 14th July 2020 to undertake research to study long term impact of COVID.

6.2 ICMR has established a National Clinical Registry on COVID-19, wherein 15 mentor Institutions dedicated to COVID hospitals/COVID health centers have been identified as satellite centers. This will provide quality data including follow-up on discharged COVID-19 patients. Central Government hospitals, Dr. RML Hospital, LHMC and Safdarjung Hospital in Delhi have started COVID follow up clinics. On 13th September 2020, a Post-COVID Management Protocol was released by Ministry of Health & Family Welfare that followed a holistic approach – a blend of treatment from modern medicine as well as AYUSH system of medicine.

6.3 The Ministry has informed that COVID-19 disease is relatively a new disease, with fresh information on a dynamic basis about the natural history of the disease, especially in terms of post-recovery events. After COVID-19 illness, recovered patients may continue to report wide variety of signs and symptoms including fatigue, body ache, cough, sore throat, difficulty in breathing, etc. As of now, there is limited evidence of post-COVID sequelae and further research is being actively pursued. The holistic approach provides for follow up care and well-being of all post COVID recovering patients which is not meant to be used as preventive / curative therapy. The recovery period is likely to be longer for patients who suffered from more severe form of the disease and those with pre-existing illness.

Post-COVID Follow Up Protocol

A. At individual level

- (i) Continue COVID appropriate behaviour (use of mask, hand & respiratory hygiene, physical distancing).
- (ii) Drink adequate amount of warm water (if not contra-indicated).
- (iii) Take immunity promoting AYUSH medicine prescribed by a qualified practitioner of AYUSH.
- (iv) Immunity promoting AYUSH medicine includes:
 - a. Ayush Kwath (150 ml; 1 cup) daily, Samshamani vati twice a day 500 mg (1 gm per day) or Giloy powder 1 -3 grams with luke warm water for 15 days, Ashwagandha 500 mg twice a day (1 gm per day) or Ashwagandha powder

- 1-3 grams twice daily for 15 days and Amla fruit one daily/Amla powder 1-3 grams once daily.
- b. 1- 3 gram Mulethi powder (in case of dry cough) with luke warm water twice daily
- c. Warm Milk with ½ teaspoonful Haldi in morning/evening
- d. Gargling with turmeric and salt
- e. 1 teaspoonful (5 mg) Chyawanprash once daily in morning (as per directions from Vaidya)
- (v) The Ministry of AYUSH also suggested that the use of Chyawanprash in the morning (1 teaspoonful) with luke warm water/milk is highly recommended (under the direction of Registered Ayurveda physician) as in the clinical practice Chyawanprash is believed to be effective in post-recovery period.
- (vi) If health permits, regular household work to be done. Professional work to be resumed in graded manner.
- (vii) Mild/ moderate exercise
 - a) Daily practice of Yogasana, Pranayama and Meditation, as much as health permits or as prescribed.
 - b) Breathing exercises as prescribed by treating physician.
 - c) Daily morning or evening walk at a comfortable pace as tolerated.
- (viii) Balanced nutritious diet, preferably easy to digest freshly cooked soft diet. • Have adequate sleep and rest.
- (ix) Avoid smoking and consumption of alcohol.
- (x) Take regular medications as advised for COVID and also for managing comorbidities, if any. Doctor to be always informed about all medicines (allopathic/AYUSH) that the individual is taking so as to avoid prescription interaction.
- (xi) Self-health monitoring at home - temperature, blood pressure, blood sugar (especially, if diabetic), pulse oximetry etc. (if medically advised)
- (xii) If there is persistent dry cough / sore throat, do saline gargles and take steam inhalation. The addition of herbs/spices for gargling/steam inhalation Cough medications, should be taken on advice of medical doctor or qualified practitioner of Ayush.
- (xiii) Look for early warning signs like high grade fever, breathlessness, SpO2 < 95%, unexplained chest pain, new onset of confusion, focal weakness.

B. At the level of community

- (i) Recovered individuals to share their positive experiences with their friends and relatives using social media, community leaders, opinion leaders, religious leaders for creating awareness, including dispelling myths and stigma.
- (ii) Take support of community based self-help groups, civil society organizations, and qualified professionals for recovery and rehabilitation process (medical, social, occupational, livelihood).
- (iii) Seek psycho-social support from peers, community health workers, counsellor. If required seek mental health support service.

- (iv) Participate in group sessions of Yoga, Meditation etc. while taking all due precautions like physical distancing.
- C. In healthcare facility setting
- (i) The first follow-up visit (physical/telephonic) should be within 7 days after discharge, preferably at the hospital where he/she underwent treatment.
 - (ii) Subsequent treatment/follow up visits may be with the nearest qualified allopathic/AYUSH practitioner/medical facility of other systems of medicine. Polytherapy is to be avoided due to potential for unknown drug-drug interaction, which may lead to Serious Adverse Events (SAE) or Adverse Effects (AE).
 - (iii) The patients who had undergone home isolation, if complain of persisting symptoms, will visit the nearest health facility.
 - (iv) Severe cases requiring critical care support will require more stringent follow up.

Oral Evidence of Director, AIIMS with respect to Post COVID Management

6.4 The Director, AIIMS informed the Committee that AIIMS, Delhi is also planning to start the Post-COVID Management Clinic for those patients who have recovered from COVID which would help in managing such patients and also in their rehabilitation. AIIMS Delhi has also collaborated with the Government through Doordarshan and other avenues in imparting health education, focussed especially on women's health, and also the ongoing COVID and post-COVID experience.

6.5 The Committee understands that having defeated the virus is just the beginning of an unresearched path of recovery for survivors of severe COVID-19 disease, since COVID 19 is a new disease. The post-acute phase of SARS-CoV-2 infection depends on the severity of virus attack on different patients. Apart from the fear of unknown, the survivors of COVID 19 venture into an uncharted territory of post COVID complications. Not only do they have to deal with fatigue, breathlessness and other physical effects of the disease, but also grapple with the psychological impact of it. The Committee is relieved to note that the Government has taken cognizance of complexities caused by COVID during post recovery phase and identified potential post-acute care needs of recovered COVID-19 patients. The Committee notes that the Ministry has adopted integrated holistic approach for managing patients who have recovered from COVID and advised to take care at home. The Committee in this regard recommends the Government to put in place healthcare services to ensure a holistic follow-up of post COVID treatment of the patients who are showing post COVID complications. It is also necessary to address the possibility of SARS-CoV-2 re-infection, the proportion of adverse reactions after hospital discharge and the possible development of other viral and/or bacterial infections.

6.6 The Committee is of the view that since COVID is an unknown virus across the world, research is going forward to unravel the mystery of the virus constantly mutating itself. It remains to be seen how COVID-19 evolves further and what symptoms do the survivors may experience. Further, it has been observed that the virus spreads to many different organs of the body like the heart, blood vessels, kidneys, lungs, and brain. The Committee believes that there is a need for multidisciplinary care service involving several specialists from both the systems i.e Allopathy and AYUSH system of medicine for the evaluation and the follow-up of patients suffered with COVID-19 disease. The Committee

therefore recommends the Ministry to set up a multidisciplinary care service system as a part of post COVID Management protocol based on research on post-COVID complications.

6.7 Acknowledging the efficacy of AYUSH system in boosting the immunity of the person, the Government of India inducted various AYUSH practices of healthcare to facilitate faster recuperation of health of recovered COVID 19 patients. With respect to AYUSH, the Ministry has advised to take immunity promoting AYUSH medicine as practiced and prescribed by a qualified practitioner of AYUSH, daily practice of Yogasana, Pranayama and Meditation, as much as health permits or as prescribed. The Committee is of the considered view that post COVID follow-up is as important as taking medications while suffering from COVID.

6.8 The Committee observes that a regular and comprehensive follow-up by people having recovered from COVID-19 would help define the clinical and care needs. Such information can also be used to modify/improvise the post COVID treatment model/protocol and plan. The Committee recommends the Ministry to set up post-COVID clinics, on the lines of AIIMS Delhi, to look after the recovered patients who are facing post COVID 19 illness issues like breathlessness, body ache, fatigue etc and provide counselling, yoga, physiotherapy, consultation and medication to boost immunity on case to case basis to ensure their full proof treatment including rehabilitation.

6.9 The Committee was apprised by the Secretary that the Ministry is carrying out post-Covid sequelae where the number of people who suffer from heart related, respiratory, renal problems post recovery from COVID is being documented. The Committee appreciates the initiative of the Department and believes that such documentation is essential for providing a comprehensive treatment and for shaping the post covid care approach of the healthcare system. Not only this, the documentation would be of immense help in enriching knowledge proof research projects related to Covid-19 for better research outcomes that would be beneficial in combating the future pandemic.

CHAPTER 7

COMBATING THE CHALLENGES OF PANDEMIC COVID-19

7.1 The ongoing Covid-19 pandemic has posed monumental challenges before the leadership of every country. It has not only resulted in the loss of human lives but also distressed different sectors and economies. The impact of this pandemic is comparatively higher in emerging/developing countries like India due to moderate growth rate, fragile health infrastructure and prevailing poverty.

HEALTHCARE

7.2 The healthcare sector is at the epicenter of this unprecedented global pandemic challenge. COVID-19 has overburdened the fragile Indian Healthcare infrastructure. The inadequacies of health-care facilities, negative impact on the morale of health-care workers, and the collapse of private sector institutions have exposed the vulnerability of our healthcare system. Lack of effective universal health coverage has further accentuated the concerns beyond the frontiers of a pandemic response into the larger domain of access, equity, and quality in health care.

7.3 The pandemic has centre-staged the need for a robust public health system and increased investment. National Health Policy 2017 has targets of India's Government expenditure on healthcare upto 2.5% of GDP by 2025 from just 1.15 per cent in 2017.

7.4 While direct impact of the pandemic on health looks visible, its indirect impact on the national is little understood as of now. As per a recent study by Lancet, the indirect effects of the pandemic on maternal and child mortality in low- and middle-income countries are likely to be more severe than the pandemic itself. A look at past pandemics such as Ebola is a sobering reminder of the long-term disruptive impact on basic and regular health services that tend to be neglected due to the overwhelming focus on the epidemic itself.

DISRUPTION IN DELIVERY OF ESSENTIAL HEALTH CARE SERVICES

7.5 Indian Public Health Association (IPHA), Indian Association of Preventive and Social Medicine (IAPSM) & Indian Association of Epidemiologists submitted that primary, secondary and tertiary health care services including outpatient and inpatient services and routine/emergency surgeries suffered badly due to pandemic. They wanted these services to resume as early as feasible, at least in those areas that are progressing towards containment of the pandemic and in towns/districts with no cases. Adequate safety measures should be put in place for the safety of health care staff engaged with optimal PPE and testing of patients for COVID-19 as may be appropriate.

7.6 The Associations apprised the Committee about the National Health Authority's analysis of the Pradhan Mantri Jan Aarogya Yojana (AB-PMJAY) utilisation during COVID-19. The analysis bears some key messages such as (i) average daily hospitalisation dropped by over 70% during the COVID-19 lockdown, up to more than 90% on some days; (ii) while there has been a significant drop in admissions for elective procedures, the decline in critical care services vary from 64% for chemotherapy to 26% for childbirths; (iii) the utilisation of private hospitals increased; and, (iii) the share of claims from private hospitals (more government hospitals are

empanelled than private) has registered an increase since pre-COVID levels as most public hospitals were converted to COVID care centres.

7.7 The Committee observes that closure of OPD services in government hospitals in the wake of outbreak of pandemic Covid-19 crippled the healthcare delivery system in the country. Non-covid patients especially female patients and the patients with chronic and lethal diseases were the worst sufferers. The Committee is pained at the reported death of at least 61 pregnant women and 877 newborns in Meghalaya in the four months after April, 2020.

7.8 ASHA and ANM workers that play a crucial role in ensuring good maternal health and promoting institutional delivery were all engaged in community surveillance and contact tracing. The Committee notes that health machinery was diverted to fight the pandemic which left the poor public without a healthcare support system. The Ministry needs to learn from its mistakes and work towards establishing a resilient public health system that does not collapse in view of any future outbreaks.

FINANCIAL DISTRESS IN THE HEALTHCARE SECTOR

7.9 FICCI in its written submission pointed out that COVID-19 and the subsequent lockdown has accentuated the financial distress of the healthcare sector. The hospitals, that were already financially fragile over past few years, have been stressed with the unplanned investments for COVID-19 preparedness and response and have seen their revenues topple due to 60-80% decline in patient footfalls, leading to estimated operational losses of 4500 crores per month. Many small hospitals and nursing homes in tier II & III cities had become non-operational due to the challenges of liquidity and cash flow and some of them have even been shut down. The hospitals are now facing acute financial distress given that they need to keep all their services and facilities functioning to be able to provide the healthcare services to the citizens.

7.10 The Committee has been given to understand that the private hospitals have also been at the frontline of COVID-19 response and have invested in procuring large volumes of essential medical supplies like PPEs, respirators, etc. Hospitals have also been spending significant amount in arranging pandemic related treatment/protocols like restructuring COVID and non-COVID treatment, creating isolation and quarantine facilities as well as fever clinics. Massive investments was required in purchase of new equipments, air conditioning multiple filtration of air (HEPA), ICUs and CCUs in addition to sanitizers, disinfectants and sterilisers leave alone the expenditure incurred on additional power consumption. Unscientific and unsustainable pricing for COVID treatment by the government authorities added financial woes for private hospitals as the prices so fixed are not sustainable for any hospital given the high cost involved in COVID treatment, specifically in the case of co-morbidities.

7.11 Further, there are human resources challenges such as arrangement for training manpower for COVID-19 putting more doctors and nurses on roll, provisioning their transport and lodging in many areas taking care of staff infected positive or getting quarantined during the treatment of COVID patients. Further, staff either in isolation or who have contracted COVID are paid sick leave.

7.12 FICCI submitted the following key suggestions for support to the private healthcare providers:

- i. Government support through **Liquidity infusion** for financing of the operating losses through short term interest free/ concessional interest rate loans to address the liquidity gap to the tune of Rs 14,000 -24,000 Cr, is required for the sector.
- ii. **Indirect tax reliefs/ exemptions/ waivers like-** recoup amount equivalent to ineligible GST credits paid on procurements for a stipulated period, Customs duty / GST exemption on essential medicines, consumables and devices for treatment of COVID patients
- iii. **Subsidy @ 25%** of salary for healthcare staff for the next 3 months
- iv. **Rebate on commercial rate of power** for a stipulated period
- v. **Extension of time for a period of three years needs to be provided under the EPCG scheme** for fulfilment of existing export obligations for the healthcare sector given that international patient traffic flow has completely stopped and it would take a considerable period of time for the same to return to the pre- COVID 19 incidence levels.
- vi. **Enabling a fair pricing framework** to ensure that private hospitals are able to continue treating COVID patients.

7.13 FICCI advocated a scientific costing framework to derive rational reimbursement rates. In 2018, FICCI conducted a sample costing study based on Time Driven Activity Based Costing (TDABC), an internationally recognised bottoms-up costing approach for estimating costs of processes used in patient care, which was submitted to the government. The Committee was given to understand that there has been a long-standing request for Zero-rating GST from the private healthcare sector which will not only ensure that the credit chain is intact but also ensure that the input taxes are not loaded into the cost of healthcare services.

7.14 In its submission before the Committee, the FICCI appreciates the support of the government in fast-tracking the release of outstanding dues under the CGHS and ECHS schemes which is great help for the sustenance of the private sector in these times of acute crisis. However, the private hospitals still have a large amount of outstanding receivables from the Central Government as well as State Government schemes. The release of these dues, along with a financial stimulus, would help the private hospitals tide over the financial crisis and effectively deliver healthcare services.

7.15 The Committee observes that the limited healthcare infrastructure in the country has further been overburdened while coping up with the rising covid cases in the country. The Committee believes healthcare should never be limited to only those who can afford to pay but should move towards the noble vision of Universal Health coverage. For this to happen, the government needs to be considerate and support the private healthcare sector.

7.16 In this regard, the Committee has taken note of the financial distress of the healthcare infrastructure where small hospitals and nursing home in towns and cities have been shut down due to lack of liquidity and cash flow accentuated owing to unscientific and sustainable capping of cost/pricing for COVID treatment by Government authorities. The government support through liquidity for financing the operating loss followed by indirect tax relief/exemption on essential medicine, consumable and devices for treatment of COVID patients can go a long way in revival of private healthcare sector. The Committee also recommends a scientific and fair costing/pricing framework wherein Government may ensure that input taxes are not attributed to the cost of healthcare services. The Committee also recommends the Government for expediting payment of outstanding Bills of the private hospitals.

7.17 The Committee expresses its deep concern over the shortage of healthcare providers due to vacancies in the State run hospitals in the country. Many hospitals and medical colleges across the country are functioning below the sanctioned strength and speciality Departments are non-functional due to lack of required faculty. The Committee recommends the Ministry and the States/UTs to fill up these vacancies at the earliest. The Committee also feels that healthcare providers from other regions may be deputed to districts with higher burden of covid cases. However, the Committee urges upon the Ministry and the States Government to ensure the safety and security of all the healthcare providers.

POOR ACCESS TO HEALTHCARE SERVICES

7.18 IMA submitted that the routine medical services have been seriously hampered by COVID-19 and the resulting lockdown. Small and medium clinics and hospitals were shut resulting in poor access to health care, loss of jobs/livelihood among health care staff and increased cost of health service delivery. Diagnosis and treatment of acute and chronic infectious and non-communicable diseases have all taken a backseat. Particularly, the efforts to eliminate TB, or manage NCDs like hypertension and diabetes are yet to be known.

7.19 IMA informed the Committee that the Government underestimated the criticality of the continuity medical services for Non-COVID patients by advising the hospitals to defer treatment and medical interventions required for other chronic ailments. Further, the Government instructed to and keeping 20% of the capacity for COVID without working out a feasible mechanism to support the sustenance of the operations. This led to total paralysis of regular healthcare service in India and severely impacted millions of people who were in dire need of medical services.

7.20 FICCI in its written submission has informed that the most of the non-COVID treatment and elective and semi-elective procedures both in public and private sector hospitals took a hit during the first 3 months of the pandemic. A severe impact has also been felt on national health programs. As per the analysis of the National Health Mission data on in-patient and out-patient treatment, between 100,000 and 200,000 children missed routine vaccinations during February and March. Treatment for tuberculosis also showed declines. Analysis conducted on the claims data of AB-PMJAY program also showed that weekly claims volume during the initial 10 weeks of lockdown was half the pre-lockdown claims volume. Claims for cataract eye surgery and joint replacements fell by over 90 percent and significant declines were also seen in cardiovascular surgeries, child delivery, and oncology. These findings raise concerns about a potential resurgence of vaccine-preventable illnesses, infectious diseases, and chronic ailments.

7.21 The Committee notes that disruption of medical services for Non-Covid patients during lockdown paralyzed the delivery of essential healthcare services. Particulary, the diagnosis and treatment of other services did take a backseat which even led to many non-covid deaths. The Committee also agrees that the cost of health service delivery increased due to absence of specific guidelines for Covid treatment in private hospitals as a result of which patients were charged exorbitant fees.

7.22 The Ministry during the examination of the Demand for Grants 2020-21 of the Department of Health and Family Welfare had submitted that India's Government Health

Expenditure (GHE) as percent of the Current Health Expenditure (CHE) is only 27.1%. In India, Out of Pocket Expenditure in Health is 62.4% and India ranks 15 out of 186 countries in OOPE as % of CHE. The Committee apprehends that amidst the pandemic and the uncertainty in the treatment protocol, this OOPE may have further driven many families to below poverty line.

7.23 The Committee is of the view that arriving at a sustainable pricing model to treat Covid patients could have averted many deaths. The Committee observes that the number of Government Hospital beds in the country were not adequate to handle the increasing number of Covid and non-Covid patients. In the wake of the pandemic and shortage of Government healthcare facilities, the Government should have strategized a better partnership with the Private Hospitals under PPP model.

SOCIAL IMPACT

7.24 Indian Public Health Association (IPHA), Indian Association of Preventive and Social Medicine (IAPSM) & Indian Association of Epidemiologists in their “3rd Joint Statement on COVID-19 Pandemic in India–Public Health Approach for COVID-19 Control” mentioned that the closure of educational institutions, especially schools for children (5-18 years) has had a significant impact on the teaching-learning system as well as mental health of the children. The impact has been disproportionately higher on the children of lower socio-economic strata who do not have social capital for alternatives like digital platforms.

7.25 The Indian Medical Association submitted that the lockdown resulted in undesired, sometimes brutal, administrative implementation and media responses. This generated a lot of fear among people across the country. The fear is not just of COVID-19, the disease, but of social stigma if one were to have the disease, or show any symptoms suggestive of COVID-19. Fear of separation from family if affected by COVID-19, of forced quarantine in unfriendly environments, of insensitive or poor quality of health care, of catastrophic health care costs, etc. has had unmeasurable impact on society.

7.26 Prof. K. Srinath Reddy, President, Public Health Foundation of India, submitted that the mental health effects of home confinement impacted children. Suspension of schooling also affected their learning and interrupted the process of socialisation. Physical activity of children suffered. Where markets became difficult to access or family income fell, nutritional needs of growing children were compromised.

7.27 The Committee is concerned over the confinement of the school going children due to prolonged closure of education institutions in the wake of outbreak of pandemic Covid-19. With schools closed for long periods, online classes have proved instrumental in maintaining students’ learning level. The Committee is equally concerned at the existing digital divide in the country which has jeopardised the future of millions of students from the weaker section of the society. With the shift in education-method from classroom to online medium, the education of the students residing in areas with poor connectivity has been compromised. The Committee, therefore, recommends the Government to strengthen its network for digital and online classes and once the normal classes resume, provision for extra special classes should be made especially for students from the economically and socially weaker section.

7.28 The Committee also understands that since many students may not be able to afford a smartphone or computer with internet connection, the Government needs to provide television-sets and satellite TV connections in schools as a short term measure so that the education for students of economically weaker sections do not suffer further.

IMPACT ON WOMEN

7.29 According to the WHO, violence against women remains a major threat to global public health and women's health during emergencies. Although data are scarce, reports from China, the United Kingdom, the United States, and other countries suggest an increase in domestic violence cases since the COVID-19 outbreak began. The National Commission of Women in India has also reported a surge in the reported cases of violence in the country.

7.30 Policy Brief July 2020 of Population Foundation of India while referring to emerging evidence on the impact of COVID-19 suggests that women's economic and productive lives will be affected disproportionately and differently from men. Across the globe, women earn less, save less, hold less secure jobs, and are more likely to be employed in the informal sector. In developing economies 70% of women work in the informal sector with few protections against dismissal or for paid sick leave and limited access to social protection. The Ebola virus showed that quarantines can significantly reduce women's economic and livelihood activities, increasing poverty rates, and exacerbating food insecurity. In India, the nationwide lockdown imposed by the government has left millions of migrant women unemployed and starved for food, placing a huge financial burden on these women, who contribute substantially to their household income.

7.31 Global lockdowns have led to several women being stuck at home with their perpetrators and incidents and reports of violence against women has been on a rise globally. Women's access to sexual and reproductive health services has also been severely impacted due to the COVID-19 emergency response and global lockdowns. The following measures have been suggested by PFI for addressing the violence against women during COVID-19:

- i. Inclusion of measures to address violence against women in preparedness and response plans for COVID-19 by Governments and policy makers.
- ii. Development of a public health response to violence against women.
- iii. Ensuring preventive, curative and systematic referral support to the survivors of violence and early detection cases.
- iv. Training of healthcare providers to provide better quality of care and counseling services to victims of violence.
- v. Facilitating hotlines, telemedicine services, shelters, rape crisis centers, counselling for survivors of violence must be ensured.
- vi. Emphasis on greater reporting on violence in COVID-19 response plans.

7.32 The Committee observes that the restrictive social norms, gender stereotypes, home quarantining and diversion of resources to respond to the COVID-19 pandemic can limit women's ability to access health services which makes them more susceptible to health risks. The pandemic has not only adversely affected women's social and mental well being but also disrupted access to healthcare services especially sexual and reproductive healthcare services. Access to contraceptives or healthcare services became difficult which led to many unwanted pregnancies and unsafe abortions. The Committee, therefore, strongly recommends the Government to chalk out specific course of action for rescuing

the women out of mental trauma by resuming the sexual and reproductive healthcare services and allocating the resources to improve women health services.

7.33 The Committee notes that violence against women increased during the lockdown period as the perpetrators of violence and susceptible both stayed at home due to compulsion of lockdown. The Committee strongly recommends the Government to identify such women who have been the victims of sexual and domestic violence during the pandemic and rehabilitate them. The Committee would like the Ministry to create specific hotlines, telemedicine services, rape crisis centers for women and the counselling of victims or survivors of violence. The Ministry should further ensure that instances of gender based violence are reported and timely actions are taken against the perpetrators.

7.34 The Committee, while taking into account, the economic consequence of the pandemic on women, feels the urgent need for economic emancipation of women by providing them with equitable opportunity of employment and enabling their participation in the micro and macro-decision making process. In a world, where the share of women in the workforce is already less, the Committee believes that financial inequality between men and women will further rise sharply. The Committee notes many women are employed in the informal sector which has been worst hit due to the pandemic. The Committee therefore recommends the Ministry to make social security measures accessible to women and launch specific programmes so that women are able to absorb the economic shock and the resultant mental stress caused due to the sudden job losses.

PSYCHOLOGICAL IMPACT OF COVID 19

7.35 As a result of the emergence of COVID-19, a situation of socio-economic crisis and profound psychological distress has rapidly occurred worldwide. Various psychological problems and resultant mental health issues including stress, anxiety, depression, frustration, uncertainty during COVID-19 have been noticed. Common psychological reactions related to the mass quarantine, which was imposed in order to attenuate the COVID-19 spread, are fear and anxiety which are typically associated with disease outbreaks, and increased with the escalation of new cases together with inadequate, anxiety-provoking information which was provided by media. COVID-19 has affected the mental health of all the sections of society, be it toddlers and adolescents, women, senior citizens, domestic caregivers, marginalized community- migrants, daily wagers, slum dwellers, general public etc. The psychological impact of fear and anxiety, induced by the rapid spread of pandemic, needs to be clearly recognized as a public health priority

7.36 Population Foundation of India informed the Committee that while there have been reports suggesting that men, the elderly, and persons with compromised immune systems may be at be greatest risk of fatality from COVID-19, the fact remains that women and girls who are expected to perform may compromise their mental health and well-being. Results from a recent PFI study show that 51% female adolescents experienced an increase in workload during the nationwide lockdown, as compared to 23% male adolescents. In fact, in UP 96% females experienced an increase in workload, with 67% of them, being below 18 years of age.

7.37 Specific population groups are showing high degrees of COVID-19-related psychological distress. Frontline healthcare workers are facing backlash from communities leading to stress. In

the wake of the lockdown, people across all strata and age groups are finding it increasingly difficult to deal with social isolation and stress at home.

7.38 The Population Foundation of India advocated the following measure to tackle mental health issues arising from the Covid-19 pandemic

- i Inclusion of psychological support services for women into primary health care.
- ii Development of a comprehensive crisis prevention and intervention system including epidemiological monitoring, screening, referral and targeted intervention to reduce psychological distress.
- iii Awareness campaigns to ensure vulnerable groups including women, are well informed about the availability and accessibility of mental health related services.
- iv Increased investments in mental health research.
- v Building a cadre of trained professionals to strengthen mental health services.

7.39 The Ministry has submitted that it has issued guidelines on psycho-social care. NIMHANS, Bengaluru has developed a plan of action and resource material. The District Mental Health Programme is providing psycho-social care to those affected by COVID.

7.40 The Ministry further submitted that the Pandemic has its psycho-social impact on the population and it has taken following proactive steps to address the psychosocial issues during COVID-19:

- i The Ministry, through National Institute of Mental Health and Neurosciences (NIMHANS), Bengaluru, has set up a 24/7 helpline (080-4611 0007), to provide psychosocial support, by mental health professionals, to the entire affected population, divided into different target groups viz children, adult, elderly, women and healthcare workers.
- ii 20 States have on boarded the NIMHANS helpline for providing psychosocial support. Many States/UTs are using other helplines for their own mental health helpline.
- iii Guidelines / advisories on management of mental health issues, catering to different segments of the society have been issued.
- iv Advocacy through various media platforms in the form of creative and audio-visual materials on managing stress and anxiety, and promoting an environment of support and care for all
- v NIMHANS has issued detailed guidelines on Mental Health in the times of COVID-19 Pandemic - Guidance for General Medical and Specialized Mental Health Care Settings
- vi Modules have been prepared and uploaded on the Integrated Government Online Training (iGOT)-Diksha platform (<https://igot.gov.in>) for standardized capacity building and training of all the service providers (including volunteers, police and all frontline workers). These modules cover topics such as COVID appropriate behaviors, psychological care of patients, stress management, psychosocial care, COVID awareness, awareness for community health workers, etc.
- vii NIMHANS has also been working towards building capacity of health workers in providing support and has undertaken online training of psychologists across the country for providing brief and basic telephonic psychological support in the context of COVID-19.

7.41 This is in addition to an online platform (<https://psychcare-nimhans.in/>) set up to support healthcare workers involved in providing psychosocial help in the context of COVID-19.

7.42 The Ministry further submitted that the Government has developed advisory on addressing social stigma associated with COVID-19 and also various IEC material inducing audio-visuals on Social stigma attached with COVID-19 patients. The advisories and videos are available at MoHFW website under “Behavioural Health–Psychosocial helpline” (<http://www.mohfw.gov.in/>).

7.43 The Committee endorses the study conducted by PFI and agrees that there has been a considerable rise in mental health issues during the lockdown. Sudden loss of employment and social isolation aggravated the psychological burden among the masses. The Committee also finds that stretched work hours have increased the levels of depression among the frontline healthcare workers. There is no denying the fact that staying in touch with friends or family is a typical mechanism for coping with stress but during lockdown in the absence of any coping mechanism, working age adults, students etc who live alone, were more prone to depression. The Committee, therefore, recommends the Ministry to increase its investments in mental health research and ensure better outreach of its mental health care services. The Committee would also like the Ministry to carry out more awareness campaigns for erasing the stigma attached to mental health and focus on the measures for alleviating the depressed out of their prevailing mental framework and inject new rays of hope and expectation through social interaction and psychological stress emancipation practices viz. yoga and better way of living.

7.44 The Committee is also concerned at the increased risk of suicide during the pandemic which may be attributed to social isolation, fear of the pandemic, loss of livelihood and other economic and health fallouts. The Committee, therefore, strongly urges the Ministry to make suicide prevention and mental health its priority. The Committee also recommends the Ministry to utilize the different means of social and press media to generate awareness and provide necessary support through help lines and by counseling to the individuals in distress.

INCREASING UNEMPLOYMENT IN UNORGANIZED SECTOR

7.45 The COVID-19 pandemic has worst hit workers of unorganized sector mostly who are daily wager or informal laborers or those working in Micro, Small and Medium Enterprises (MSMEs) and rendered them jobless. Increased unemployment rate, with no alternative income source and left them high and dry without adequate provisions for safety, food and other basic necessities. Due to this, the country has witnessed massive exodus of laborers on foot and cycles to their homes. Some sort of help was extended by States by way of running some special trains, however, delayed and flawed response let them suffer for long.

UNPRECEDENTED SHOCK TO INDIAN ECONOMY

7.46 The outbreak of the Covid-19 pandemic created on unprecedented stress to the Indian economy. The economic impact of the 2020 corona virus pandemic in India has been largely disruptive. It has penetrated all the key sectors such as Auto, Shipping, Industry, and Commerce. Significant reductions in income, rise in unemployment, and massive disruptions in the

transportation, service, and manufacturing industries are the crucial determinants for the disease mitigation measures.

7.47 The Centre for Policy Research in its study "India as the Engine of Recovery for South Asia" has rightly observed that "there can be no doubt that COVID-19 has cast a shadow on virtually every aspect of life, not least the economy. Economist, Hu Angang rightly refers to its impact as the 'three declines' (economic growth, per capita income and trade growth) and 'three increases' (unemployment, fiscal deficit and inflation). COVID-19 pandemic has invoked parallels with the Spanish flu of 1918-19, the recurring plague pandemic that raged from 1860-1960 and the Great Depression of the 1930s causing sharpest fall in global GDP and unprecent rise in unemployment rates in recent memory. Geopolitically, the pandemic is clearly set to be a game changer by reordering global strategic equations radically".

7.48 With the prolonged country-wide lockdown, global economic downturn and associated disruption of demand and supply chains, the economy is likely to face a protracted period of slowdown. The outbreak has presented fresh challenges for the Indian economy now, causing severe disruptive impact on both demand and supply side elements. Necessary measures to combat the economic impact from the rapidly spreading corona virus need to be taken.

7.49 Indian Medical Association also submitted that the key negative impact of the lockdown was on the economy that was already weak, resulting in huge losses in revenue to national and state governments. Nearly every citizen outside of government employment suffered from financial losses, especially in loss of incomes/livelihood. The impact on the poor, marginalized, and vulnerable sections have been catastrophic and it will take months to evaluate, and quantify the losses suffered due to the pandemic.

7.50 With regards to the overall impact assessment of COVID-19 on various sectors of economy, the Ministry submitted that COVID has adversely affected the sectors- agriculture, construction, trade, travel, tourism, transport, MSME etc. However, the Ministry advocates that the overall impact can only be assessed once the Pandemic is declared to be over. The Committee notes that to overcome these testing times, the PM has come up with Aatma Nirbhar Bharat Abhiyan to promote the local economy. A special and comprehensive economic package of Rs 20 lakh crore that accounts for 10% of India's GDP, has been announced to bring the economy back on track. In November 2020, the Cabinet gave in principle approval to production linked incentives PLI worth Rs. 1.45 lakh crore for 10 sectors including white goods, automobiles, pharmaceuticals and textiles to attract big ticket investment.

CORONA WARRIORS

7.51 Doctors, Paramedics, Policemen, Sanitation workers and others engaged in different duties in the fight against the Covid-19 are called "Corona Warriors". Their noteworthy contribution in fight against the pandemic has been praised by one and all

7.52 Dr. Harsh Vardhan, Minister for Health and Family Welfare in his statement in Rajya Sabha on 15th September, 2020 praised the corona warriors and stated the following:

"In spite of various constraints and challenges, the Covid warriors rose to the occasion in serving humanity. The country feels indebted to the doctors, nurses, paramedics, frontline field workers, security and police personnel, sanitary workers, volunteers and

journalists who have worked tirelessly to protect our countrymen from Covid. I would request the August House to place on record the appreciation for the yeoman services delivered by them.

There had been instances where healthcare service personnel had to face harassment, acts of violence, intimidation and danger to life during discharge of their duties. To overcome this and support their efforts, Government of India promulgated Epidemic Diseases (Amendment) Ordinance, 2020 on 22nd April 2020. “

7.53 Indian Medical Association submitted that management of pandemic depends on round the clock availability of manpower resources of different skills and competences. However, the State Health Departments and municipal corporations are currently going through tremendous stress due to continued workload without any break for frontline workers. This has not only created fatigue but also reduced their productivity and impacted their morale. The Association further submitted that due to lack of clarity and support of the Government for healthcare professionals under the circumstances of themselves becoming COVID positive has created insecurity in the minds of healthcare professionals especially frontline staff forcing them to withdraw from the services.

7.54 IMA further submitted that the health care workers need to be adequately remunerated, financially, not as incentive or reward, but out of respect for what they are worth. Health care workers working on COVID-19 should be incentivized through non-financial means, including through 'respect and recognition' from authorities and the public. Importantly, health workers, as they are at high risk of being infected with SARS-CoV-2 virus, need to be well protected from getting COVID-19, with the assurance that if they or their families are infected, they will receive the best possible medical care, at no cost. Health workers should also be protected from physical harm/threats, and should have acceptable work environments that are conducive to optimal service delivery. Health workers involved in COVID-19 care should have substantial life insurance cover that protects their dependents/families from additional financial catastrophe in the event of death. 573 healthcare workers which include 364 doctors have laid down their lives in fight against COVID. Over 87000 healthcare workers are infected with the virus. IMA strongly appealed that all doctors who have laid down their lives in fighting this epidemic should be treated at par with the martyrs of Indian armed forces and acknowledged appropriately. The surviving spouse or dependent should be provided a Government job as per their qualification.

7.55 Substantial differences are noticed from district to district in how doctors and health care workers are deployed. District administration are not sensitive to the safety angle and the concerns of stress and fatigue of the medical manpower. Deploying doctors 24X7 without intermittent quarantine periods or long working hours in PPE for COVID care is not the same as 24X7 COVID control from safe offices. Uniform practices have to be put in place throughout the country. The current system of administration has led to considerable difficulties for the medical profession in all sectors.

7.56 On a specific query regarding the incentives to be provided to the healthcare workers, Prof. K. Srinath Reddy submitted that two types of incentives may be provided, viz, (a) removal of the hurdles and grievances that are impeding their work or endangering them; (b) positive incentives for boosting their morale and enhancing their performance. These are detailed below:-

(A) Responding to their felt needs:

(i) Right to Protection From Viral Exposure :-

All categories of health workers run occupational risk of viral exposure (for they being involved in patient care, testing, family contact, home care, patient transport, waste disposal and cleaning at any level of healthcare, in hospital or ambulatory settings). They must be provided adequate quantities of quality assured personal protection equipment, as appropriate to the location and nature of contact.

(ii) Right to Health Care :-

Healthcare workers who are exposed to Covid19 virus must be tested without delay and if infected, they must be provided care as per need, with priority accorded for hospitalisation when required. If they are the source of infection for other members of their household, those household members too should be provided timely testing and care as needed.

(ii) Defined And Humane Hours of Work :-

All health workers who are engaged in Covid19 related work must be assured of defined and humane working hours, predictably functioning reliever rosters and scheduled off-duty days.

(iv) Protection of Pay And Leave During Covid19 Related Isolation or Quarantine :-

Any health worker who is exposed to the virus and is at a high risk of infection must be advised quarantine and that period must be treated as 'on duty'.

(v) Ending Discrimination Between Contract Workers And Regular Employees :-

All health workers, whether regular or contractual, who are employed in Covid19 related duties must be provided similar protection with respect to: grant of exposure or infection related quarantine or isolation period as leave on duty; testing and illness care with full financial cost coverage and protected accommodation or transport for persons working till late night or early morning.

(vi) Right To Information And Training Related To Covid19 :-

All categories of health workers must be regularly provided updated information on Covid19, to enable them to protect themselves and perform their jobs well. On the job training should also be provided as per needs assessment.

(vii) Safe Stay And Transport :-

Any health worker having late duty hours ending in the night or early morning should be provided safe and clean on-site or near-site accommodation by the employer. Alternatively, safe transport should be provided for travel between worksite and home, if the employee prefers to return home.

(viii) Ending Stigma And Violence Against Health Workers :-

Government must take strict legal action against individuals, groups or organisations who provoke, perpetrate or prejudicially publicise stigma or violence against health workers engaged in providing Covid19 related services.

(ix) Timely Payment :-

Complaints have been voiced by ASHAs and sanitation workers from many states that monthly salary/allowance/incentive payments are markedly delayed, exposing them to economic hardship and affecting their work. These grievances should be redressed.

(B) Positive Incentives:

- (i) **Recognition Certificates:-** Certificate be awarded to health workers rendering efficient and empathetic service.
- (ii) **Salary Increments :-** Healthcare providers rendering dedicated high quality services with extraordinary commitment may be awarded salary increments ahead of due time.
- (iii) **Sponsorship For Higher Education/Training :-** Depending on their educational qualifications and service category, healthcare providers who are rendering yeoman service may be sponsored by central and state government for higher education and training in public health/health programme management, monitoring and evaluation/hospital management. With regards to Personal Protective Equipment Kits for the Healthcare workers, the Ministry submitted that at the onset of COVID pandemic, there were no indigenous manufacturers of PPEs with requisite standards. This capacity was up-scaled with involvement of Ministry of Textiles, Department of pharmaceuticals, CDSCO, Ministry of Consumer Affairs, DGFT, NPPA and a multipronged strategy of promoting indigenous manufacturers and ensuring market availability, ban on exports and price control was put in place.

7.57 The Committee appreciates the contribution of the frontline warriors who have been tirelessly working amidst the pandemic. The Committee also observes that the problem of shortage of healthcare workers was deepened during the pandemic crises. Amidst an already fragile healthcare system, the healthcare workers were forced to take the brunt of the increasing number of covid cases. Long working hours and inadequate protection against the virus overburdened the healthcare workers.

7.58 The Committee is of the view that the healthcare workers deserve respect and recognition for their valuable service. All the healthcare workers need to be given adequate remuneration and financial incentives along with insurance coverage. The Committee advocates the two pronged strategy (i) incentives to healthcare workers and (ii) to redress their grievances which will help boosting their morale and enhancing the performance. The Committee, in this regard, recommends the Ministry to ensure every effort to end the stigma and violence against the healthcare workers. The Committee would like the

Ministry to ensure that the healthcare workers should have defined working hours, reliever rosters and scheduled off-duty days.

7.59 The Committee is of the view that health workers at higher risk of infection must be advised quarantine and the same period must be treated as ‘on duty’. The Committee, therefore, recommends the Ministry to provide paid sick leave to the healthcare workers who have been infected and advised isolation. The Committee also recommends the Ministry to ensure that all the healthcare workers are given timely salary and allowances and all their grievances must be addressed. The doctors, who have laid down their lives in fight against the pandemic, must be acknowledged as martyrs and their families be adequately compensated.

CHAPTER 8

FINANCING THE HEALTH SECTOR

8.1 While the health sector in India faces many challenges, the healthcare delivery to 1.3 billion population got further exposed with the outbreak of Covid-19. The challenges in terms of awareness, access, human power crisis, affordability and accountability constituents proved to be major vulnerabilities of health care delivery system. The basic objective behind identifying the subject by the Committee was to understand and assess these vulnerabilities in the light of investment made in the health sector, the lesson learnt from the Covid-19 pandemic and prescribe the solutions as road map for addressing the challenges the health sector is faced with. The existing fragile health infrastructure of the country calls for some brainstorming the way we allocate funds to health sector with half hearted approach. Over the years, the Committee has been pointing out the inadequacy of budgetary resources in the health sector. The current spending of 1.5% of total budget on health sector has proved to be much below the desired level of 3% of GDP as a result of which the country has failed to provide the minimum level of healthcare facilities to large populace leave alone the additional funds required to address the challenges of pandemic situations like Covid-19. Being at the crossroad the need of the hour is that the policy maker must ponder and decide a practical approach for funding pattern required to set up a robust health infrastructure for public at large. India has lessons to learn from the countries who have invested substantially to cover the healthcare needs of their citizens. Although the Government could positively respond to the need of spending on Covid-19 but the picture is much larger and the Government need to urgently arrange finances for health sector in totality. Financing the health sector also needs to be considered in the light of interventions on global spending on pandemics.

GLOBAL SPENDING ON PANDEMICS

8.2 The pandemics like COVID 19 which has affected almost every part of the world requires huge amount of funding. According to WHO "the strategic preparedness and response plan outlines a funding need of at least US \$675 million for critical response efforts in countries most in need of help through April 2020. As this outbreak evolves, funding needs are likely to increase". Brookings India in its study "preparing for pandemics such as coronavirus will we ever break the vicious cycle of panic and neglect?" has highlighted that " Global public health has long struggled with an "out of sight, out of mind" paradox. Once a disease seems to be under control, it becomes invisible to policymakers or funders, even if there is a threat of disease resurgence". As a result, a truly effective pandemic preparedness system is never built. Highlighting the Ebola outbreak in West Africa where it became clear that many critical global public goods (GPGs) for health had been chronically underfunded, including regional and global surveillance systems and research and development (R&D) for pandemic vaccines and other technologies.

8.3 In the aftermath of Ebola in West Africa, there were promising signs that the international community might finally get its act together to create a pandemic preparedness system truly fit for purpose. Multiple independent panels and commissions made assessment of the weaknesses in the global response to Ebola and proposed ways to reform the pandemic preparedness system. The

proposed reforms focused on strengthening national capabilities in outbreak preparedness; improving WHO's handling of epidemics; mobilizing new pandemic funding; and accelerating the development of medical countermeasures (vaccines, diagnostics, and medicines) for outbreak control. Some health reforms occurred but were not enough to cater to large risk of future pandemics.

8.4 Observing the trends in donor funding for what the Lancet Commission on Investing in Health calls “global functions”—global health activities that benefit multiple countries by tackling transnational threats. “Global functions” encompass three essential activities: providing GPGs for health (e.g., R&D to develop new medicines and vaccines for neglected diseases); managing cross-border threats (e.g., pandemic preparedness); and fostering global health leadership and stewardship (e.g., global health priority setting). These are the types of activities that had been historically underfunded when Ebola hit in 2014. A substantial increase in donor funding for epidemic/pandemic preparedness and response, likely a reaction to Ebola, was the chief driver of the sharp rise in funding for global functions from 2013 to 2015. However, funders did not sustain their pandemic financing in 2017. Brookings India concluded that in line with the notion that there was a ‘panic’ phase in response to the Ebola epidemic in which funding for preparedness efforts rose, followed by a decline in funding during the ‘neglect’ phase. All countries—both global health donors and low- and middle-income countries—need to invest in pandemic preparedness.

BUDGETARY ALLOCATION

8.5 With regards to the Committee's specific query about fund requirement for implementation of the action plan to contain Covid 19, the Ministry submitted that the estimated fund requirement is about Rs. 65,585.76 Crores. The Ministry furnished the following details with regards to the financial progress under NHM activities:

- (a) The total expenditure for the activities under NHM for phase 1 (01.01.2000 to 30.06.2020) is Rs. 9604 crores.
- (b) As on 13.07.2020, a total of Rs. 130 crore have been spent on insurance of health workers under the PMGKY.

8.6 The Ministry further submitted that 17 States namely, Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Goa, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Manipur, Meghalaya, Nagaland, Odisha, Punjab, Sikkim, Tamil Nadu and West Bengal have achieved 100% expenditure.

8.7 During the retroactive period (01.01.2020 to 03.04.2020), an amount of Rs. 1113.21 crore was released to the States/UTs. Against this release, an amount of Rs. 1082 cr (approx) has been utilized by the States/UTs for the period 01.01.2020 to 31.03.2020. The status is as per FMR reported by the States/UTs. Whereas, during the period 04.04.2020 to 30.06.2020, an amount of Rs. 3000 crore was released to the States/UTs. Against this release, an expenditure of amount of Rs. 2229.40 crore (as on 24.07.2020) has been reported by the states.

8.8 During the course of examination of the subject, many stakeholders have raised concern over the dismal amount of budget allotted to Health sector. The stakeholders emphasized on the dire need of strengthening the healthcare infrastructure in the country which in absence of adequate budget faces multiple challenges.

8.9 Indian Public Health Association (IPHA), Indian Association of Preventive and Social Medicine (IAPSM) & Indian Association of Epidemiologists submitted that Public health care should be significantly strengthened and enhanced with overall public expenditure to be increased to at least 5% of the GDP. The focus of increased health expenditure should be on primary health care and human resource and infrastructure strengthening rather than opening/strengthening tertiary care centers.

8.10 The Committee reiterates its considered view that the healthcare spending in India is abysmally low for an emerging economy with a population of 1.3 billion. Lack of desired level of investment in the health infrastructure has so far resulted into fragility of Indian health ecosystem which posed a big hurdle in generating an effective response against the pandemic. The Committee has time and again recommended the Ministry for increasing its spending in the health sector for ensuring better health infrastructure and health services to the needy common masses. The Committee expresses its serious displeasure over the Government's reluctance to act upon the Committee's recommendations in letter and spirit. The Committee is assured that the serious impact of the pandemic could have been minimized had the Government over the years increased its investment in the healthcare system. The Committee is pained to note the trauma and distress the public had to undergo due to absence of a dedicated healthcare system. The Committee, therefore, strongly recommends the Government to increase its investments in the public healthcare system and make consistent efforts to achieve the National Health Policy targets of expenditure upto 2.5% of GDP within two years as the set timeframe of year 2025 is far away and the public health cannot be jeopardized till that time schedule.

8.11 The Committee also laments the poor state of primary healthcare especially in rural areas. The Committee strongly recommends the Ministry to urgently increase its spending under the National Rural Health Mission to strengthen the delivery of health care services in the rural areas, keeping in view the languishing health infrastructure and inadequate delivery of health services to much needed rural population.

8.12 The Committee is of the view that pandemic Covid-19 offers a window to revisit the country's health policy with the purpose of strengthening the health sector, and thus necessitates a higher investment in creating permanent basic health infrastructure. The Committee also believes that a higher budgetary allocation will also boost the healthcare industry and shift the focus to Indian manufacturers and domestic supply chain of products. The Committee believes that it is the opportune time to boost India's healthcare infrastructure and push for greater technology deepening in the healthcare sector.

Projected Financial requirement of the Ministry of Health and Family Welfare for the next five years FY 2021-22 to FY 2025-26

8.13 The Committee was also apprised of the total financial requirement of the Ministry of Health and Family Welfare for the FY 2021-22 to FY 2025-26 which is as follows:

S. No.	Key elements of Support	Amount required for the five-year period (in Rs. Cr)
	<u>Medical Education Related</u>	
1.	Proposal to set up 50 Medical Colleges in Phase-IV (Phase IV is being proposed as a new phase under the existing Centrally Sponsored Scheme for opening new medical colleges)	21,275.00
2.	Proposal to support the States to set up 75 Medical Colleges in Phase – III (This is ongoing phase of the Centrally Sponsored Scheme “Opening of New Medical Colleges”)	23,758.19
3.	Training of 1.5 million of skilled workforce related to Allied Health	14,562.71
	<u>PMSSY Related</u>	
4.	Starting of Super Speciality Blocks under PMSSY	15,000.00
	<u>NHM Related</u>	
5.	Bridging the shortfall infrastructure gap in public health facilities including for Wellness Infrastructure	1,04,611.49
6.	Addressing the shortfall in Health Workforce	1,83,595.07
7.	Supporting the National Ambulance Service	15,951.95
8.	Support for IT Infrastructure for the primary health care	11,203.20
9.	Support for diagnostic infrastructure to the primary healthcare facilities	18,807.20
10.	Ensuring Access to Medicines to reduce Out of Pocket Expenditure	1,38,039.00
11.	Support to the States to run DNB Courses in the District Hospitals	2,933.34

Post COVID Health Sector Reforms

	<i>CSS Component of PM A5BY</i>	<i>Amount including State and Central Share</i>	<i>Amount required to cover Districts/Blocks</i>

12.	Support to 'Buildingless' Rural SHCs PHCs CHC	9828.83	6066.63	1589546
13.	Urban HWCs	25066.35	5110.9S	25066.35
14.	Block PHUnits	3829.50	1662.66	549216
15.	Dt PH Labs	1482.50		1482.50
16.	Critical Care Hospital Blocks	19064.80		19 064.80
B. Central Sector Components				
17.	Critical Care Hospital Blocks in 12 Central Hospitals			2220.00
18.	Strengthening Surveillance of Infectious Diseases and Outbreak Response			3060.30
19.	Strengthening Surveillance Capacity of Points of Entry			294.11
20.	Health Emergency Operation Centres and Mobile Hospitals			330.3
21.	Department of Health Research / ICMR			1287.00
22.	Additional needs for Emergency COVID-19 Response			2148.18
	Total			6,16,189.33

8.14 All these proposals are well aligned to the goal of the National Health Policy 2017 and the following relevant targets pertaining to the creation and use of public health facilities are defined in the National Health policy, 2017 as:-

- i. Increase utilization of public health facilities by 50% from current levels by 2025.
- ii. Establish primary and secondary care facility as per norms in high priority districts (population as well as time to reach norms) by 2025.
- iii. Ensure availability of paramedics and doctors as per Indian Public Health Standard (IPHS) norm in high priority districts by 2020.
- iv. Increase community health volunteers to population ratio as per IPHS norm, in high priority districts by 2025.
- v. Increase the expenditure on primary health care by 66.6% of total expenditure.
- vi. Reduction in OOPE from 58.5% of Total Health Expenditure (THE) (FY 2016-17) to 55% of THE
- vii. 20% increase in the number of footfalls in AB-HWCs over baseline FY 19-20 data
- viii. 50% increase in the number of footfalls in urban Health and Wellness Centres over baseline FY 19-20 data.

- ix. 20% increase in the cumulative screenings at HWCs for NCDs and other infectious disease's over baseline FY 19-20 data.
- x. 10% increase in the number of diagnostic tests over the baseline annual diagnostic tests of FY 19-20.

8.15 The Committee notes that the Ministry's projected demand for the five year period from 2021-22 to 2025-26 is Rs. 6,16,189.33 crore. This demand has been spread over some very crucial aspects of health sector like setting up of medical colleges, NHM, Post Covid health sector reforms etc. The Committee strongly believes that the Health sector in India lacks adequate investment and health infrastructure as well as human resources deserves high priority. Higher public investment in health is significant for fulfilling the goals of Universal Health Coverage and making the healthcare services accessible. The Committee appreciates the goal of the National Health Policy, 2017 which calls for the attainment of the highest possible level of health and well-being for all at all ages, through a preventive and promotive health care orientation in all developmental policies, and universal access to good quality health care services without anyone having to face financial hardship as a consequence. The Committee is of the opinion that the Government will have to considerably increase its spending on the health sector to achieve this envisaged goal.

8.16 The Committee understands that coordination and collaboration between the States as well as the Central Government is important for fulfilling the commitment to increase the Government health expenditure to 2.5 percent of the GDP by 2025. The Committee strongly urges the Ministry to lay special emphasis on the provision of primary health care. The Committee believes that spending on the public health system can result in important population health gains which subsequently translate into financial impacts beyond what was originally invested. The Committee urges upon the Government in general and the Ministry of Finance in particular to treat the health infrastructure and healthcare service as a public good and consider enhanced allocation for the health sector in the public interest. The Committee accordingly pleads the Government to increase the budget of the Ministry of Health and Family Welfare as per its projected demand. Here the Committee would like to remind the Government about the call given by Hon'ble Prime Minister to treat the corona pandemic (calamity) as an opportunity and adequately augment the finance of health sector as priority sector in the interest of the nation.

8.17 The Committee also recommends the Ministry of Health and family Welfare to set realistic physical targets and achievable timelines. The Ministry should plan and monitor its financial resources so that the goals are achieved and undue delay is avoided. The Committee strongly recommends the Ministry to chalk out a financial plan so that the allocated budget is fully and timely utilized.

8.18 Projected Budgetary Requirement for the period 2021-22 to 2025-26 for the Ministry of AYUSH is as indicated under:

(in Crores)

S.No	Name of the Scheme	Projected requirements from period 2021-22 to 2025-26					Total
		2021-22	2022-23	2023-24	2024-25	2025-26	

1	Centrally Sponsored Scheme of National AYUSH Mission (NAM)	1056.77	1357.87	1633.39	1796.73	1976.4	7821.16
2	Central Sector Scheme on Conservation, Development and Sustainable Management of Medicinal Plants	60	66	72	79	86	363
3	Mission-VRIKSH AYUSH	2056	1806	0	0	0	3862
4	Champion Services Sector Scheme	259.11	193.21	66.55	28.95	0	547.82
5	Central Sector Scheme for Promotion of International Co-operation in AYUSH (IC-Scheme)	38.6	42.46	46.73	50.76	56.53	235.08
6	Central Sector Scheme on Pharmacovigilance Initiatives for ASU&H Drugs	4	4	4.5	4.5	5	22
7	Central Sector Scheme on Central Drug Controller of ASU&H Drugs	1.5	2	2	2	2.5	10
8	Public Health Initiative (PHI)	45					45
9	Continuing Medical Education (CME)	40					40
10	Center of Excellence (CoE)	70					70
11	Extra Mural Research (EMR)	70					70
12	Central Sector Scheme on Information, Education and Communication (IEC)	175					175
GRAND TOTAL							13261.1

8.19 The Committee notes that the National Health Policy 2017 has emphasized on the potential of AYUSH and advocated its integration with National Health Mission. The Committee notes that the trend of utilization has been satisfactory for AYUSH and it is capable of absorbing more funds under its different schemes. The pandemic has also highlighted the importance of AYUSH medicines for prophylactic use. The Committee has time and again advocated the mainstreaming of AYUSH and highlighted on the need of scientific validation and quality control. The Committee therefore, recommends the Government to ensure that the required funds are available to the Ministry of AYUSH. However, the Committee observes that the schemes such as Central Sector Scheme on Pharmaco-vigilance Initiatives for ASU&H Drugs should be given adequate importance and the funds may be increased under the Scheme.

RECOMMENDATION/OBSERVATIONS - AT A GLANCE

PHASES OF LOCKDOWN

The Committee is of the view that if we had not hit the history books for guidance, the reality would have hit us harder. The Government of India learnt from its past experience and took successful measures like janta curfew, imposition of 4 months long lockdown and its gradual opening, travel restrictions and other social distancing measures to contain the spread of Corona virus. The Committee appreciates the measures but also observes that there have been few glaring lapses in the battle against pandemic like shortage of emergency supplies, red-tapism, shortage and quality of testing kits, delay in domestic production etc.

(Para 1.42)

PM'S JAN ANDOLAN AGAINST PANDEMIC

The Committee appreciates the PM's call for Jan Andolan against Pandemic. The Committee agrees that pandemic Covid-19 can be contained and controlled by adhering to Covid Appropriate Behavior across the country and therefore, each State Government must make their best efforts to live up to the objective of the Jan Andolan.

(Para 1.47)

STRATEGIC APPROACH

The Committee observes that after a steady increase in the number of Covid Cases across the country, there has been a downtrend in Covid Cases. However, the Committee strongly feels that the threat of Covid-19 is still looming large on the country keeping in view the second and third wave in European countries and spike in Delhi. The Secretary, Department of Health and Family Welfare also expressed concern over the possible spike in the incidence of the Covid cases due to super spreading forthcoming festive events in the country and advent of the winter season. The Ministry should, therefore, take effective measures to control the scale of incidence of Covid-19 in the country. The Committee also recommends the States with high case load to adopt robust strategy for containment and mitigation of Covid-19.

(Para 1.54)

STRATEGIES ADOPTED TO CONTAIN COVID-19

The Committee however differs from the viewpoint of the Ministry as it feels that all the steps taken to contain control and minimize the incidence may appropriately be called the Mitigation Plan.

(Para 2.17)

ROLE OF NATIONAL CENTER FOR DISEASE CONTROL (NCDC) AND INTEGRATED DISEASE SURVEILLANCE PROGRAMME (IDSP)

The Committee is of the view that the unprecedented outbreak of Corona-virus required a well planned and coordinated response from the Central as well as State

Governments for successful containment of the pandemic. There has to be an integrated as well as a decentralized response to outbreak of pandemic Covid-19 for rescuing the common masses. The disease trend data under IDSP is crucial for generating the required response to contain the outbreak especially when Inter Sectoral Coordination for zoonotic diseases is one of the main programme components of IDSP. The Committee is constrained to observe the failure of NCDC-IDSP in generating the required response in the wake of the pandemic. The Committee feels that NCDP-IDSP should have been utilized in a more effective manner especially when the sole objective of IDSP is to detect and respond to outbreaks in the early rising phase through trained Rapid Response Teams (RRTs). The Committee, therefore, strongly recommends for revitalizing the enshrined role and responsibility of NCDC for effective control of the disease along with strengthening of the Central Surveillance Unit (CSU), State Surveillance Units (SSU) and District Surveillance Units (DSU). The Committee also recommends the Ministry to effectively implement the various programme components under IDSP. The Committee would like the Ministry to launch Integrated Disease Surveillance Programme in the remaining States i.e. beyond existing 9 States. The Committee observes that there is an urgent need to assess the financial requirement for NCDP-IDSP for its revitalization. The Committee, in this connection, strongly recommends the Ministry to chalk out strategy and specific course of action to revamp the institutional and Human Resource Management structure and further strengthen NCDP-IDSP and pursue with the Ministry of Finance for higher budgetary allocation to NCDP-IDSP.

(Para 2.20)

ADVISORIES AND GUIDELINES FOR COVID-19

The Committee observes that plethora of guidelines issued by the Ministry in the course of the containment of outbreak of pandemic Covid-19 also caused ambiguity in interpretation of multiple guidelines. The contradiction in guidelines and the resultant chaos among the general masses could have been averted by making the public aware of the provision of guidelines and better implementation of the advisories. Needless to say, particularly the separate guidelines on the quarantine issue by different State Governments created more panic and confusion.

(Para 2.23)

SURVEILLANCE IN THE COMMUNITY

The Committee believes that contact tracing, testing and isolating are the crucial components for Covid-19 containment strategy. The Committee is of the view that poor contact tracing and slow testing in the initial phase of pandemic led to the increased number of infections in the country.

(Para 2.26)

HOSPITAL INFRASTRUCTURE

The Committee observes that the Pradhan Mantri Atma Nirbhar Swasth Bharat Yojana is an ambitious program of the government that encompasses vital components to consolidate and enrich health infrastructure in the country. The Committee

recommends that government should not leave any stone unturned in implementing its each and every component to achieve its cherished goal.

(Para 2.29)

AVAILABILITY OF BEDS

The Committee observes that the total number of Government hospital beds in the country was grossly inadequate keeping in view the rising incidence of Covid-19 cases. Attention of the Committee has also been brought to Media Reports which highlighted the abysmally low number of beds in Government hospitals in the country especially at the peak of the pandemic. Data from National Health Profile–2019 states that there are total 7,13,986 Government hospital beds available in India which amounts to 0.55 beds per 1,000 population. As per Reports, 12 States stand below the national level figure. The Committee notes that lack of hospital beds and the inadequate ventilators further complicated the efficacy of the containment plan against the pandemic. As the numbers of cases were on the rise, a frantic search for vacant hospital beds became quite harrowing. Instances of patients being turned away from overburdened hospitals due to lack of vacant beds became the new normal. The scenario of patients holding oxygen cylinder rushing from pillar to post in search of bed in AIIMS Patna is a testimony to fact that tear apart humanity. The Committee is aggrieved at the poor state of healthcare system and therefore, recommends the Government to increase the investment in public health and take appropriate steps to decentralize the healthcare services/facilities in the country.

(Para 2.34)

The Committee is pained to observe that in RML hospital out of the 1572 beds, only 242 beds were dedicated COVID beds whereas in Safdarjung Hospital, out of 2873 beds, only 289 were reserved for Covid patients. The Committee fails to understand the rationale behind the miniscule number of beds reserved for Covid patients in the Central Government Hospitals especially at a time when the number of covid patients were increasing rapidly in the capital city. The Committee, therefore, desires the Ministry to submit a note on the rationale for allocating such limited number of beds for COVID patients. The Committee would like to be apprised regarding the status of beds exclusively reserved for COVID patients in the capital of the country.

(Para 2.35)

The Committee has been given to understand that Railways have provided 813 coaches having 12472 beds for conversion of coaches into COVID Care Centers. As per information submitted by the Ministry till 21.07.2020, only 454 COVID patients were admitted in these COVID Care Centres. The Committee fails to comprehend the underutilization of the available resources especially at a time when people struggled to find a bed in the hospitals. The Committee expects a convincing response from the Ministry on the issue.

(Para 2.36)

INCREASING DEMAND OF NON-INVASIVE OXYGEN CYLINDERS

The Committee agrees with the Department that the pandemic has led to an unprecedented increase in the demand of non-invasive Oxygen Cylinders and instances of lack of Oxygen Cylinders in the hospitals had also been reported. The Committee, therefore, strongly advocates National Pharmaceutical Pricing Authority to take appropriate measures for capping the price of the Oxygen Cylinders so that the availability as well as affordability of the Oxygen Cylinders is ensured in all hospitals for medical consumption. The Committee also recommends the Government for encouraging adequate production of Oxygen for ensuring its supply as per demand in the hospitals.

(Para 2.38)

LABORATORY SUPPORT

The Committee appreciates the efforts of the Ministry for augmenting the testing infrastructure in such a short period of time and believes that testing, isolating and treating holds the key for containing the virus.

(Para 2.40)

The Committee observes that only 33, 330 and 8,64,517 tests were conducted in the month of March and April respectively which increased to 33,878,288 in the month of October. The Committee believes that poor contact tracing and less testing could have been a factor for the exponential growth of COVID cases in the country. The Committee is also worried at the use of less reliable diagnostic tests which increase the chances of false negatives. Though the Rapid Antigen Tests may give faster results but are less reliable than the gold standard RT-PCR tests. Large scale use of such tests with low specificity and sensitivity may end up giving false negatives and subsequently derail the Covid-19 containment strategy. The Committee is of the view that the Government must assess the veracity of Rapid Antigen Test vis-à-vis RT-PCR and other diagnostic tests conducted to bring forth the true picture of the testing capacity in the country. The Committee, therefore, strongly recommends the Ministry to ramp up the testing facilities in the country for more accurate tests. The Committee strongly recommends the testing rate through the more reliable RT-PCR tests.

(Para 2.46)

The Committee also underlines the need to encourage domestic medical device manufacturing industry so that the import of diagnostic kits from other countries is minimized. The Committee, therefore, recommends the Government to boost investment and innovation in the medical device industry in the country.

(Para 2.47)

NATIONWIDE SERO-SURVEY

The Committee understands that Covid-19 Seroprevalence survey is crucial for studying the extent to which the Corona virus had spread among the Indian population. The Committee observes that sero-survey tests account for the presence of antibodies

amongst the persons who might have suffered from SARS-COV-2 virus. The Committee notes that despite limitations due to volley of variable factors, the data received from tests and surveys provides useful information on the trends in new infections and better understanding of the pandemic. The seroprevalence survey would enable the Government to formulate its strategy and the course of action plan to contain the expansion of the COVID-19.

(Para 2.51)

CAPACITY BUILDING AND HEALTH RESOURCE MANAGEMENT

The Committee finds that the healthcare workers lack the skills required for epidemic outbreak investigation, contact tracing, counselling, home care and community mobilization. The Committee underlines an urgent need for capacity building and maintaining the pool of health resources to fight against the outbreak of the pandemic. The Committee strongly supports the demand for the 'Indian Health Service' (IHS) in the Center and across States as a dedicated, efficient, and adequately resourced public health cadre on the pattern of Indian Administrative Service (IAS). Creation of Indian Health Service (IHS) can help in streamlining the healthcare delivery as envisaged in the National Health Policy 2017.

(Para 2.58)

The Committee applauds the ASHA, ANM and Anganwadi workers who were at the forefront of community surveillance and risked their lives at these challenging times. The Committee expresses its anguish over the instances of ASHA workers being mistreated engaged for contact tracing and that too in the absence of safety equipment like masks, PPE kits for them. The Committee is also pained to note that community health workers were denied wages even though they are the foot soldiers of the healthcare system. It is too much to expect from the community health workers to accomplish big task without proper training, incentives and support from the health system. The Committee strongly advocates for strengthening the network of ASHAs, ANMs and other community health workers and the necessary support in the healthcare delivery system. The Committee also recommends the Ministry to improve the quality of training imparted to health workers so as to enable them to provide effective and efficient delivery of healthcare services. Regular training to the community health workers and Anganwadi workers particularly in the post COVID scenario of increasing incidence of Covid-19 cases and complexities involved in the post Covid-19 treatment of infected persons has become more relevant and an inevitable intervention.

(Para 2.61)

The Committee expresses concern over the large numbers of vacancies in secondary and tertiary public hospitals which considerably increases the dependence on private providers and contractual workers. In its earlier reports, the Committee has been pointing out gross shortage of healthcare workforce in the country. The Committee urges upon the Ministry to fill up the posts of specialist lying vacant at Community Health Centres (CHC); doctors at Primary Health Centres (PHC), ANMs and nurses at accentuated pace to meet India's health needs without any further delay.

(Para 2.62)

The Committee recognizes the crucial role of Epidemiologists in underlying the distribution of disease and the strategy for its control and therefore better trained health workers in epidemiology are fundamental for a robust surveillance system. The Committee observes that the Workforce Development Action Package under the Global Health Security Agenda (GHSA) sets a target of one trained field epidemiologist per 200,000 population. India, being a member of GHSA should positively work on capacity building of the frontline epidemiology workforce.

(Para 2.66)

The Committee, in its 117th Report on the Allied and Healthcare Professions Bill 2018, has exhaustively examined the different clauses of the Bill. The Committee had recommended for need of de-medicalisation and bringing forth the Allied and Healthcare Profession to the forefront of patient care and safety. With the unprecedented testing times of the current pandemic where the health sector world over is struggling with heavy disease burden the allied health sector needs to be strengthened. The Committee, therefore, recommends the Ministry that along with medical professionals, the quality management of nursing and allied professionals in the country must also be ensured.

(Para 2.67)

LOGISTICS

The Committee notes that the healthcare workers had to work under huge stress due to shortage of PPE kits amidst impending threat of corona virus infection as a result, quite many of them had to lose their precious lives. The Committee pays tribute to the doctors and nurses who have sacrificed their lives while combating Covid-19. The Ministry needs to ensure that there is no shortage of personal protective equipment (PPE) kits. The Committee also recommends the Ministry to ensure the adequate supply of oxygen cylinders with appropriate price caps.

(Para 2.72)

The Committee observes that disposal of biomedical waste has become a big challenge in the wake of the pandemic. The Committee, therefore, strongly recommends the Ministry to ensure that the States strictly implement the guidelines on management of corona virus related bio-medical waste and take all sorts of requisite safety measures

(Para 2.73)

RISK COMMUNICATION

The Committee notes the Ministry's initiative to ensure appropriate risk communication through SMS and caller tunes. However, the Committee feels that information dissemination regarding covid-19 in rural areas is still inadequate. The Committee, therefore, recommends the Ministry to encourage active participation of self help groups, the Panchayats and the Gram Sabhas for better public health messaging. The

Committee also recommends the Ministry to take more inclusive measures for bringing a behavioral change regarding hand-washing and mask wearing among the masses.

(Para 2.76)

SWOT ANALYSIS

Noting the SWOT analysis of contingent and containment plan of the Government shared by the stakeholders, the Committee feels that adequate primary and secondary healthcare infrastructure needs to be put in place especially in the rural areas by increasing requisite investment on physical infrastructure. The Ministry should also increase the number of VRDLs across different States so that testing capacity in the country is upgraded manifold. The Committee also strongly recommends that every State should establish at least one medical college and hospital as 'Centre of Excellence'. The Committee desires the Ministry to issue clear guidelines on facilities for teleconsultation and encourage the participation of the public through various awareness and outreach programs. Panchayat and community leaders need to be actively involved for dissemination of information regarding hand washing, physical distancing and use of masks. The Committee also advocates research and development and innovation in the healthcare sector and increase the medical device manufacturing capacity in the country.

(Para 2.79)

The Committee is of the view that Districts and States with poor public health sector need to be identified on priority and provided the required infrastructure for tracing, testing and treatment by providing the required financial aid. The Committee calls upon the Ministry to make best use of the extra-ordinary situation arising out of the outbreak of pandemic COVID-19 for strengthening the primary and secondary healthcare services. The Ministry should take all the necessary measures to promote private consumption and investments in the country. A second wave of COVID has been witnessed in European countries and the Committee, therefore, feels that India must also be prepared to combat a possible second wave of Corona especially in the ensuing winter season and super-spreading series of festive-events.

(Para 2.80)

CLINICAL TRIAL/RESEARCH STUDIES

The Committee takes note of the different initiatives taken by ICMR for devising treatment protocol for Covid-19. However, the Committee observes that in the initial phase there was certain ambiguity in the treatment protocol for Covid-19 which is somehow attributed to the mutating strain of Corona virus. The Committee understands that devising a full proof treatment plan will have to be substantiated by different phases of clinical trials and have to be governed by strict protocols. The Committee, therefore, recommends ICMR to widen the scope of its clinical research and studies and keep on updating its database which could prove beneficial in containing and mitigating Covid-19 as well as such future outbreaks. The Committee also recommends ICMR to collaborate with other international institutes and pharmaceutical companies to test the safety and effectiveness of different drugs and devices.

(Para 3.5)

LOPINA VIR/RITONAVIR

The Committee is of the view that only those drugs whose efficacy for treating COVID-19 patients have been established should be used for hospitalized patients and the drugs should be prescribed only after multicentric trials and detailed study. The Committee, therefore, recommends the Ministry to issue clear guidelines for safe use of drugs. The Committee notes that there have been instances where certain drugs were prescribed for COVID-19 but clinical trials gave unfavorable results. The Committee, in this connection, strongly recommends the Ministry to issue strict guidelines against use of such drugs when the evidence conclusively shows that it does not work for Covid treatment. The Committee believes that only drugs with reliable data and research should be used among Covid patients, especially for patients with co-morbidities.

(Para 3.14)

STATUS OF VACCINE DEVELOPMENT IN THE COUNTRY AND ABROAD

The Committee understands the urgency among the global scientific community for development of a vaccine against Covid-19. However, the Committee strongly emphasizes the need to ensure highest level of ethical and procedural standards in the vaccine research studies. The vaccine should pass the strictly regulated route of all phases of clinical trials and the data should be made available in the public domain. The Committee, therefore, strongly recommends the Ministry to follow a transparent approach so that any irregularity in the approval/production of vaccine is avoided.

(Para 3.24)

The Committee also urges the Ministry to devise a plan for the availability of the vaccine. For this to happen, the vaccine production capacity in the country has to be considerably ramped up for making the vaccine accessible to its citizens. The Committee, therefore, recommends the Ministry to collaborate with Serum Institute of India and other vaccine manufacturers so that vaccines are easily available at an affordable rate to the general public. The Committee calls upon the Ministry to subsidize the vaccine cost for the weaker sections of the country, especially in rural and urban slum areas. The Ministry should be cautious in its efforts to check instances of black-marketing and shortage of vaccines. The Committee also recommends the Ministry to administer the vaccines according to the WHO's "strategic allocation" approach or a multi-tiered risk-based approach.

(Para 3.25)

STRATEGY OF SMART VACCINATION

The Committee is of the view that smart vaccination may be used as an immediate strategy but subsequently the whole population should be vaccinated. The Committee also recommends the Ministry to upgrade its cold-chain storage system so that country wide vaccination can be carried out without any hurdles.

(Para 3.27)

CONVALESCENT PLASMA

The Committee notes that convalescent plasma therapy has been used against other diseases in the past and has shown good results. The Committee recommends ICMR to conduct high-quality trials to examine the efficacy of plasma therapy on the mortality of COVID-19 patients and if the research outcome is favourable, efforts must be made for dissemination of use of convalescent plasma therapy.

(Para 3.29)

THE CONCEPT OF HERD IMMUNITY

The Committee is of the view that letting people get infected with the virus till they develop herd immunity would result in a high mortality rate. The Committee agrees that given the poor health infrastructure in the country, the effect could be really adverse. The Committee notes that the trials of the vaccines are still underway and providing vaccine dose to a population of 1.3 billion will take time. The Committee, therefore, believes the best strategy available at present is to increase the testing capacity and isolate the affected persons to contain the further spread of the virus and keep infected persons under appropriate medical observation.

(Para 3.33)

TESTING CAPACITY

The Committee is of the view that the pandemic Covid-19 has highlighted the need for creation of a robust network of laboratories in the country. The Committee observes that though in the beginning only ICMR-National Institute of Virology (NIV) was tasked with the initial testing of suspected cases but in a short span of time, testing capacity was escalated and other viral research and diagnostic laboratories were commissioned. Even then identification of only 13 VRDLs across 11 states in a country with 1.3 billion population is indicative of the fact that the testing capacity was highly inadequate. It is quite disheartening to note that many States did not have the required infrastructure for testing facilities. This led to overburdening of the labs and caused inordinate delays in giving the test results. The Committee is, therefore, of the considered view that the laboratory infrastructure in the country needs to be strengthened along with the technical workforce required to operate these labs.

(Para 3.44)

The Committee observes that initially only NIV-Pune was equipped to carry out Covid-19 testing; However by 1st April, testing facilities were increased to 151 labs and by 31st July, testing capacity was expanded to 1321 labs which further has been expanded to 2082 labs as on 10th November, 2020 (1143 labs in Government Sector and 939 labs in the private sector). This ramping up of testing capacity within few months is commendable. The Committee, however, finds that testing facility is only limited to bigger districts and cities. Lack of testing facilities in rural areas has also resulted in under reporting of cases. The PHCs and the CHCs are still largely devoid of any testing facilities and the required technical workforce. The Committee strongly recommends the Ministry to establish a strong network of Viral Research & Diagnostic Laboratories (VRDLs) in the country to tackle the constantly increasing incidences of Covid-19 cases.

(Para 3.45)

The Committee is of the view that a differentiated approach with aggressive testing in containment zones and cities with high level of infection could have arrested the spread of infection. However, with unlocking, the infection has now spread to different parts of the country. The Committee also believes that Tracing, Tracking, Testing, Treating and Technology (5Ts) are the answer to tackling Covid-19 and the Ministry has been working on all the fronts. However, the Committee still feels that the coordination between the Centre and the States needs further strengthening for better result. The required infrastructure to imbibe the 5Ts cannot be established overnight rather it demands adequate financial aid and specialized human resources.

(Para 3.46)

The Committee notes that at present, India has the second highest number of total Covid positive cases after USA. However, inspite of the scaling up of testing, the number of tests per million population in India is only 44,524 whereas for USA, it is 287,354 (source: Worldometer 18th September, 2020). Brazil which has the third highest number of Covid positive cases is also conducting 68,666 tests per million population. The Committee, therefore, recommends the Ministry to further increase the number of Covid-19 tests in the country.

(Para 3.47)

The Committee was given to understand that various diagnostic kits being used in carrying out Covid-19 Testing, include kits imported from other countries. The Committee is of the view that with an enabling policy framework, the Indian medical device industry could grow by leaps and bounds. The Committee strongly advocates providing support to the indigenous medical device manufacturing industry to make India self sufficient and promote local production under PM's flagship programme of Atma Nirbhar Bharat- that focuses on self reliance and local production. The Committee, therefore, recommends the Ministry to formulate specific schemes for providing financial incentives as well as infrastructure assistance to the industry that would work like 'Sanjeevani booti' to already slackening economy growth. The Ministry should devise segment specific approach for consumables, implants, diagnostic imaging and kits and other medical devices to boost up healthcare industry.

(Para 3.48)

The Committee is concerned at the low number of Tests per Million population in States such as Arunachal Pradesh, Nagaland, Madhya Pradesh and West Bengal etc. The Committee, therefore recommends the State Governments to shed their lackadaisical approach and continue tracking, testing and isolating so that Covid cases do not spike in the winter months.

(Para 3.50)

STRATEGY OF THE GOVERNMENT TO ENSURE BIO-SECURITY AGAINST BIOLOGICAL WEAPONS

The Committee underlines the need of bio-safety to protect the world community

from any activity signaling bioterrorism. The adverse effects of Covid-19 pandemic have taught the lesson on the importance of controlling biological agents and the need of strategic partnerships among different nations. The Committee, therefore, feels that the present time is the most appropriate for the Government to formulate effective laws to counter bio-terrorism. The Committee also believes with expanding network of VRDLs, ICMR would serve as an important platform for diagnosis and surveillance of existing as well as emerging viral infections and thus make the country bio-secured against life-threatening viruses and the menace of bio-terrorism.

(Para 3.52)

The Committee agrees with the Ministry that a holistic approach is needed for ensuring bio-security against biological weapons. The Ministry should also engage with agencies and actively participate in ongoing International treaties. The Committee strongly recommends the Ministry to conduct more research and work towards training and capacity building for management of public health emergencies arising from use of bio-weapons.

(Para 3.53)

AIR POLLUTION AND COVID MANAGEMENT

The Committee is also concerned at the growing pollution in major cities of the country. Studies have highlighted that air pollution during the time of pandemic will cause additive adverse effect on health and well being. The fact that air pollution can aggravate co-morbidities and other respiratory illnesses cannot be denied. Air pollution will increase the risk associated with Covid and could lead to fatal outcomes. The Committee, therefore, recommends the Ministry to encourage undertaking of necessary health research projects on air pollution and better Covid management. Further, the Committee is of the view that the Ministry should also liaise and coordinate with the Ministry of Environment Forest and Climate Change to find immediate solution for bringing down air pollution so that it does not aggravate the pandemic situation. The Committee also recommends the Government to make arrangement of adequate health infrastructure to combat the challenges of air pollution and manage its adverse impact on the Covid patients.

(Para 3.54)

BUDGETARY ALLOCATION TO DHR/ICMR

The Committee observes with concern that as compared to other Departments involved in scientific research, the budgetary allocation of Department of Health Research has been one of the lowest in 2019-20, i.e, Rs. 1900 crores. For the year 2020-21, the budget marginally increased to Rs. 2100 crores. The Committee, in its 119th Report on the Demands for Grants for the year 2020-21 of the Department of Health Research, had expressed its deep concern over the lower budgetary allocation during 2020-21 vis-à-vis projected demands under various components of DHR schemes/ICMR. The Committee had highlighted that the shortfall in allocations under the schemes would severely impact the establishment of new Viral Research & Diagnostic Laboratories; Multi Disciplinary Research Units in Medical Colleges (MRUs), Model Rural Health Research Units (MRHRUs) in States and funding of projects under the schemes of Human Resource & Capacity Development. The Committee reiterates its recommendations as made in the 119th

Report that the budgetary allocation to Department of Health Research should be increased.

(Para 3.56)

The Committee also emphasizes on the pivotal role played by ICMR in the fight against the pandemic. The Committee believes that Department of Health Research and especially ICMR are at the forefront in devising a suitable strategy in combating such outbreaks. In view of this, this Department and ICMR deserve a consistent budgetary support for its research resources activities. The Committee strongly recommends Ministry to increase the budgetary allocation to ICMR to broaden its research activities which would in turn help in formulation of better health outcomes.

(Para 3.57)

RESEARCH AND DEVELOPMENT

The Committee expresses concern over inadequate investment on public health research despite the fact that innovation play pivotal role in controlling the spread of disease. The country lacks resilient field surveillance to detect potential cluster of diseases. Lack of investment leads to dependence on imports of diagnostic kits and development of vaccine and drugs which ultimately enhances 'out of pocket expenditure' of common populace. The Committee strongly recommends the higher investment on research and development and innovation in the field of health research at multiple levels to contain zoonotic virals like COVID-19 and to establish One Health Surveillance System with potential warning system of microbial spill over. The Committee is distressed to note the recent UIS data (UNESCO Institute of Statistics data) expressing that India invests only 0.65 percent of GDP on Research and Development. India's GERD as a percentage of GDP was 0.67 in 2017 and 0.65 in 2018. The Gross domestic expenditure on R&D (GERD) as a percentage of GDP is the total intramural expenditure on R&D performed in the national territory during a specific reference period expressed as a percentage of GDP of the national territory. The Committee notes that India's GERD is well below the world average and the GERD of other countries. Countries like United States of America spend almost 2.84 percent of its GDP on research whereas China also spends 2.19 percent of its GDP on research. The Committee deprecates the fact that India's lower appropriation on Research speaks volumes of how neglected the R&D sector has been in the country. The Committee, therefore, strongly recommends that the Ministry should at least increase its spending on research to the world average of 1.72 as a percentage of GDP within two years. The Committee also recommends the Ministry to set specific expenditure targets for R&D and for promotion of science, technology and innovation (STI). This dedicated separate budgetary allocation should be supported even in financial crisis situations so that research activities do not suffer in the wake of any unforeseen circumstances.

(Para 3.64)

The Committee strongly underlines the pivotal role of research and development and would like the Ministry to strive hard for an innovation enabling infrastructure in the country. The Committee applauds ICMR in leading the fight against the pandemic and strongly believes that dedicated research institutes on the lines of ICMR should be established across the country. The Committee also recommends the Ministry to increase funding for machine learning and artificial intelligence based projects and also promote

international collaboration in Science & Technology. The Ministry should also explore AI tools and innovative methods for providing personalized treatment to Covid-19 patients.

(Para 3.65)

RESEARCH AS A CAREER OPPORTUNITY

The Committee expresses concern over the low number of researchers in the country and lack of research culture among students. As per the UIS data, there are almost 252 researchers per million population in India against 1,370 researchers in China. The Committee opines that the Ministry should focus on linking research with education and teaching and give incentives for increasing the retention rate in Health Research Field. The Committee strongly recommends the creation of a pool of talented health research personnel with upgraded skills of faculty of medical colleges, mid-career scientists, medical students, etc. The Department should also chalk out specialized training courses regarding infectious disease epidemiology risk on viral infection especially co-morbidities micro behavioral factors and related multi-disciplinary research and support the trainees to take up research projects for addressing critical national and local health problems. The Committee, in this connection recommends the Ministry to launch health specific research programs for generation of a research culture in the country and encourage the young undergraduates/postgraduates to pursue research in science and technology. The Committee desire the Ministry to provide financial assistance to institutions for conducting research in health specific areas. Financial incentive in form of research grants should also be provided to young graduates proposing to undertake health research projects. The Ministry should also assess the quality and outcome of research projects from time to time by evaluating the research outcomes and results.

(Para 3.66)

COVID MANAGEMENT UNDER AYUSHMAN BHARAT-PMJAY SCHEME

The Committee is of the view that the AB-HWC which is envisaged to provide comprehensive health care to all must be positioned with the required infrastructure including well equipped modules, technical facilities and the requisite technical human resources. The Committee believes that higher investment in the health sector will facilitate revival of health sector and the HWCs, in the wake of any future pandemic, can act as the first effective point of quality healthcare delivery services. The Committee feels that HWCs with its cadre of health workers and emphasis on community engagement are pivotal to the rural healthcare system of the country. The Committee, therefore, strongly advocates strengthening of the HWCs and developing a strong public health workforce at the grassroots level.

(Para 4.12)

The Committee is equally apprehensive about the ground realities. Covid testing and treatment may not be available in all public hospitals. Given the fragile network of our public hospitals that struggled to deal with the increasing cases of Corona, instances of private hospitals charging exorbitant medical fees for Covid treatment are being reported. In such a scenario, where only the affluent could afford treatment, the Committee feels that

free Covid treatment under PMJAY could provide a sigh of relief to the entitled beneficiaries and the economically weaker sections of the society. The Committee, therefore, recommends the Ministry to constantly make efforts to minimise the out of pocket expenditure of patients due to Covid and update the details of the beneficiaries on the scheme's IT System.

(Para 4.13)

The Committee notes that NHA has introduced a process of temporary empanelment for the hospitals to avail benefits of Ayushman Bharat Jan Arogya Yojana (AB PM-JAY) through HEM Lite. The Committee welcomes such an initiative considering the gross shortage of adequate healthcare facilities. However, the Committee recommends the Ministry to effectively scrutinize the whole procedure of temporary empanelment of hospitals so that instances of fraudulent healthcare behaviour are avoided. The Committee also recommends the Ministry to empanel more hospitals especially in areas and States with weak health infrastructure to ensure continued supply of essential healthcare services..

(Para 4.14)

The Committee appreciates the new Transaction Management System (TMS) that allows the State Government to extend treatment to non AB-PMJAY beneficiaries. The Committee recommends the Ministry to strengthen its monitoring mechanism and implement the new transaction management system (TMS) in States. The Committee welcomes the Direct Lab Empanelment (DLE) module for empanelment of ICMR registered labs and feels that this will go a long way in expansion of physical testing infrastructure.

(Para 4.15)

The Committee also appreciates the helpline services offered by NHA, however, outreach of these services in the rural areas needs to be ensured. The Committee, therefore, recommends the Ministry to create adequate awareness of these services in the rural areas as well.

(Para 4.16)

The Committee would like the Ministry to ensure that the benefits of the Pradhan Mantri Garib Kalyan Yojana actually reach to, healthcare providers, including community health workers, fighting COVID-19. The Ministry should also assess the implementation of the Scheme at the ground level.

(Para 4.17)

KEY CONCERN AREAS OF AYUSHMAN BHARAT AND PMJAY IN COMBATING COVID-19

The Committee is disappointed to note that many poor people have not been included under the scheme due to old SECC data and there is no provision to even update

or revise the list of beneficiaries. The Committee is not convinced by the argument that State Governments can add beneficiaries at their own cost under State schemes. The Committee believes that States generally are fund-starved and it would not be appropriate to lay additional burden on them. The Committee, therefore, recommends that the Ministry and NHA must re-visit the idea of revising and updating the list of beneficiaries and not deprive poor strata of socially who should be given coverage under the scheme.

(Para 4.20)

The Committee understands the crucial situation arising due to pandemic Covid-19 and the resultant challenges being faced with respect to the health infrastructure as well as services. Since all the resources stand diverted towards tackling the pandemic, people have been facing problems in availing treatment for covid as well as non-covid illness. The Committee believes that people may not be aware about the grievance redressal system and ways and means of registering their complaints. The Committee, however, feels that monitoring of empanelled hospitals must be done to ensure that treatment is not denied to anyone because it will have a direct impact on the out of pocket expenditure of the poor patients. The Committee believes that it is the moral duty of the Government to take care of its poor citizens especially in critical times like these. The Committee recommends to the Ministry as well as NHA that all empanelled hospitals must be monitored, fresh directions issued and those found guilty be penalised for denying treatment to anyone.

(Para 4.26)

The Committee is quite apprehensive that lack of awareness especially in the rural areas may be major reason for ignorance about healthcare benefits under the AB-PMJAY Scheme. As a result of such ignorance many entitled beneficiaries still remain outside the ambit of the Scheme. The Committee, therefore, recommends, especially in the remotest and rural areas, to utilise the existing community healthcare workforce, community leaders, gram panchayat etc in disseminating information about the Scheme. Periodic awareness campaign about the rights of the beneficiaries should be conducted. The Ministry needs to make special efforts and sensitize the entitled beneficiaries so that instances of patients paying additional amount in case of any additional medical procedure are avoided.

(Para 4.28)

The Committee is of the view that engagement of both private and public sector is a must for ensuring robust delivery of healthcare services under the Scheme AB-PMJAY. The Committee understands that Covid treatment rate and charges for other health package for small private hospitals may not be sustainable which would discourage private hospitals from empanelling under the Scheme. The Committee, therefore, recommends the Ministry to rationalize the package rates especially in rural areas where people suffer due to a weak primary healthcare infrastructure.

(Para 4.29)

The Committee notes that Ayushman Bharat envisages ensuring robust tertiary healthcare services and therefore, recommends the Ministry to make constant efforts to

achieve its envisaged goal of 1.5 lakh Health and Wellness Centres (AB-HWCs) to provide comprehensive health care (CPHC) services to enrich the physical infrastructure in fight against pandemic/epidemic like situation. The Committee would like the Ministry to ensure availability of adequate and trained human resources for effective functioning of the HWCs.

(Para 4.30)

The Committee would also like the Ministry to ensure that the private as well as public hospitals follow the appropriate guidelines on the isolation facilities, separate entry & exit, patient transfer facility etc to manage the contagion. The Committee opines that directing the whole health machinery towards Covid-19 while neglecting other healthcare services is not the right approach. The Committee, therefore, recommends the Ministry to also ensure that basic healthcare services like immunization, maternal, neonatal healthcare facilities, health check-ups, screenings etc are not disrupted in the Health and Wellness Centres.

(Para 4.31)

BUDGETARY ALLOCATION

The optimum utilization of the allocated funds has always been advocated by the Committee. The Committee, in this connection, recapitulates its recommendation/observation made in its 118th Report on the Demands for Grants (Demand No.42) for the year 2020-21 of the Department of Health and Family Welfare about the gross underutilisation of funds under the Scheme. It was pointed out that funds to the tune of Rs. 6400 crore were allotted in BE 2019-20 under AB-PMJAY which was reduced to Rs. 3200 crore at the RE stage, due to underutilization of the budgetary allocation. The Committee reiterates its recommendation as made in the 118th Report desiring the Department to periodically track the progress of the Scheme in the States and ensure that the funds earmarked for the Scheme are optimally utilised. The Ministry must ensure that no course of action should remain incomplete while combating Covid-19 for want of fund.

(Para 4.34)

HEALTH PACKAGES AND SERVICES UNDER AYUSHMAN BHARAT

The Committee is of the view that the Ministry should make constant efforts to ensure delivery of quality treatment to the entitled beneficiaries under the AB-PMJAY Scheme. For this to happen, the Ministry needs to strengthen its monitoring mechanism and coordinate with the State Health Agencies (SHA) for effective implementation of the Scheme. Needless to mention, periodical review meetings and regular assessment of the quality of treatment under the Scheme should become the integral parts of such robust mechanism. NHA should also review the outcome audit of different procedure and packages and conduct periodic medical audits.

(Para 4.42)

The Committee feels that undue delay in claims payment of private hospitals empanelled under the Scheme is equally a matter of concern. The Committee strongly believes that the Ministry and NHA should make special efforts for ensuring timely payment of reimbursement claims of empanelled private hospitals to ensure uninterrupted treatment to needy patients. This would ensure transparency and good governance of the health domain free from instances of exorbitant extraction of money from the patients in the private hospitals.

(Para 4.43)

The Committee is glad to know that AYUSH packages are being included under AB-PMJAY. Given the importance of Indian System of Medicines in present times especially during pandemic Covid-19, when AYUSH products are being widely used in the country for prophylactic use, its inclusion is well timed and warranted for. The Committee hopes that these packages are finalized soon and included under the scheme.

(Para 4.45)

COVID MANAGEMENT THROUGH AYUSH SYSTEM

The Committee takes note of the preventive and prophylactic approaches that help in symptom management of COVID-19 like illnesses as also the lifestyle advocacies to boost immunity for prevention of various kinds of infectious diseases. The Committee recognizes the importance of traditional Indian system of medicine and the pivotal role it plays in boosting immunity and acting as a shield from various diseases. The Committee desires the people of the country to follow these advisories in their daily lives to protect themselves. The Committee would like the Ministry to create adequate awareness amongst the masses about the various guidelines relating to the dose of medicines to be taken up by the people. The Ministry should also ensure that the guidelines about the medicines to be taken up to modulate immunity be adequately disseminated so that patients take dose of medicine as per prescription of registered practitioner.

(Para 5.7)

The Committee observes that while there is a lot of discussion on COVID-19 control strategies from the mainstream approaches, it is also necessary to examine the contribution of the Ayurveda, Yoga and Naturopathy, Unani, Siddha, Sowa Riga and Homeopathy (AYUSH) system, which are now being focused as effective public health interventions. The Committee would like to point out that outbreak of COVID-19 has made the world community realize the significance of strong and resilient immune systems for good health. While curative medicines are crucial and indispensable in battling Pandemic COVID-19 viruses, body's immunity is the first and best line of defense against any disease. During recent times, this line of life style reflects the increasing demand for dietary supplements that improve nutrition and health system. The Committee would like to appreciate the advisories issued by the Ministry of AYUSH.

(Para 5.11)

The Committee notes that the Ministry has formulated Interdisciplinary AYUSH Research and Development Task for studying four different interventions viz. Ashwagandha, Yashtimadhu, Guduchi + Pippali and a poly herbal formulation (AYUSH-64). However, due to scanty scientific evidence, this system of medicines gets very limited attention to the scientific community. The Committee, therefore, underlines the need to develop evidence based traditional medicines with scientific validation for better acceptability and higher credibility. Research and Development is vital for growth and promotion of traditional system of medicine and therefore, the Committee recommends the Ministry to make efforts for scientific validation of the traditional medicine by introducing necessary technological advancements to gain trust and acceptability. This would help to garner confidence of more and more people who in turn would opt for traditional medicine to boost their immunity and prevent and protect themselves against various infectious diseases.

(Para 5.12)

The Committee opines that the pandemic COVID-19 has highlighted the need for mainstreaming Indian system of medicine and employing the alternative and traditional medicinal systems. The Committee would like the Government to weigh the relative contribution of both system i.e. system of modern medicine & science and the AYUSH, as complementary to each other in the management of diseases. The New Education Policy, 2020 also calls for integration of Allopathy with AYUSH Systems of Medicine. The NEP, 2020 exhorts much greater emphasis on preventive healthcare and community medicine in all forms of healthcare education. The Committee believes that the integration of Indian system with Allopathy would not only give medical students better understanding of preventive healthcare and community medicine, as envisioned under NEP, 2020, but at the same time would help the AYUSH practitioners to equip themselves to dispense basic medical care at the primary healthcare level. The integration of AYUSH with Allopathy is a positive move that would help India move towards meeting the goal of universal healthcare by improving access and delivery in remote areas. The Committee, therefore, recommends the Government to make all out efforts for the integration of Allopathy with Indian traditional system of medicine.

(Para 5.13)

UTILIZATION OF AYUSH MANPOWER AS COVID WARRIORS

The Committee appreciates the contribution of AYUSH doctors in combating COVID since the outbreak of the pandemic. The Committee believes that with the virus now spreading beyond metros and big cities and to rural and remote areas where an allopathic doctor is not always available or COVID centers/ hospitals with shortage of doctors, AYUSH doctors can be the first line of defense in those areas. The Committee is aware that AYUSH doctors have been filling up the gaps where there is scarcity of health human resources. The Committee feels that the basic training of the AYUSH doctors in the modern scientific systems would go a long way in the management of COVID-19 especially in rural areas and would reduce burden of the allopathic doctors in the management of COVID-19 virus.

(Para 5.15)

The Committee notes that out of 2 lakh trained AYUSH doctors, only 39,555 have been deployed by States/UTs. The SOPs for the deployment of trained AYUSH manpower has been prepared and same is under consideration. The Committee recommends the Ministry to expedite deployment of remaining trained Ayush doctors in the light of increasing number of COVID patients with each passing day. The Committee also recommends the Government to train more and more AYUSH doctors to overcome the shortage of doctors and to achieve the goal of universal health coverage.

(Para 5.16)

The Committee deprecates the delay in permission to Research Councils and National Institutes under the Ministry of AYUSH in some of the States/UTs Governments for clinical and population based research studies due to lack of clarity of policies and guidelines. This shows the apathy of the Government in formulating guidelines with regard to research activities under AYUSH system. The Committee, at the same time, recommends that AYUSH Research Councils and the National Institutes must undertake such research projects that would help in management of pandemic COVID-19 and extend protection to common masses against life threatening diseases.

(Para 5.18)

QUALITY CONTROL AND LICENSING OF AYUSH DRUGS

The Committee expresses its concern over the reported adverse reactions of number of ASU&H drugs introduced in market since January, 2019. The reference to 139 misleading cases by Pharmacovigilance centres related to COVID-19 pandemic in last four months is testimony to this fact. It appears that the regulatory framework for the quality control of Ayush drugs is not stringent to prevent threat of misleading claims/ medications. The Committee believes that these cases have put a question mark on the quality of traditional medicines available during outbreak of pandemic COVID-19. The Committee cautions the Ministry of AYUSH that the current pandemic should not let the unscrupulous sellers/manufacturers of AYUSH drugs/products to increase their profits by misleading the consumer in the name of health immune boosters. The Committee strongly recommends the Ministry of AYUSH to strictly monitor the cases of misleading advertisements and protect the consumers of AYUSH products.

(Para 5.22)

The Committee appreciates the pharmacovigilance initiative taken by the Ministry with the aim to prevent the adverse drug reaction and safeguard the public health. This is a positive step to showcase that Indian traditional system of medicine is not only safe but also scientifically validated. The Committee, however, cautions that the fake claims and misleading advertisements about ASU&H drugs would not only damage the credibility of AYUSH medicines but also create distrust amongst the users of ASU&H drugs as well. The Committee, therefore, recommends the Ministry to evolve stringent regulatory framework to tackle the problems of failed samples and ensure quality control of AYUSH drugs. Strict and exemplary action in a time bound manner must be taken against the manufacturers involved in manufacturing of spurious/low quality AYUSH drugs. The Ministry ought to

fix the responsibility of the officials concerned who approve low/substandard quality drugs. The Ministry must sensitize physicians, pharmacists, patients, the pharmaceutical industry and other stakeholders towards reporting adverse drug reactions. The Ministry should also make efforts to strengthen State Government ASU&H Pharmacies and drug testing laboratories in tackling the menace of misleading advertisement and low quality AYUSH drugs.

(Para 5.23)

The attention of the Committee was drawn to the provisions of Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 which prohibits advertisements of drugs and remedies that directly or indirectly gives a false impression regarding the true character of the drug; or (b) makes a false claim for the drug; or (c) is otherwise false or misleading in any material particular. The Committee urges upon the Ministry to strictly follow the provisions of the Drugs and Magic Remedies (Objectionable Advertisement) Act, 1954 that prevent publication of inappropriate/misleading advertisements. The Committee, in this connection, recommends the Ministry to monitor advertisements issued regarding usage of AYUSH drugs and take actions against reported misleading advertisements and false claims in a time bound manner. The Committee further recommends the Ministry to direct States/UTs for ensuring strict monitoring/vigilance of quality control of ASU&H drugs as also the adherence of general guidelines for development of traditional medicine.

(Para 5.24)

The Committee understands that since the product approval to AYUSH drugs is given by the concerned State Licensing Authority (AYUSH) in accordance with the provisions of Drugs & Cosmetics Rule, due precautions needs to be exercised by licensing authorities so that unscrupulous manufacturers do not get any corridor for bringing spurious products into the Indian market. Even though the power to grant license and legal actions against fake claims and misleading advertisements is vested with the State Licensing Authorities, the Ministry also owe accountability to follow up the matter with the State Governments and instruct the State licensing Authority to take suitable action in a transparent and time bound manner.

(Para 5.25)

The Committee also takes into cognizance the directives issued by Ministry on 2nd April, 2020 to all States/UTs Licensing Authorities and Drug Controllers of AYUSH to expedite the process of granting approval/license/renewal of license for manufacturing of ASU immunity boosting healthcare products and sanitizers. The Committee however, would like to caution that Government should instruct the State licensing authorities not to rush through the process of granting approvals to new ASU products at the cost of public health. Despite the growing demand in the wake of the COVID-19 pandemic, the usual safety standards and approval mechanisms for AYUSH products must be strictly followed and there should be no compromise with safety of the people who are using these products. The Committee, therefore, recommends the Ministry to grant approvals/license only after following the due procedure, strict monitoring of the products, keeping in mind the rights of consumers and protect lives of the people using the AYUSH products.

(Para 5.26)

RESEARCH AND DEVELOPMENT

The Committee appreciates the absorption capacity of all the Research Institutes. Research, being an important component for achieving scientific validation of traditional system and making it widely accepted, the Committee believes that all research Institutes must yield the research outcome to achieve the objective of investment on R&D. Effective AYUSH products/drugs in the treatment of diseases would revitalize the AYUSH segment on Indian system of traditional medicine. The Government must continue its efforts for mainstreaming traditional system of medicine and integrating it with modern system of medicine. Adequate allocation of funds for projects would enable research Institutes to undertake research activities that help mainstreaming the AYUSH system. The Committee is of the view that mainstreaming traditional system of medicine is a long drawn process that requires continuous efforts from all the stakeholders alongwith continued budgetary support. The Committee also believes that there is ample scope for research and development within Indian system of medicine and given the present scenario of COVID 19, all out efforts need to be made to enhance research and development through requisite fund allocation. The Committee, therefore, recommends the Ministry of AYUSH to persuade Ministry of Finance for the higher allocation of budget in coming years so that research activities continue in the aftermath of Pandemic COVID-19.

(Para 5.29)

The Committee expresses its displeasure over the fact that the clinical research studies that was intended to be taken up by the Ministry of AYUSH in collaboration with CSIR are yet to see the light of the day. The Committee opines that on one hand the Government is determined to mainstream AYUSH system and explore scientific validation of AYUSH advocacies and measures for the prevention of Covid-19, on the other hand, theses clinical research studies are yet to be taken up. The Committee is of the considered view that research being an important component, the research studies should been taken up with utmost priority without procrastination. AYUSH has a major role to play in present pandemic as its main objective is to boost the immune system and maintain health so as to prevent the spread of the disease. The Committee believes that the outcome of these studies would help understand AYUSH interventions during pandemics like COVID-19 through scientific evidence & validation. Delay in research actives would not only stall the promotion of tradition medicine but also thwart the efforts for integration and mainstreaming of the Indian systems of medicine and Homeopathy into the existing public healthcare system. The Committee, therefore, strongly recommends the Ministry to start clinical research studies without further delay so that its outcome could be used to combat the present crisis.

(Para 5.32)

The Committee observes that 59 research studies are being conducted by the Ministry of AYUSH at various AYUSH Research Councils and Institutes. Of these, many studies have been completed with promising results in preventing the threat of COVID 19. The trials indicated that alternative medicine therapies prevented severe COVID symptoms among people in quarantine. One of the primary criticisms leveled against the AYUSH system is the lack of scientific evidence for efficacy of AYUSH medicines. The

Committee underscores the need of designing research studies to generate some tangible evidence in AYUSH against Covid-19. Promising results shown by these studies would progressively march ahead in scientifically validating traditional medicine. The Committee observes that participation of AYUSH medicines in addressing the COVID-19 challenge in India should not be restricted and rather seen as the extension of healthcare services and support to bio-medical system. The Committee hopes that with adequate monitoring and research directions, the Indian System of Medicines would emerge as a prominent platform in the management of increasingly frequent and virulent communicable diseases. The Committee, while appreciating the efforts of the Ministry, recommends that more and more research studies should be conducted by the Ministry of AYUSH.

(Para 5.34)

The Committee is disappointed with the State-wise status about efficacy and effect of traditional medicines in treating COVID patients. The Committee believes that rigorous data are needed to show-case that remedies under AYUSH system are safe and effective and all the States should be seen as actively promoting the Ayush System. For this to happen, all States should have dedicated AYUSH COVID care centers where patients could be treated with the traditional medicine along with modern medicine. The Committee, therefore, recommends the Ministry to establish AYUSH COVID care centers in every state/UT of the Country. Further, the Ministry should maintain the data from each State to evaluate the efficacy of the system.

(Para 5.36)

POST-COVID MANAGEMENT PROTOCOL

The Committee understands that having defeated the virus is just the beginning of an unresearched path of recovery for survivors of severe COVID-19 disease, since COVID 19 is a new disease. The post-acute phase of SARS-CoV-2 infection depends on the severity of virus attack on different patients. Apart from the fear of unknown, the survivors of COVID 19 venture into an uncharted territory of post COVID complications. Not only do they have to deal with fatigue, breathlessness and other physical effects of the disease, but also grapple with the psychological impact of it. The Committee is relieved to note that the Government has taken cognizance of complexities caused by COVID during post recovery phase and identified potential post-acute care needs of recovered COVID-19 patients. The Committee notes that the Ministry has adopted integrated holistic approach for managing patients who have recovered from COVID and advised to take care at home. The Committee in this regard recommends the Government to put in place healthcare services to ensure a holistic follow-up of post COVID treatment of the patients who are showing post COVID complications. It is also necessary to address the possibility of SARS-CoV-2 re-infection, the proportion of adverse reactions after hospital discharge and the possible development of other viral and/or bacterial infections.

(Para 6.5)

The Committee is of the view that since COVID is an unknown virus across the world, research is going forward to unravel the mystery of the virus constantly mutating itself. It remains to be seen how COVID-19 evolves further and what symptoms do the

survivors may experience. Further, it has been observed that the virus spreads to many different organs of the body like the heart, blood vessels, kidneys, lungs, and brain. The Committee believes that there is a need for multidisciplinary care service involving several specialists from both the systems i.e Allopathy and AYUSH system of medicine for the evaluation and the follow-up of patients suffered with COVID-19 disease. The Committee therefore recommends the Ministry to set up a multidisciplinary care service system as a part of post COVID Management protocol based on research on post-COVID complications.

(Para 6.6)

Acknowledging the efficacy of AYUSH system in boosting the immunity of the person, the Government of India inducted various AYUSH practices of healthcare to facilitate faster recuperation of health of recovered COVID 19 patients. With respect to AYUSH, the Ministry has advised to take immunity promoting AYUSH medicine as practiced and prescribed by a qualified practitioner of AYUSH, daily practice of Yogasana, Pranayama and Meditation, as much as health permits or as prescribed. The Committee is of the considered view that post COVID follow-up is as important as taking medications while suffering from COVID.

(Para 6.7)

The Committee observes that a regular and comprehensive follow-up by people having recovered from COVID-19 would help define the clinical and care needs. Such information can also be used to modify/improvise the post COVID treatment model/protocol and plan. The Committee recommends the Ministry to set up post-COVID clinics, on the lines of AIIMS Delhi, to look after the recovered patients who are facing post COVID 19 illness issues like breathlessness, body ache, fatigue etc and provide counselling, yoga, physiotherapy, consultation and medication to boost immunity on case to case basis to ensure their full proof treatment including rehabilitation.

(Para 6.8)

The Committee was apprised by the Secretary that the Ministry is carrying out post-Covid sequelae where the number of people who suffer from heart related, respiratory, renal problems post recovery from COVID is being documented. The Committee appreciates the initiative of the Department and believes that such documentation is essential for providing a comprehensive treatment and for shaping the post covid care approach of the healthcare system. Not only this, the documentation would be of immense help in enriching knowledge proof research projects related to Covid-19 for better research outcomes that would be beneficial in combating the future pandemic.

(Para 6.9)

DISRUPTION IN DELIVERY OF ESSENTIAL HEALTH CARE SERVICES

The Committee observes that closure of OPD services in government hospitals in the wake of outbreak of pandemic Covid-19 crippled the healthcare delivery system in the country. Non-covid patients especially female patients and the patients with chronic and

lethal diseases were the worst sufferers. The Committee is pained at the reported death of at least 61 pregnant women and 877 newborns in Meghalaya in the four months after April, 2020.

(Para 7.7)

ASHA and ANM workers that play a crucial role in ensuring good maternal health and promoting institutional delivery were all engaged in community surveillance and contact tracing. The Committee notes that health machinery was diverted to fight the pandemic which left the poor public without a healthcare support system. The Ministry needs to learn from its mistakes and work towards establishing a resilient public health system that does not collapse in view of any future outbreaks.

(Para 7.8)

FINANCIAL DISTRESS IN THE HEALTHCARE SECTOR

The Committee observes that the limited healthcare infrastructure in the country has further been overburdened while coping up with the rising covid cases in the country. The Committee believes healthcare should never be limited to only those who can afford to pay but should move towards the noble vision of Universal Health coverage. For this to happen, the government needs to be considerate and support the private healthcare sector.

(Para 7.15)

In this regard, the Committee has taken note of the financial distress of the healthcare infrastructure where small hospitals and nursing home in towns and cities have been shut down due to lack of liquidity and cash flow accentuated owing to unscientific and sustainable capping of cost/pricing for COVID treatment by Government authorities. The government support through liquidity for financing the operating loss followed by indirect tax relief/exemption on essential medicine, consumable and devices for treatment of COVID patients can go a long way in revival of private healthcare sector. The Committee also recommends a scientific and fair costing/pricing framework wherein Government may ensure that input taxes are not attributed to the cost of healthcare services. The Committee also recommends the Government for expediting payment of outstanding Bills of the private hospitals.

(Para 7.16)

The Committee expresses its deep concern over the shortage of healthcare providers due to vacancies in the State run hospitals in the country. Many hospitals and medical colleges across the country are functioning below the sanctioned strength and speciality Departments are non-functional due to lack of required faculty. The Committee recommends the Ministry and the States/UTs to fill up these vacancies at the earliest. The Committee also feels that healthcare providers from other regions may be deputed to districts with higher burden of covid cases. However, the Committee urges upon the Ministry and the States Government to ensure the safety and security of all the healthcare providers.

(Para 7.17)

POOR ACCESS TO HEALTHCARE SERVICES

The Committee notes that disruption of medical services for Non-Covid patients during lockdown paralyzed the delivery of essential healthcare services. Particularly, the diagnosis and treatment of other services did take a backseat which even led to many non-covid deaths. The Committee also agrees that the cost of health service delivery increased due to absence of specific guidelines for Covid treatment in private hospitals as a result of which patients were charged exorbitant fees.

(Para 7.21)

The Ministry during the examination of the Demand for Grants 2020-21 of the Department of Health and Family Welfare had submitted that India's Government Health Expenditure (GHE) as percent of the Current Health Expenditure (CHE) is only 27.1%. In India, Out of Pocket Expenditure in Health is 62.4% and India ranks 15 out of 186 countries in OOPE as % of CHE. The Committee apprehends that amidst the pandemic and the uncertainty in the treatment protocol, this OOPE may have further driven many families to below poverty line.

(Para 7.22)

The Committee is of the view that arriving at a sustainable pricing model to treat Covid patients could have averted many deaths. The Committee observes that the number of Government Hospital beds in the country were not adequate to handle the increasing number of Covid and non-Covid patients. In the wake of the pandemic and shortage of Government healthcare facilities, the Government should have strategized a better partnership with the Private Hospitals under PPP model.

(Para 7.23)

SOCIAL IMPACT

The Committee is concerned over the confinement of the school going children due to prolonged closure of education institutions in the wake of outbreak of pandemic Covid-19. With schools closed for long periods, online classes have proved instrumental in maintaining students' learning level. The Committee is equally concerned at the existing digital divide in the country which has jeopardised the future of millions of students from the weaker section of the society. With the shift in education-method from classroom to online medium, the education of the students residing in areas with poor connectivity has been compromised. The Committee, therefore, recommends the Government to strengthen its network for digital and online classes and once the normal classes resume, provision for extra special classes should be made especially for students from the economically and socially weaker section.

(Para 7.27)

The Committee also understands that since many students may not be able to afford a smartphone or computer with internet connection, the Government needs to provide television-sets and satellite TV connections in schools as a short term measure so that the education for students of economically weaker sections do not suffer further.

(Para 7.28)

IMPACT ON WOMEN

The Committee observes that the restrictive social norms, gender stereotypes, home quarantining and diversion of resources to respond to the COVID-19 pandemic can limit women's ability to access health services which makes them more susceptible to health risks. The pandemic has not only adversely affected women's social and mental well being but also disrupted access to healthcare services especially sexual and reproductive healthcare services. Access to contraceptives or healthcare services became difficult which led to many unwanted pregnancies and unsafe abortions. The Committee, therefore, strongly recommends the Government to chalk out specific course of action for rescuing the women out of mental trauma by resuming the sexual and reproductive healthcare services and allocating the resources to improve women health services.

(Para 7.32)

The Committee notes that violence against women increased during the lockdown period as the perpetrators of violence and susceptible both stayed at home due to compulsion of lockdown. The Committee strongly recommends the Government to identify such women who have been the victims of sexual and domestic violence during the pandemic and rehabilitate them. The Committee would like the Ministry to create specific hotlines, telemedicine services, rape crisis centers for women and the counselling of victims or survivors of violence. The Ministry should further ensure that instances of gender based violence are reported and timely actions are taken against the perpetrators.

(Para 7.33)

The Committee, while taking into account, the economic consequence of the pandemic on women, feels the urgent need for economic emancipation of women by providing them with equitable opportunity of employment and enabling their participation in the micro and macro-decision making process. In a world, where the share of women in the workforce is already less, the Committee believes that financial inequality between men and women will further rise sharply. The Committee notes many women are employed in the informal sector which has been worst hit due to the pandemic. The Committee therefore recommends the Ministry to make social security measures accessible to women and launch specific programmes so that women are able to absorb the economic shock and the resultant mental stress caused due to the sudden job losses.

(Para 7.34)

PSYCHOLOGICAL IMPACT OF COVID 19

The Committee endorses the study conducted by PFI and agrees that there has been a considerable rise in mental health issues during the lockdown. Sudden loss of employment and social isolation aggravated the psychological burden among the masses. The Committee also finds that stretched work hours have increased the levels of depression among the frontline healthcare workers. There is no denying the fact that staying in touch with friends or family is a typical mechanism for coping with stress but during lockdown in the absence of any coping mechanism, working age adults, students etc who live alone, were more prone to depression. The Committee, therefore, recommends the Ministry to increase

its investments in mental health research and ensure better outreach of its mental health care services. The Committee would also like the Ministry to carry out more awareness campaigns for erasing the stigma attached to mental health and focus on the measures for alleviating the depressed out of their prevailing mental framework and inject new rays of hope and expectation through social interaction and psychological stress emancipation practices viz. yoga and better way of living.

(Para 7.43)

The Committee is also concerned at the increased risk of suicide during the pandemic which may be attributed to social isolation, fear of the pandemic, loss of livelihood and other economic and health fallouts. The Committee, therefore, strongly urges the Ministry to make suicide prevention and mental health its priority. The Committee also recommends the Ministry to utilize the different means of social and press media to generate awareness and provide necessary support through help lines and by counseling to the individuals in distress.

(Para 7.44)

CORONA WARRIORS

The Committee appreciates the contribution of the frontline warriors who have been tirelessly working amidst the pandemic. The Committee also observes that the problem of shortage of healthcare workers was deepened during the pandemic crises. Amidst an already fragile healthcare system, the healthcare workers were forced to take the brunt of the increasing number of covid cases. Long working hours and inadequate protection against the virus overburdened the healthcare workers.

(Para 7.57)

The Committee is of the view that the healthcare workers deserve respect and recognition for their valuable service. All the healthcare workers need to be given adequate remuneration and financial incentives along with insurance coverage. The Committee advocates the two pronged strategy (i) incentives to healthcare workers and (ii) to redress their grievances which will help boosting their morale and enhancing the performance. The Committee, in this regard, recommends the Ministry to ensure every effort to end the stigma and violence against the healthcare workers. The Committee would like the Ministry to ensure that the healthcare workers should have defined working hours, reliever rosters and scheduled off-duty days.

(Para 7.58)

The Committee is of the view that health workers at higher risk of infection must be advised quarantine and the same period must be treated as 'on duty'. The Committee, therefore, recommends the Ministry to provide paid sick leave to the healthcare workers who have been infected and advised isolation. The Committee also recommends the Ministry to ensure that all the healthcare workers are given timely salary and allowances and all their grievances must be addressed. The doctors, who have laid down their lives in

fight against the pandemic, must be acknowledged as martyrs and their families be adequately compensated.

(Para 7.59)

BUDGETARY ALLOCATION

The Committee reiterates its considered view that the healthcare spending in India is abysmally low for an emerging economy with a population of 1.3 billion. Lack of desired level of investment in the health infrastructure has so far resulted into fragility of Indian health ecosystem which posed a big hurdle in generating an effective response against the pandemic. The Committee has time and again recommended the Ministry for increasing its spending in the health sector for ensuring better health infrastructure and health services to the needy common masses. The Committee expresses its serious displeasure over the Government's reluctance to act upon the Committee's recommendations in letter and spirit. The Committee is assured that the serious impact of the pandemic could have been minimized had the Government over the years increased its investment in the healthcare system. The Committee is pained to note the trauma and distress the public had to undergo due to absence of a dedicated healthcare system. The Committee, therefore, strongly recommends the Government to increase its investments in the public healthcare system and make consistent efforts to achieve the National Health Policy targets of expenditure upto 2.5% of GDP within two years as the set timeframe of year 2025 is far away and the public health cannot be jeopardized till that time schedule.

(Para 8.10)

The Committee also laments the poor state of primary healthcare especially in rural areas. The Committee strongly recommends the Ministry to urgently increase its spending under the National Rural Health Mission to strengthen the delivery of health care services in the rural areas, keeping in view the languishing health infrastructure and inadequate delivery of health services to much needed rural population.

(Para 8.11)

The Committee is of the view that pandemic Covid-19 offers a window to revisit the country's health policy with the purpose of strengthening the health sector, and thus necessitates a higher investment in creating permanent basic health infrastructure. The Committee also believes that a higher budgetary allocation will also boost the healthcare industry and shift the focus to Indian manufacturers and domestic supply chain of products. The Committee believes that it is the opportune time to boost India's healthcare infrastructure and push for greater technology deepening in the healthcare sector.

(Para 8.12)

The Committee notes that the Ministry's projected demand for the five year period from 2021-22 to 2025-26 is Rs. 6,16,189.33 crore. This demand has been spread over some very crucial aspects of health sector like setting up of medical colleges, NHM, Post Covid health sector reforms etc. The Committee strongly believes that the Health sector in India lacks adequate investment and health infrastructure as well as human resources deserves high priority. Higher public investment in health is significant for fulfilling the goals of

Universal Health Coverage and making the healthcare services accessible. The Committee appreciates the goal of the National Health Policy, 2017 which calls for the attainment of the highest possible level of health and well-being for all at all ages, through a preventive and promotive health care orientation in all developmental policies, and universal access to good quality health care services without anyone having to face financial hardship as a consequence. The Committee is of the opinion that the Government will have to considerably increase its spending on the health sector to achieve this envisaged goal.

(Para 8.15)

The Committee understands that coordination and collaboration between the States as well as the Central Government is important for fulfilling the commitment to increase the Government health expenditure to 2.5 percent of the GDP by 2025. The Committee strongly urges the Ministry to lay special emphasis on the provision of primary health care. The Committee believes that spending on the public health system can result in important population health gains which subsequently translate into financial impacts beyond what was originally invested. The Committee urges upon the Government in general and the Ministry of Finance in particular to treat the health infrastructure and healthcare service as a public good and consider enhanced allocation for the health sector in the public interest. The Committee accordingly pleads the Government to increase the budget of the Ministry of Health and Family Welfare as per its projected demand. Here the Committee would like to remind the Government about the call given by Hon'ble Prime Minister to treat the corona pandemic (calamity) as an opportunity and adequately augment the finance of health sector as priority sector in the interest of the nation.

(Para 8.16)

The Committee also recommends the Ministry of Health and family Welfare to set realistic physical targets and achievable timelines. The Ministry should plan and monitor its financial resources so that the goals are achieved and undue delay is avoided. The Committee strongly recommends the Ministry to chalk out a financial plan so that the allocated budget is fully and timely utilized.

(Para 8.17)

The Committee notes that the National Health Policy 2017 has emphasized on the potential of AYUSH and advocated its integration with National Health Mission. The Committee notes that the trend of utilization has been satisfactory for AYUSH and it is capable of absorbing more funds under its different schemes. The pandemic has also highlighted the importance of AYUSH medicines for prophylactic use. The Committee has time and again advocated the mainstreaming of AYUSH and highlighted on the need of scientific validation and quality control. The Committee therefore, recommends the Government to ensure that the required funds are available to the Ministry of AYUSH. However, the Committee observes that the schemes such as Central Sector Scheme on Pharmaco-vigilance Initiatives for ASU&H Drugs should be given adequate importance and the funds may be increased under the Scheme.

(Para 8.19)

MINUTES

XI ELEVENTH MEETING

The Committee met at 2.30 p.m. on Thursday, the 13th February, 2020 in Committee Room C, Ground Floor, Parliament House Annexe, New Delhi.

1. **Prof. Ram Gopal Yadav** - **Chairman**

RAJYA SABHA

2. Shri A.K. Antony
3. Dr. L. Hanumanthaiah
4. Shri Suresh Prabhu
5. Dr. Santanu Sen
6. Shri K. Somaprasad
7. Dr. Subramanian Swamy

LOK SABHA

8. Dr. Sanghamitra Maurya
9. Shri Arjunlal Meena
10. Dr. Pritam Gopinath Munde
11. Dr. Mahendrabhai Kalubhai Munjpara
12. Dr. Bharati Pravin Pawar
13. Adv. Adoor Prakash
14. Dr. Rajdeep Roy
15. Dr. Subhas Sarkar
16. Shri D. N. V. Senthilkumar S.
17. Dr. Mahesh Sharma
18. Dr. Sujay Radhakrishna Vikhepatil
19. Dr. Krishna Pal Singh Yadav

SECRETARIAT

Shri J. Sundriyal	Joint Secretary
Shri V.S.P.Singh	Director
Shri Bhupendra Bhaskar	Additional Director
Smt. Harshita Shankar	Under Secretary

Representatives of Ministry of AYUSH

1. Sh. Vaidya Rajesh Kotecha, Secretary
2. Dr. Dharmendra Singh Gangwar, AS &FA
3. Sh. P.K. Pathak, AS

4. Sh. P.N. Ranjit Kumar, JS
5. Dr. Manoj Nesari, Adv. (AY.)
6. Dr. D.C. Katoch, Adv. (AY.)
7. Dr. Mohd. Tahir, Adviser (Unani)
8. Dr. J L N Sastry, CEO, NMPB
9. Sh. T. Srinivas, DDG
10. Sh. S.R.K. Vidyarthi, Director
11. Sh. Vikram Singh, Director
12. Sh. S. Srinivas, Sr. Consultant
13. Dr. A. Raghu, Jt. Adviser
14. Dr. S. R. Chinta, Dy. Adviser
15. Dr. K.S. Dhiman, Director General, CCRAS
16. Dr. Anil Khurana, Director General, CCRH
17. Prof. Asim Ali Khan, Director General, CCRUM
18. Dr. Raghavendra Rao M., Director, CCRYN
19. Dr. Tanuja Nesari, Director, AIIA
20. Dr. I.V. Basavaraddi, Director, MDNIY
21. Dr. Suresh Kumar, Deputy Adviser
22. Dr. Sulochana Bhat, Assistant Director, Ayushman Bharat

Representatives of Department of Health Research, M/o H&FW

1. Prof. Balram Bhargava, Secretary
2. Dr. Dharmendra Singh Gangwar, AS &FA
3. Smt. Geeta Narayan, Joint Secretary
4. Smt. Anu Nagar, Joint Secretary

Representatives of ICMR

1. Dr. G. S. Toteja, Additional Director General, ICMR
2. Dr. R Gangakhedkar, Head, ECD, ICMR
3. Dr. R. S. Dhaliwal, Head, NCD, ICMR
4. Dr. R. S. Sharma, Head, RBMCH, ICMR

2. At the outset, the Chairman welcomed the Members of the Committee and informed that Secretaries of the Ministry of AYUSH & the Department of Health Research have been invited in connection with the examination of the Demands for Grants (2020-21) of the Ministry/Department concerned.

- 3.1 ***
- 3.2 ***
- 3.3 ***
- 3.4 ***

** Relates to other matter*

(The Committee then adjourned at 4.00 p.m. for tea break and assembled again at 4.20 p.m.)

4.1 The Committee then heard the views of the Secretary of the Department of Health Research who gave a brief overview of the Demands for Grants (2020-21) of the Department of Health Research through a power point presentation highlighting the following:

- i. ***
- ii. ***
- iii. ***
- iv. ***
- v. DHR Network for strengthening health infrastructure;
- vi. Standard treatment workflows;
- vii. ***
- viii. Steps taken to prevent Coronavirus;
- ix. ***
- x. ***
- xi. ***
- xii. ***
- xiii. ***

4.2. During the course of the meeting, Members raised queries on the Demands for Grants (2020-21) of the Department of Health Research, some of which are as follows:

- i. Inadequate budgetary allocation resulting into sufferings of Research Schemes;
- ii. Need of a 24x7 crisis management team at the national level that works in coordination with the State Governments;
- iii. Programme to educate the people about the unforeseen viral infections;
- iv.

** Relates to other matter*

- v. ***
- vi. ***
- vii. ***
- viii. ***
- ix. ***

4.3 The Secretary and other officials replied to the queries raised which are as follows:

- i. ***
- ii. Need for a National Bio-security plan;
- iii. Need for high end diagnostics and high end treatment for virus infection;

4.4 The Chairman directed the Secretary to furnish detailed written replies to the queries that remained unanswered within three days.

5 A verbatim record of the proceedings of the meeting was kept.

6. The Committee adjourned at 5.33 p.m. to meet again at 11.00 a.m. on 14th February, 2020.

* *Relates to other matter*

XII

TWELFTH MEETING

The Committee met at 11.00 a.m. on Friday, the 14th February, 2020 in Room No.63, First Floor, Parliament House, New Delhi.

1. **Prof. Ram Gopal Yadav** - **Chairman**

RAJYA SABHA

2. Dr. L. Hanumanthaiah
3. Shri Suresh Prabhu
4. Shri K. Somaprasad
5. Dr. Subramanian Swamy

LOK SABHA

6. Dr. Chandra Sen Jadon
7. Dr. Sanghamitra Maurya
8. Shri Arjunlal Meena
9. Dr. Pritam Gopinath Munde
10. Dr. Mahendrabhai Kalubhai Munjpara
11. Dr. Bharati Pravin Pawar
12. Adv. Adoor Prakash
13. Dr. Rajdeep Roy
14. Dr. Subhas Sarkar
15. Shri D. N. V. Senthilkumar S.
16. Shri Anurag Sharma
17. Dr. Mahesh Sharma
18. Dr. Sujay Radhakrishna Vikhepatil
19. Dr. Krishna Pal Singh Yadav

SECRETARIAT

Shri J. Sundriyal	Joint Secretary
Shri V.S.P.Singh	Director
Shri Bhupendra Bhaskar	Additional Director
Smt. Harshita Shankar	Under Secretary

Representatives of Department of Health & Family Welfare

1. Ms. Preeti Sudan, Secretary (H&FW)
2. Shri Sanjeeva Kumar, Spl. Secretary

3. Shri Arun Singhal, Spl. Secy.
4. Shri D.S. Gangwar, Addl. Secretary & Financial Adviser
5. Dr. Manohar Agnani, Joint Secretary
6. Shri Lav Agarwal, Joint Secretary
7. Shri Sudhir Kumar, Joint Secretary
8. Dr. Mandeep K. Bhandari, Joint Secretary
9. Shri Alok Saxena, Joint Secretary
10. Dr. Nipun Vinayak, Joint Secretary
11. Ms. Gayatri Mishra, Joint Secretary
12. Ms. Rekha Shukla, Joint Secretary
13. Ms. Padmaja Singh, Joint Secretary
14. Ms. Preeti Pant, Joint Secretary
15. Ms. Bharati Das, CCA
16. Shri Nilambuj Saran, EA
17. Ms. Preeti Nath, EA
18. Dr. Sandhya Bhullar, Director
19. Shri Sudeep Shrivastava, Director
20. Shri Jitendra Arora, Director
21. Shri Sanjay Roy, Director
22. Dr. Sudhir Gupta, DDG

Representatives of Central Government Health Scheme:

Dr. D. C. Joshi, Adviser, CGHS

Representatives of National Health Authority:

Shri Indu Bhushan, CEO, NHA

Representatives of Food Safety and Standards Authority of India:

Shri Pawan Aggarwal, CEO, FSSAI

2. At the outset, the Chairman welcomed the Members of the Committee and informed that the Secretary, Department of Health and Family Welfare and other officials have been invited in connection with the examination of Demands for Grants (2020-21) pertaining to Department of Health & Family Welfare (Health Sector and NHM).

3. ***

4. The Secretary also apprised the Committee about the status of Corona Virus (nCOVID-19) and action taken by the Ministry to prevent incidence of the disease. The Secretary submitted that though the transmission is huge but the percentage of mortality or fatality in this disease is less than SARS. Travel advisories have been issued and the thermal screening of passengers has been started at the Airports. People with fever and other symptoms are being quarantined and tested for Corona Virus.

5. to 7 ***

8. A verbatim record of the proceedings of the meeting was kept.

9. The Committee then adjourned at 1:38 p.m.

** Relates to other matter*

XIV

FOURTEENTH MEETING

The Committee met at 3.00 p.m. on Monday, the 5th March, 2020 in Room No. '63', First Floor, Parliament House, New Delhi.

MEMBERS PRESENT

1. **Prof. Ram Gopal Yadav** - **Chairman**

RAJYA SABHA

2. Shri A.K. Antony
3. Dr. L. Hanumanthaiah
4. Shrimati Kahkashan Perween
5. Shri Suresh Prabhu
6. Dr. Santanu Sen
7. Shri K. Somaprasad
8. Shrimati Sampatiya Uikey

LOK SABHA

9. Ms. Ramya Haridas
10. Dr. Chandra Sen Jadon
11. Dr. Sanghamitra Maurya
12. Shri Arjunlal Meena
13. Shrimati Pratima Mondal
14. Dr. Ptitam Gopinath Munde
15. Dr. Mahendrabhai Kalubhai Munjpara
16. Dr. Bharati Pravin Pawar
17. Adv. Adoor Prakash
18. Dr. Subhas Sarkar
19. Shri D. N. V. Senthilkumar S.
20. Shri Anurag Sharma
21. Dr. Mahesh Sharma
22. Dr. Sujay Radhakrishna Vikhepatil
23. Dr. Krishna Pal Singh Yadav

SECRETARIAT

Shri J. Sundriyal	Joint Secretary
Shri V.S.P. Singh	Director
Shri Bhupendra Bhaskar	Additional Director
Smt. Harshita Shankar	Under Secretary

LIST OF WITNESSES

Department of Health Research

1. Prof. Balram Bhargava, Secretary
2. Mrs. Anu Nagar, Joint Secretary
3. Dr. R.R. Gangakhedkar, Scientist 'G' & Head, ICMR
4. Dr. Nivedita Gupta, Scientist 'F', ICMR

Ministry of AYUSH

1. Vaidya Rajesh Kotecha, Secretary
2. Shri Roshan Jaggi, Joint Secretary
3. Shri Vaidya Manoj Nesari, Adviser, Ayush
4. Shri Vaidya D.C. Katoch, Adviser, Ayush
5. Dr. Mohd. Tahir, Adviser, Unani
6. Shri Vaidya Kartar Singh Dhiman, DG, CCRAS
7. Dr. Raghvendra Rao, DG, CCRYN
8. Dr. Anil Khurana, DG, CCRH
9. Dr. Asim Ali Khan, DG, CCRUM
10. Dr. A. Raghu, Joint Adviser, Ayush

2. At the outset, the Chairman welcomed the Members of the Committee and informed that the meeting had been convened to (i) consider and adopt draft 120th Report on the Demands for Grants (2020-21) of the Ministry of AYUSH and (ii) hear the views of Secretaries, Department of Health Research and Ministry of AYUSH on the status of outbreak of Corona virus and the contingent & mitigation plan put in place for managing its outbreak in the country.

3. ***.

3.1 ***

3.2 ***

** Relates to other matter*

Discussion on the status of outbreak of Corona virus

4. The Committee then commenced its deliberations on the status of outbreak of Corona virus and the contingent and mitigation plan put in place for managing its outbreak in the country. The Committee first heard the views the Secretary, Department of Health Research who shared with the Committee, in detail, about the virus and its impact and preparatory measures taken to contain it. He highlighted the following points during his presentation:

- (i) Corona virus group had six viruses and the Covid-19 is the seventh virus in the same group. The symptoms of virus are fever, dry cough, body pain and difficulty in breathing.
- (ii) The WHO declared it as a public health emergency of international concern on 30th January, 2020
- (iii) Kerala reported its first case in India on 6th January, 2020. Kerala Government did well in managing Covid-19 with the help of ICMR-NIV and the Ministry of Health.
- (iv) Corona Virus outbreaked in 76 countries till date and 93,000 cases were confirmed and the most affected countries were Iran, Italy, South Korea and Japan.
- (v) The Ministry has taken steps to contain the pandemic at an early stage which were as under:
 - (a) Screening at 21 Airports, 12 major seaports and 65 minor seaports and land crossings particularly bordering Nepal.
 - (b) Universal screening for all flights from Singapore, Thailand, Hong Kong, Japan, South Korea and China at earmarked aero-bridges.
 - (c) Universal screening also started for flights from Vietnam, Malaysia, Nepal, Indonesia, Iran and Italy.
 - (d) A total number of 5,89,438 passengers were screened at Airports and 16,076 at Ship Ports.
- (vi) The Government had evacuated 645 Passengers from Wuhan, China through special aircrafts and kept them for 14 days quarantine in Army camp, Manesar and Chhawla camp of ITBP. Secretary submitted that 132 crew members and six passengers from India were evacuated from Japanese ship on 27th February and were kept in the Manesar camp and their first test was negative. Further, 112 people, including nationals of Myanmar, Bangladesh, Maldives, China, South Africa, USA and Madagascar alongwith some of the spouses of Indians were evacuated from China.
- (vii) There are 106 viral laboratories under the Department of Health Research, of which 31 viral research laboratories had been activated and started testing and as on 5th

March, 3,777 samples have been tested from 3,123 individuals. Advisories issued by the Ministry of Health & Family Welfare in view of the emerging global scenarios were also mentioned.

(viii) The guiding principles were surveillance, laboratory diagnosis, hospital preparedness, logistic management, capacity building and risk communication.

(ix) The operation plan inter-alia included

- involvement of District Collectors;
- preparation of micro plans;
- mobilization of health force and training of rapid response teams;
- training of workforce by the Rapid Response Team;
- Active surveillance and contact tracing covering all households;
- arrangement for sample collection;
- transportation and testing;
- identification of health facilities for isolation of suspects;
- passive surveillance through identified health facilities;
- home quarantine and daily follow up of all contacts;
- information management and daily sitreps;
- social distancing measures in the containment zone;
- based on risk assessment such as closure of schools;
- work places and ban on gatherings;
- risk communication.

5. Thereafter, the Secretary and other officials of the Department of Health Research replied to some of the queries raised by the Chairman and members of the Committee relating to screening of people coming from different countries, increasing capacity for quarantine, separation and sample testing, precaution taken for health workers, availability of masks & necessity to wear it, exploring the possibility of converting a hospital into an Isolation ward for Covid-19 infected persons, instead of, making Covid -19 Isolation wards in various hospitals, etc.

6. The Committee then heard the views of the Secretary, Ministry of AYUSH who apprised the Committee about the various medicines that were being used for an anti-viral and flulike symptoms or preventive or improving the immunity. He informed the Committee about the following general and specific preventive measures that has been notified by the Ministry:

General

- Observe good personal hygiene.
- Practice frequent hand washing with soap.
- Follow respiratory etiquettes - cover your mouth when coughing or sneezing.

- Avoid close contact with people who are unwell or showing symptoms of illness, such as cough, runny nose etc.
- Avoid contact with live animals and consumption of raw/undercooked meats.
- Avoid travel to farms, live animal markets or where animals are slaughtered.
- Wear a mask if you have respiratory symptoms such as cough or runny nose.

Specific

- The diet should be fresh, warm, easy to digest, containing whole cereals, seasonal vegetables etc.
- Frequent sipping of water boiled with Tulsi leaves, crushed ginger, and turmeric would be beneficial.
- Honey with a pinch of pepper powder is beneficial in case of cough.
- Cold, frozen and heavy foods may be best avoided.
- It is beneficial to avoid direct exposure to cold breeze.
- Appropriate rest and timely sleep are advisable.
- The practice of Yogasana and Pranayama under the guidance of qualified Yoga instructor is recommended.

7. The Secretary and other officials of Ministry of AYUSH replied to some of the queries raised by the members relating to traditional medicines that are useful against Corona virus.

8. The Chairman then desired that facts about Corona Virus and the requisite precautionary measures for protection against the Corona Virus may be communicated to public through electronic media and other Government sources for public awareness to stop gossip mongering and misgivings being circulated on What's app and other social media

9. A verbatim record of the proceedings of the meeting was kept.

10. The Committee then adjourned at 5.06 p.m.

XV

FIFTEENTH MEETING

The Committee met at 11 a.m. on Tuesday, the 4th August, 2020 in Main Committee Room, Ground Floor, Parliament House Annexe, New Delhi.

1. **Prof. Ram Gopal Yadav** - **Chairman**

RAJYA SABHA

2. Shri Suresh Prabhu
3. Shrimati Indu Bala Goswami
4. Dr. Subramanian Swamy

LOK SABHA

5. Shri Arjunlal Meena
6. Dr. Pritam Gopinath Munde
7. Dr. Mahendrabhai Kalubhai Munjpara
8. Shri Haji Fazlur Rehman
9. Shri Anurag Sharma
10. Dr. Mahesh Sharma
11. Dr. Sujay Radhakrishna Vikhepatil

SECRETARIAT

Shri J. Sundriyal	Joint Secretary
Shri V.S.P.Singh	Director
Shri Bhupendra Bhaskar	Additional Director
Smt. Harshita Shankar	Under Secretary

Representatives of Department of Health & Family Welfare

1. Shri Rajesh Bhushan, Secretary
2. Dr. Rajiv Garg, DGHS
3. Smt. Arti Ahuja, Additional Secretary
4. Shri Lav Agarwal, Joint Secretary

Representatives of Department of Health Research

1. Prof. Balram Bhargava, Secretary

2. Shri Shailender Singh, Additional Secretary
3. Ms. Anu Nagar, Joint Secretary
4. Dr. G.S.G. Ayyangar, Sr. DDG (A), ICMR
5. Shri Rajeev Roy, Senior Financial Advisor, ICMR
6. Dr. Samiran Panda, Scientist G & Head, ECD, ICMR
7. Dr. R.S. Sharma, Scientist G & Head, RBMCH, ICMR
8. Dr. Rajni Kant, Scientist G & Head RMPPC, ICMR

2. At the outset, the Chairman welcomed the Members of the Committee in general and to Smt. Indu Bala Goswami in particular who had been recently nominated to this Committee. The Chairman stated that Covid-19 has brought everything to a standstill and the whole world, including India, had been grappling to contain the pandemic COVID-19. He maintained that the weaker sections of the society, especially the migrant labours, the vendors, the daily- wage earners, etc. had been the worst sufferers of outbreak of COVID-19.

2.1 The Chairman pointed out the instances of several deaths at the hospital premises across the country due to lack of ICU beds and ventilators. He also underlined that lack of proper PPE kits and masks had also compromised the safety of front-line health-care workers. The pandemic exposed the loopholes in the public health infrastructure and the poor condition of the Govt. hospitals. He further pointed out that lack of clarity in issuing proper guidelines and protocols had not only led to administrative ambiguity but also created confusion amongst the common masses.

2.2 The Chairman informed the members that it was in this background that Secretaries of the Department of Health and Family Welfare and the Department of Health Research were invited to present their first hand information on the outbreak of Corona virus and the contingent & mitigation plan put in place for its management in the country.

3. The Chairman, thereafter, welcomed the Secretaries of Department of Health and Family Welfare, the Department of Health Research and other Officers to the Meeting and requested them to apprise the Committee about the present status of COVID-19 pandemic in the country, the contingent and mitigation plan for containing the virus, the probable time-line for roll out of vaccine, status of indigenous vaccine undergoing clinical trials, any breakthrough research conducted by ICMR and other national level research bodies. He also desired the Secretaries to address the issues of patient being referred from one hospital to another, ambiguous and varied guidelines that led to confusion and chaos, lack of ICU beds and ventilators, the exorbitant fees charged by the private hospitals, the lack of good-quality PPE Kits and masks for the health-care workers and the dismal condition of the Govt. hospitals in the country. The Chairman also desired that the Committee be apprised of the specific challenges being faced by the Ministries while taking effective measures for implementing the contingent and mitigation plan specially in the rural areas considering the absence of adequate health-care infrastructure there and the status of COVID management plan in the flood-affected States.

3.1 The Committee, thereafter, heard the presentation of the Secretary, Department of Health and Family Welfare. The Secretary highlighted the following points during his oral evidence:-

(i) He highlighted the broad timelines of the information received on the outbreak of COVID-19 and the follow up steps taken by the govt. He stated that at present it had spread to 215 countries. However, it was heartening to note that of the total COVID-19 positive cases the world over, it was limited only to mild-disease stage in 80 percent of the people; only 15 per cent need hospitalization and only 5 percent are such who are critical and need ventilators. Global Case Fatality Rate (CFR) is 3.8% while in India CFR is 2.10%.

(ii) As contingent plan Govt. announced Janta Curfew followed by long duration of lockdown and efforts were at present being made to contain the spread of COVID-19 during continuing unlocking phase. Growth-rate of COVID cases during initial stage of lockdown was 36% on day to day basis while during the present unlocking period it was reduced to 3.3%;

(iii) Lessons learnt and experiences gained from outbreak of viral diseases/epidemic, viz., Avian influenza (Bird flu) during 2006-2008, H1N1 in 2009 and Zika Virus & Nipah Virus during 2016-2019 was utilised by the Govt. to work out a preemptive, pro-active and graded response to combat COVID-19;

(iv) Lockdown provided the much needed time for making arrangement to the extent of 34 times more isolation beds, 20 times more ICUs, 35 times more daily handling capacities of the hospitals and opening of 1331 test labs with 6.61 lakh actual daily tests through RT -PCR and rapid antigen tests;

(v) Tracking plan followed the testing of the positive case i.e. origin of infection and probability of the capacity to spread the infection in the population, thus, requiring surveillance over chain of transmission;

(vi) Incidence of COVID-19 cases appear large because of aggressive testing policy but the fact remains that 83% of total cases were reported from 10 States only and the recovered cases today were more than double than the number of active cases;

(vii) AIIMS, New Delhi was conducting skill enhancement of doctors through video-conferencing on every Tuesday and Friday every week with duration of two and half hours where doctors raised issues pertaining to various aspects of treatment of COVID-19, viz, prescription of medicines, use of oxygen, high- flow nazal cannula or ventilators etc.

(viii) State Govts. had been requested to accord one medical college of the State with the status of 'Centre of Excellence' for dissemination of information, knowledge and experience, as done by AIIMS, New Delhi, frequently, for skill development of doctors;

(ix) Issuance of guidelines to State Govts. on donning and doffing of PPE Kits by doctors and nurses and adoption of infection-safe practices;

(x) Guidelines on allotment of duties to doctors and nurses on roster basis to avoid fatigue

followed by leave for three days for rest and to count the leave period on duty';

(xi) Data-bank of final-year students, interns and retired doctors alongwith their mobile numbers and addresses had been prepared in each State to facilitate the State to avail their service, if the need arose and the State Govt. so feels. The Govt. of Karnataka has utilised the services of retired doctors on a large scale;

(xii) Effective clinical management of COVID-19 led to reduction of mortality rate to 2.1% in India which was lower in comparison to the global mortality rate;

(xiii) As the various sectors of economy were being unlocked, there was perceived threat of people being infected by COVID-19 at a rapid pace, therefore, there was urgent need for the people to adopt and practice COVID Appropriate Behaviour, viz., distance of two yards, mask-wearing and hand- hygiene and public-hygiene; and

(xiv) People's participation and service of opinion makers, people's representatives, viz., MLAs and MPs were required for successful implementation of mitigation plan intended to combat the challenges posed by COVID-19.

3.2 Thereafter, the Chairman and the members of the Committee raised the following issues:-

(i) Status of vaccine development, controversy over trade of HCQ, COVID-19 a variation of Corona Virus or its origin out of research on Wuhan University and whether permission was granted by the Govt. to Tata Institute of Fundamental Research to participate in bat research with Wuhan with the United State Defence Department in Nagaland;

(ii) Whether Corona Virus was manufactured in a laboratory of China as biological weapon, if so, the preparedness to combat the biological weapon ;

(iii) Prescribed uses, doses and effectiveness of medicines like dexamethasone, prednisolone, Tocilizumab, Remdesivir, azithromycin, doxycycline and non-availability and black-marketing of these drugs or mechanism to prescribe the limit of viral load to doctors and nurses, clarification on cycle threshold value, success rate of anti-coagulant therapy and result of convalescent plazma;

(iv) making sero surveillance results public and vaccine should be introduced after proper evidence and due care and issue of duplicate sanitizer in the market;

(v) specificity of swab test and its standardization, uses of alternate medicine of Ayush;

(vi) In COVID fund under National Health Mission, that has been disbursed to various States and Districts but there is no provision for a rental allowance in PIP and procedure of utilization of COVID fund in PIP ignore the representative of people, Member of Parliament at the district level, concern over variability in rRT-PCR testing due to use of Kits of different companies, viz., R Genes, Perkins, Siemens and making availability of kits free of cost to the private labs as an incentive to conduct investigation free of cost. Uses of anti-retro viral drugs to

treat COVID thereby meaning that morphology of virus pertaining to HIV and COVID be similar. Possibility to develop vaccine to treat COVID-19 in view of the genome and the mutations of COVID;

(vii) Problem of proper testing in rural areas and despite allocation of funds from MPLADS for purchase of masks and sanitizer but its benefit was not evident on the ground due to undue interference of bureaucrats and non- participation of the representatives of people;

(viii) Was there any other standard testing method apart from RT-PCR test ? Whether any other kit was being developed which was faster and much more accurate. Status of repurposed molecules or vaccines that were on clinical trials, use of AYUSH prescribed medicines as immunity boosting trials, Govt.'s policy on price grouping or making available the vaccine at a reasonable price to the common citizen, provision of number of vaccines to cover the population of the country, any incentive being contemplated to be given to manufacturers to start setting of capacities to produce the verified and tested vaccines, lessons learnt from earlier pandemics about tracing method or is there better method of tracing problems being faced by asymptomatic patients due to lack of facilities during quarantine at L-1 Centre and children who are asymptomatic should not be sent to quarantine centres;

(ix) Lack of adequate infrastructure and allocation of inadequate budget to improve the health infrastructure, therefore, the Department should come forward with a revised estimate with proper justification, adequate budgetary allocation to the Department of Health Research, participation of people's representatives at the district level for ensuring proper utilization of funds given to combat COVID-19, opening of OPD in various hospitals for giving adequate attention to the other patients;

(x) model adopted by the Delhi Government to contain COVID-19 and key components of Delhi's COVID-19 management strategy;

(xi) Standard clinical treatment protocol, special guidelines for treatment of children testing positive;

(xii) percentage of healthcare workers consuming Hydrochloroquine who have actually got COVID positive;

(xiii) cost of testing kits imported from abroad and possibility of indigenous manufacturing of Kits;

(xiv) Financial assistance of Central Government to the States, etc.

3.3 Responding to the specific query of the member on the status of vaccine development, the Secretary Department of Health and Family Welfare stated that there were more than 200 vaccine candidates in the world which were at different stages. Out of 200, 139 vaccines were at pre-clinical evaluation where animal toxicity studies were going on. 26 vaccines out of 200

vaccines are at clinical trials which are evaluated on healthy volunteers. 2 vaccines are home ground, one with the collaboration of Bharat Biotech and ICMR and other vaccines being developed by Zydus Cadila. As regards the use of HCQ, the Secretary maintained that HCQ was used for a prophylactic (protection) purpose and also for front line health care workers, although, one group of studies indicate its effectiveness in protection against COVID-19, with mild symptom and other group of studies expresses indifference to its use, however, HCQ has no side effect. The Secretary, the Department of Health Research clarified that the use of HCQ as prophylactic is clearly safe. Pertaining to origin of COVID-19, the Secretary, the Department of Health and Family Welfare pointed out that one group of studies indicate that COVID-19 originated from bats, while other group of studies argued that COVID-19 was genetic manipulation and lab engineering leading to creation of particular virus. The Secretary, Department of Health Research also clarified that Government had given permission to the Defence Department to conduct research by the institute at Bangalore alongwith institute with Singapore having some members from Chinese team and funded by US Government.

4. The Chairman then directed both the Departments to furnish detailed written replies to the queries that were raised by the Committee within one week.
5. A verbatim record of the proceedings of the meeting was kept.
6. The Committee adjourned at 1:03 P.M.

XVI

SIXTEENTH MEETING

The Committee met at 11 a.m. on Monday, the 7th September, 2020 in Main Committee Room, Ground Floor, Parliament House Annexe, New Delhi.

1. **Prof. Ram Gopal Yadav** - **Chairman**

RAJYA SABHA

2. Dr. L Hanumanthaiah
3. Dr. Subramanian Swamy
4. Shrimati Sampatiya Uikey

LOK SABHA

5. Dr. Sanghamitra Maurya
6. Dr. Mahendrabhai Kalubhai Munjpara
7. Adv. Adoor Prakash
8. Dr. Subash Sarkar
9. Shri Anurag Sharma
10. Dr. Mahesh Sharma
11. Dr. Sujay Radhakrishna Vikhepatil
12. Dr. Krishna Pal Singh Yadav

SECRETARIAT

Shri J. Sundriyal	Joint Secretary
Shri V.S.P.Singh	Director
Shri Bhupendra Bhaskar	Additional Director
Smt. Harshita Shankar	Under Secretary

Representatives of All India Institute of Medical Sciences (AIIMS), New Delhi

1. Dr. Randeep Guleria, Director
2. Shri Subhashish Panda, Deputy Director

Representative of Public Health Foundation of India (PHFI)

Prof. K. Srinath Reddy, President, Public Health Foundation of India (PHFI)

Representatives of Population Foundation of India (PFI)

1. Ms. Poonam Muttreja, Executive Director,
2. Shri Bijit Roy, Associate Director; and
3. Ms. Purnima Khandelwal, Senior Programme Officer

2. At the outset, the Chairman welcomed the Members of the Committee and informed that the meeting was convened to consider and adopt two draft Action Taken Reports of the Committee on the 110th Report on Functioning of Food Safety and Standards Authority of India and 120th Report on Demands for Grants 2020-21 (Demand No.4) of the Ministry of AYUSH, respectively. The Chairman also informed the members that the Committee would be hearing the views of Dr. Randeep Guleria, Director, All India Institute of Medical Sciences, Prof. K. Srinath Reddy, President, Public Health Foundation of India (PHFI) and Ms. Poonam Muttreja, Executive Director, Population Foundation of India on the subject "Outbreak of Pandemic COVID-19 and Related Contingent and Mitigation Plan".

3. ***

4. The Committee then heard the views of Dr. Randeep Guleria, Director, AIIMS, New Delhi who apprised the Committee about the role/involvement of AIIMS, in containing and management of COVID 19.

4.1 During his presentation, Dr. Guleria highlighted that the preparation made and training imparted for management of outbreak of SARS, H1N1 Swine Flu, Zika virus, MERS -Corona virus Ebola, etc in AIIMS proved to be quite useful in the aftermath of outbreak of COVID 19. Many faculty Members of AIIMS were made part of National Task Force, formed by Government of India for monitoring COVID 19. He apprised that AIIMS, Delhi is involved with the Joint Monitoring Group in making national guidelines for the Ministry of Health and Family Welfare and he was the part of the empowered group constituted by the PMO to delve into strategies for containing and management of COVID 19 in the country. Director, AIIMS was appointed the Chairman of a clinical research group of ICMR for research priorities for Covid-19 as well. He stated that the key challenges in battle against COVID 19 are protection and motivation of health care workers, immediate increase of intensive care beds, training for Covid-19-related protocols, mentoring & capacity building of other institutions across the country, awareness generation on COVID appropriate behavior among staff and public, etc.

4.2 Dr. Guleria, thereafter, apprised the Committee of the Strategic response of AIIMS against COVID 19 which included setting up of Covid-19 task force, formation of the Resource Management Committee, Human Resource Committee, Medical Management Committee, the IEC Committee, Training and Diagnostic Management Committee, daily meetings with the faculty, residents, nursing officers, technicians, reorganization/prioritization of hospital services, human resource planning, Training module for infection control, donning and doffing of PPE kits, treatment methodology of patients with COVID-19 through the process e-design, testing with RT-PCR CBNAAT, Rapid antigen kit, research and donation of one day's salary to the PM CARES Fund, etc. He added that Hospital Infection Control Committee started training models twice a day by using webinars, online training and videos and more than 2000 doctors, interns and nursing officers were trained through simulation, e-learning and tele-medicine facility with the help of own platform known as SARAL.

* *Relates to other matter*

4.3 Pertaining to training of doctors, Dr Guleria informed the Committee that Clinical Excellence programme was started at national level that helped in training doctors in Covid-19 management. National E-ICU was started through which inter-action of Director AIIMS on every Tuesday and Friday with Doctors from different COVID Hospitals in the Country used to be held. Capacity building for COVID-19 testing was started twice a week and mentoring institutes viz -AIIMS, PGI Chandigarh, AGMU, NIMHANS, Sri Chitra Institute in the South started mentoring medical colleges in their areas for COVID Testing. Testing capacity now increased to more than 1400 lakhs in the country to test for COVID-19 and more than 10 lakh tests per day are being conducted.

4.4 Dr. Guleria further highlighted that the National Clinical Grand Round has been started on each Wednesday where one topic are discussed among experts from other institutes including experts from outside i.e. USA, UK. On Second September, 2020 topic was how to manage pregnant women and new born COVID positive and on Ninth September, 2020 the topic would be post COVID care especially with lung- fibrosis and other problems. At International level through video conferencing especially with SAARC Countries, arrangement were made for conferences, webinars of management of COVID, infection control, biomedical waste management and laboratory diagnosis wherein various questions were raised by doctors from Maldives & Nepal.

4.5 The Director, AIIMS also informed the committee that more than 50 research projects on basic sciences, artificial intelligence and other newer drugs for COVID management was funded by AIIMS , New Delhi. It was further informed that more than 83 extra mural projects were funded by WHO, ICMR, CSIR.

4.6 In order to enhance the number of bed especially for COVID patients, he added that the existing hospital infrastructure had been reorganized by converting the National Cancer Institute, Vishram Sadan and Jai Prakash Narayan Apex Trauma Center (JPNATC) into COVID hospitals and requisites number of PPEs and dialysis machines were arranged.

4.7 He also informed the committee that as on 31st August,2020 AIIMS, Delhi provided tele-consultation to 134402 patients while 94542 outpatients attended AIIMS, 40683 patients attended emergency/casualty, 27161 non-COVID admissions, 5958 surgeries performed. A Total number of 5774 COVID patients were admitted and more than 700 dialysis for COVID positive patients has been done.

4.8 Amidst ongoing COVID Management, Dr. Guleria pointed out that the academic activities of AIIMS continued viz National PG Entrance Exam, EXIT Exams for MD, MS, MCH, DM with due attention to Guidelines of maintaining the physical distance. Moreover, the virtual classes through the video conferencing were carried on. IEC i.e. Information, Education & Communication kept going on with aid of COVID Portal, COVID Videos, AIIMS Website, YouTube Channel, Webinars, Training etc. Information booklet entitled COVID-19: Be Careful, not fearful was circulated among healthcare workers and AIIMS COVID Portal was kept opened as information platform for public, professionals and trainers. COVID-19 National Tele

consultation is maintained as helpline facility. Moreover, E-mail facilities, the COVID-19 E-mail helpline are kept up at the Trauma Centre. The Committee was also informed that Post- COVID Management Clinic would be started in AIIMS Delhi for those patients who have recovered from COVID but still continue to have problems.

5. The Committee then heard the views of Prof. K. Srinath Reddy, Public Health Foundation of India.

5.1 During the course of his presentation, Prof. K. Srinath Reddy highlighted that given size of population, there were only 52 deaths per million, which compared favorably with many other countries, especially with the Western Europe, the United States, and other parts of North America. However, the Virus had now started to affect smaller towns. But with younger age of the population, lesser population density and lesser travel distance to work, working in more open space and lesser prevalence of co-morbidities viz hypertension, diabetes and cardio-vascular diseases, etc. rural areas stand potentially protected against viral dissemination. He pointed out that increasing the tests alone was not going to work. He emphasized on the need to encourage such other public health measures like physical distancing or social distancing, masks and hygiene.

5.2 He further emphasized that there was the need of strengthening Health sector network to make the system function with efficiency and equity in the situation of Public Health Emergency. He added that Public Health System needed to incorporate the facilities of expertise at all the three levels i.e. Primary, Secondary and Tertiary. A multi-layered and a multi-skilled health work force was required to strengthen health infrastructure. As per WHO calculations, for delivery of Sustainable Development Goals and Universal Health Coverage, 44 health workers for 10,000 population were required, however, the existing number stood at only 22.

5.3 Prof. K. Srinath Reddy also pointed out that the National Health Policy, 2017 stipulated that a Public Health Cadre must be developed in every single State, however, only Odisha has followed the suit and Tamil Nadu responded with the maintenance of the public health cadre. He stressed on the need to bring together all the elements of health system in a coordinated manner for meeting public health emergency with efficiency.

6. The Committee then heard the views of Ms. Poonam Muttreja, Executive Director, Population Foundation of India, a 50 year old NGO set up by Shri. J.R.D. Tata and engaged in women's reproductive health, family planning, community action and mobilizing programmes under the Government's National Rural Health Programme.

6.1 During the course of her presentation, Ms. Poonam Muttreja acknowledged that the Ministry of Health and Family Welfare took timely decision to ensure an early initiation of essential health services. The Ministry released the guidelines to the State Governments for provision of essential services, including family planning, immunization and other critical maternal and child health services. Although during the Lockdown period there was the huge

fear psychosis not only among the health professionals but in the minds of the people in general , ANMs, ASHA and Anganwadi workers worked across the country without any hesitation. Frontline workers (FLWs) who were conducting surveys and providing door to door services/home delivery reported that inadequate/no masks, gloves and hand sanitizers were provided to them. The ASHAs were working closely with other frontline workers like Auxiliary Nurse Midwives (ANMs) and Anganwadi Workers (AWWs) to conduct community-level activities and worked across the country without any hesitation or fear.

6.2 Ms. Poonam Muttreja stressed that there is urgent need to emphasize on health education through effective social and behavioral change communication strategies. All television channels including Doordarshan and other over-the-top (OTT) platforms should be instructed to give dedicated time for broadcasting health literacy and Social and Behavior Change Communication (SBCC) materials. There is a need for new strategy for the next two years not just for dealing with the ongoing and after-effects of the pandemic but also a national strategy for health education and behavioural change and changing social norms.

6.3 Pointing out the serious impact of COVID 19 on women's health, Ms. Poonam Muttreja informed the Committee that the family planning services were completely dysfunctional during the lockdown period. Sterilization and abortion was not taking place due to which concerns were also raised about increase in unwanted pregnancies. During pandemic and in post COVID phase tele-counselling service for family planning and institutional deliveries needed to be made operational. In the overall scenario, women need to be at the central place while moving towards and responding to the post COVID era. Mental health was another important issue, she maintained. In a survey conducted by PFI, amongst young people aged 18 and 24, 82 per cent of the girls and 62 percent of men had high anxiety and wanted to seek help from mental health professionals.

7. Thereafter, the Chairman and the members of the Committee raised the following issues:-
- i. Whether there was any possibility of margin of error in the data released by the Ministry regarding recovery rate of the COVID patients and whether the pandemic caused by Corona virus will disappear on its own?
 - ii. Why there was so much domination of bureaucrats in various task forces established for containing and mitigating the pandemic that unnecessary reflect the diversion of democracy into dictatorship in the COVID situation.
 - iii. Whether patients suffering from disease/infections other than COVID got affected due to closure of OPD services at the Hospitals in the wake of COVID?,
 - iv. What was the usage, efficacy and treatment protocol of various drugs like Hydroxychloroquin, Ivermectin and Ramdesivir and use of convalescent plasma? Whether there have been cases of re-infection?
 - v. What is the role of Cycle Threshold Value, role and effectiveness of indigenously

developed ventilators, utilization of these ventilators later on?

- vi. total testing done and its rate per million, efficacy of rapid antigen test, training of Asha and Anganwadi workers and assignment of minimum work for them to be done.
- vii. Action plan to control the spread of the COVID to the villages, special assistance to the coastal areas, to resolve the problems related to vacancy of bed at the hospitals?
- viii. Shortage of Health Care staff, thus requiring Government Action Plan to fill up the gap of the requirement of 1.5 lakhs nurses and 50,000 doctors to work for the next one year on COVID care; reported Shortage of oxygen-supported bed, status of availability of blood, arrangement of psychiatric doctor at various centers, problem of disposal of biomedical waste, utility of radiation therapy.
- ix. Guidelines to deal with post COVID syndrome viz deep vein thrombosis, lungs fibrosis, lack of psychiatric doctors for proper counseling of COVID patients and need for opening of clinics for treatment of Post COVID Syndrome. What is the Feedback of COVID patients admitted in the COVID centers and the same taken and analyzed?
- x. Suggestion for formation of a task force having Member of Parliament with the background of medical profession to decide the modalities and priorities of National Health Mission.

8. The queries of the Chairman and the Members were responded by the witnesses as enumerated below.

8.1 Pertaining to the rate of recovery and the margin of error as raised by the western commentators, Dr. Randeep Guleria, Director AIIMS submitted that the recovery rate was higher and the case fertility rate was lower in a younger population in India and South-East Asia in comparison to the elderly population in Japan Italy and USA. Inherent immunity and BCG Vaccine in India gives Anti-Viral effect and milder viral infection resulting into higher recovery rate. Supplementing to Dr. Randeep Guleria, Dr. Srinath Reddy added that the testing rate in India is 34 per thousand in comparison to 68 per thousand in Brazil and 273 per thousand in USA and deaths per million in India are very low as compared to Western Europe and USA. As regards, the Pandemic caused by CORONA Virus disappearing on its own, Dr. Srinath Reddy submitted that since the Virus is more infectious and slightly different than SARS that disappeared but it is unlikely that the Virus would disappear as did the SARS.

8.2 In response to query regarding efficacy of rapid antigen test, Dr. Randeep Guleria, Director AIIMS clarified that rapid antigen test was not the gold standard. Gold standard is RT-PCR test, but rapid antigen test has the advantage that the result of the test is declared in only 15 minutes. If someone is positive, it is definitely positive, it cannot be false positive. Rapid Antigen Test was conducted in the Containment Zones where there was a higher chance of positive cases and therefore, help in isolating the infected person either at home or at the COVID Centre.

8.3 With regard to efficacy and treatment protocol of various drugs, Dr. Randeep

Guleria, stated that data based on studies in China and France showed that Hydroxychloroquine reduces viral replication to some extent and is beneficial for mild diseases. Dr. Randeep Guleria, further stated that on the basis of studies conducted in various several hospitals in Delhi, it was observed that those taking it had a lower infection rate.

8.4 Dr. Randeep Guleria also clarified that Ivermectin is FDA-approved for treatment of mild patients and also decreases the viral replication, although research is still required on Ivermectine, but some data says that it is a useful drug. He also stated that study has shown that Remdesivir may cause mortality benefit and reduces hospital stay.

8.5 On a query related to re-infection rate of the virus, Dr. Randeep Guleria stated that re-infection has occurred in many patients. Some data suggest that people who have mild infection do not have so much strong immunity and there are more chances of re-infection.

8.6 With regard to effectiveness of indigenously developed ventilators, he clarified that many ventilators made in our country are respiratory assist devices. They help to breathe, but are not classically ICU ventilators. These ventilators have utility, but in case of serious patients classically ICU ventilators will be required.

8.7 Regarding the role of the Cycle Threshold Value Dr. Guleria submitted that ct-value is the Index of Viral load indicating lower the ct-value higher the viral load. In case the ct-value is less than 20 there would be higher viral load and if the ct-value is between 24 to 30 and above would indicate lower viral load subject to the stage/timing of conducting the test, therefore, ct-value does not reflect the correct assessment of viral load.

8.8 Dr. Randeep Guleria also submitted that blood donation has been a big issue and with the help of Delhi Police and CRPF, AIIMS, New Delhi have tried its best to have regular blood donation camps.

8.9 AIIMS, Delhi has also recognized mental health issues. They have created a helpline for patients and attendants that connect them through Counselors and Psychiatrists and have also posted a Resident from Psychiatric Department in the duty roster of COVID Hospitals on regularly basis.

8.10 Regarding Post COVID Care Management, the Committee was apprised by Dr. Randeep Guleria that arrangements are being made for conducting Yoga Care Protocol especially for COVID patients with weaker lungs for their quick and better recovery. As regards, alternative therapies, he pointed out that even in the situation of H1N1, Spanish Flu, there was use of low dose radiation to kill the virus and the patients were benefited and similar alternative therapies is being conducted at Jhajhar Cancer Hospital of AIIMS. Dr. Guleria also added COVID Patient treatment strategy has improved tremendously during last two and three months as Anti-HIV drug Lopinavir/Ritonavir are not administered as Steroids is being administered to the hospitalized patients as Anti-Coagulant Prophylactic to diffuse clotting.

8.11 Dr. Guleria further added that a protocol has been posted on the website of the Ministry

of Health and Family Welfare that is regularly updated indicating the treatment strategy and management of mild, moderate and severe infected COVID patients however, there is further need to train the frontline health work force.

9. A verbatim record of the proceedings of the meeting was kept.
10. The Committee adjourned at 1:47 P.M.

RECORD NOTE OF DISCUSSION

The Committee met at 3.00 p.m. on Friday, the 16th October, 2020 in Main Committee Room, Ground Floor, Parliament House Annexe, New Delhi.

MEMBERS PRESENT

- 1. Prof. Ram Gopal Yadav - Chairman**

RAJYA SABHA

2. Shri Suresh Prabhu
3. Dr. Subramanian Swamy

LOK SABHA

4. Dr. Sanghamitra Maurya
5. Dr. Pritam Gopinath Munde
6. Dr. Mahendrabhai Kalubhai Munjpara
7. Shri Haji Fazlur Rehman
8. Dr. Rajdeep Roy
9. Dr. Sujay Radhakrishna Vikhepatil

SECRETARIAT

Shri J. Sundriyal	Joint Secretary
Shri V.S.P. Singh	Director
Shri Bhupendra Bhaskar	Additional Director
Smt. Harshita Shankar	Under Secretary

LIST OF WITNESSES

MINISTRY OF HEALTH AND FAMILY WELFARE

1. Shri Rajesh Bhushan, Secretary
2. Shri Alok Saxena, Joint Secretary
3. Shri Lav Agarwal, Joint Secretary

NATIONAL HEALTH AUTHORITY

1. Dr. Indu Bhushan, CEO
2. Dr. Vipul Aggarwal, Deputy CEO

Representatives of Department of Health Research

Prof. Balram Bhargava, Secretary, DHR cum DG, ICMR

2. At the outset, the Chairman welcomed the Members of the Committee and solicited their active participation and co-operation in carrying out the responsibility entrusted to this Committee. The Chairman then apprised the members about the pending subjects identified by the previous Committee for consideration and the proposed subjects for the present Committee. ***

3. ***

4. The Chairman thereafter informed the members that the previous Committee had also undertaken the subject, "Implementation of Ayushman Bharat" for examination. The Committee, therefore, would be hearing the views of Secretary, Department of Health and Family Welfare and CEO, Ayushman Bharat and National Health Authority on COVID management through the scheme of Ayushman Bharat/Pradhan Mantri Jan Arogya Yojana (PMJAY).

5. The Committee heard the views of the Secretary, Department of Health and Family Welfare. The Secretary apprised the Committee about the status of infection along with various parameters about the world and India. He informed that currently 39 million cases have been reported all over the world and has caused more than 11 lakh deaths worldwide. The highest number of reported cases and deaths are in USA which is more than 82 lakh and 2.22 lakh respectively. After that Brazil has 1 lakh 52 thousand deaths and 51 lakh 70 thousand cases. In India, in India is concerned, 73 lakh 70 thousand cases have been reported since inception, of which 64 lakh 53 thousand cases have been cured and 8 lakh 4 thousand are active cases.

6. The case fatality rate of India or the death rate due to COVID is 1.52 percent which is one of the lowest death rates in the world. The death rate in USA is 2.71 percent, 2.95 in Brazil and 1.73 in Russia. It is much higher in Spain with 3.5 percent, 2.62 percent in South Africa, 4 percent in France and 6.5 percent in Britain.

7. India has 81 deaths per million, whereas it is 672 in USA, 716 deaths per million in Brazil and 718 deaths per million in Spain. India has conducted more than 9 crore tests, USA has done 11 crore tests and all other countries have had fewer tests than us. Number of cases per million population is 5,341 in our country, while in the USA it is 24,780 per million, 24,277 in Brazil, 9,278 in Russia and 9,900 in the UK.

8. The Secretary further stated that many festivals are coming in which the crowd will have a chance to gather. In such a situation, if complete vigilance and caution is not taken, there is a possibility that the infection may increase again.

** Relates to other matter*

9. He further informed the Committee that Ayushman Bharat' scheme had two main parts i.e the establishment of Health and Wellness Centers and the other was Ayushman Bharat/Pradhan Mantri Jan Arogya Yojana, which is implemented through the National Health Authority. The objective was to establish 1 lakh 50 thousand Health and Wellness Centers across the country by December 2022, including comprehensive health services. From January, health and wellness centers had to work even though they were interrupted, but the screening for hypertension, diabetes, oral cancer, breast cancer, cervical cancer continued. Barring these, the activities of Health and Wellness Centers in many states are now reaching pre-Covid levels.

10. The Committee then heard the views of CEO, Ayushman Bharat and National Health Authority. He informed the Committee that it was decided to include testing and treatment under PMJAY for private facilities and make sure that no poor person should be deprived of testing and treatment. Therefore, packages for testing and treatment for all the States and UTs have been defined. Out of 36 States and UTs, 32 States and UTs have joined Ayushman Bharat and the scheme has supported five lakh patients for testing and 2.46 lakh patients for treatment.

11. He further stated that they started a drive to empanel more hospitals and from April to August more than 3,000 hospitals have been empanelled. Now, there are more than 23,000 hospitals are with Ayushman Bharat providing services. Ayushman Bharat has helped in terms of treating and testing COVID patients and maintaining support for critical services for non-COVID patients. They have used their infrastructure and large IT base for supporting their response to COVID in many other ways.

12. He then informed the Committee about the challenges faced by the AB-PMJAY towards Covid-19 response which are reduced demand for services, infrastructural and manpower challenges. He informed the Committee about the call center support provided by the NHA that includes setting up National Covid-19 helpline "1075" and handling more than 34 Lakh calls, 5 Crore+ beneficiaries of above 60 age-group were reached out, verification of data provided by ICMR and more than 31 Lakh calls made on data shared and finally validation of data provided by Arogya Setu and 20 lakh calls were made to those people who had reported sick and needed support from hospital or doctor.

13. The Committee then heard the views of Secretary, Department of Health Research. He informed that more than 1000 kits manufacturers have been validated, of which 40 percent are Indian. Initially there were fewer RTPCR labs and places where RTPCR Labs could not be built, CBNAAT and TrueNat were used. Nearly four and a half percent of the total tests were from TrueNat. Places where both CBNAAT and TrueNat could not be installed, Rapid Antigen test was used for the first time in world. Their focus on five Ts i.e. testing, tracing, tracking, treatment and technology has been benefitting

14. He informed the Committee that various drugs like cortisone, Remdesvir were being used to treat COVID patients and trials conducted on these drugs in different countries. India has conducted largest trial of convalescent plasma in the world with 350 doctors were authored in 39 hospitals out of 464 patients. He further informed the Committee about the various vaccines being researched in India. He stated that they will follow smart vaccination in which core group will be vaccinated instead of entire 140 crore people.

15. Thereafter, the Chairman and the members of the Committee raised the following issues:-

- (i) Difference in rural urban breakdown, male-female, old and young in respect of spread of infection, after-cure consequences, possibility of second wave as experienced by European countries, post COVID complications.
- (ii) Working on documentation part to understand the situation of patients, the pattern that is emerging, geographically, ethnicity-wise and age-wise, Preparations during winters to fight virus, incentives for ASHA workers.
- (iii) overall death ratio in India before and during COVID, status regarding the approval from the Government of India regarding utilisation of ID machine and its efficacy, availability of vaccine.
- (iv) Emergency response and health system preparedness package, problems in Socio-Economic Caste Census and universal health insurance and coverage, measures taken to fight corona through Ayurveda or Ayush and action taken to make it reliable and effective, rate of treatment in the private hospitals.

16. The queries of the Chairman and the Members were responded by the witnesses as enumerated below:

- (i) Pertaining to the rural-urban breakdown and male-female breakdown in respect of spread of infection, Secretary, Department of Health and Family Welfare stated that the spread of infection has largely been in urban and peri-urban, semi-urban areas. He further stated that male mortality in the country have been more than female.
- (ii) With respect to query regarding efforts made by Ministry to deal with post COVID complications, he stated that the Ministry, AIIMS, New Delhi and ICMR have made efforts that include documentation of patients getting cardiovascular diseases, respiratory diseases or renal diseases after recovery. Ministry has also issued a detailed SOP, which is shared with the states and is also on their website.
- (iii) With respect to second wave, he stated that there is a present and potent danger of surge in cases because of upcoming festival season so everyone should follow the protocol of wearing a mask, maintaining distance, hand hygiene and all other preparedness.
- (iv) Regarding pandemic response package, he stated that the Ministry directed States in several video conferencing that this matter should be taken up in Disha Committee meeting organized at District magistrate level and they will again send the instruction to the States regarding this.
- (v) With respect to incentives to ASHA workers, he stated that the Ministry has made a provision to provide incentive to ASHA workers and that is still being given. While they are employed in surveillance work in the containment area, they are paid in cash, over and above whatever they are paid as performance-linked payment. However, regularization is a far more complex issue where there is a need to look at various other things because there are a large number of other workers in other sectors who are performing the same work and where they are receiving a performance-linked sort of honorarium.

17. A verbatim record of the proceedings of the meeting was kept.
18. The Committee adjourned at 5:03 P.M.

III THIRD MEETING

The Committee met at 3.00 p.m. on Tuesday, the 17th November, 2020 in Main Committee Room, Ground Floor, Parliament House Annexe, New Delhi.

MEMBERS PRESENT

1. **Prof. Ram Gopal Yadav** - **Chairman**

RAJYA SABHA

2. Shri Suresh Prabhu
3. Dr. Subramanian Swamy
4. Shrimati Sampatiya Uikey

LOK SABHA

5. Dr. Chandra Sen Jadon
6. Dr. Sanghamitra Maurya
7. Shri Arjunlal Meena
8. Dr. Pritam Gopinath Munde
9. Adv. Adoor Prakash
10. Shri Anurag Sharma
11. Dr. Mahesh Sharma
12. Dr. Sujay Radhakrishna Vikhepatil
13. Dr. Krishna Pal Singh Yadav

SECRETARIAT

Shri J. Sundriyal	Joint Secretary
Smt. Harshita Shankar	Under Secretary

LIST OF WITNESSES

Representatives of Department of Health Research

1. Prof. Balram Bhargava, Secretary, Department of Health Research
2. Smt. Geeta Narayan, Joint Secretary
3. Dr. R. S. Sharma, Scientist 'G' Head RBMH&CH, ICMR
4. Dr. Kavitha Rajsekar, Scientist 'E'

2. At the outset, the Chairman welcomed the Members of the Committee and informed that the meeting has been convened to consider and adopt draft 123rd Report on the Outbreak of Pandemic Covid-19 and its Management and its Management and 124th Report on Action Taken by Government on the Recommendations/Observations contained in the One Hundred Nineteenth Report on Demands for Grants 2020-21 of the Department of Health Research. The Committee, after a brief deliberation, adopted both the Reports without any modification.

3. The Chairman also apprised the members that his term will end on 25th November and due to the uncertainty in convening of the winter session, the four Reports of the Committee, namely, 121st, 122nd, 123rd, and 124th Reports will have to be presented to the Hon'ble Chairman Rajya Sabha. The Committee then authorized the Chairman to approach the Hon'ble Chairman, Rajya Sabha for presentation of the aforesaid Committee Reports. ***

4. ***

5. The Chairman also acknowledged the unflinching support extended by the Members of the Committee by way of their valuable suggestions on various issues within the domain of the Committee. He also expressed deep sense of appreciation for the valuable assistance and steadfast support extended by the officers and staff of the Committee through their commitment and devotion to duties which enabled the Committee in completing its deliberations and producing quality reports on the Bills, subjects and DFGs within the scheduled timeframe.

6. to 8 ***

9. A verbatim record of the proceedings of the meeting was kept.

10. The Committee then adjourned at 4:15 p.m

** Relates to other matter*

Annexures

Annexure I

State/UT wise details of cumulative number of COVID-19 tests conducted per million population (As on 9th November 2020)

States	Test Per Million population
Andaman and Nicobar Islands	149258
Andhra Pradesh	144628
Arunachal Pradesh	19372
Assam	109675
Bihar	89596
Chandigarh	99663
Chhattisgarh	52809
Dadra and Nagar Haveli and Daman and Diu	122081
Delhi	247288
Goa	216553
Gujarat	79422
Haryana	100755
Himachal Pradesh	53447
Jammu and Kashmir	110271
Jharkhand	91448
Karnataka	130563
Kerala	98933
Ladakh	200030
Madhya Pradesh	38996
Maharashtra	62371
Manipur	102217
Meghalaya	46265
Mizoram	94340
Nagaland	28159
Odisha	106145
Puducherry	192899
Punjab	83336
Rajasthan	47236
Sikkim	94004
Tamil Nadu	120527
Telangana	94008
Tripura	88672
Uttar Pradesh	71071
Uttarakhand	98784
West Bengal	46101
India	83990

Annexure II

BE, RE and AE For last Five Years of Research Councils from 2015-16 to 2019-20

(Rs. In Crore)

Sl. No.	Schemes / Programmes	2015-16			2016-17			2017-18			2018-19			2019-20		
		BE	RE	AE	BE	RE	AE	BE	RE	AE	BE	RE	AE	BE	RE	AE
		Total	Total	Total	Total	Total	Total									
1.	Grant to Central Council for Research in Ayurvedic Sciences	144.70	173.00	173.00	170.00	159.00	154.00	175.00	216.07	216.02	252.91	286.41	267.03	292.31	288.50	280.68
2.	Grant to Central Council for Research in Unani Medicine	110.63	91.16	92.42	120.00	118.00	111.24	123.00	133.93	133.93	130.00	147.00	145.50	152.65	159.54	159.54
3.	Grant to Central Council for Research in Yoga & Naturopathy	15.24	19.29	19.09	30.00	27.00	27.00	32.00	32.00	32.00	29.00	30.56	30.56	41.35	62.45	61.71
4.	Grant to Central Council for Research in Homeopathy	78.00	83.00	83.00	91.00	81.50	79.18	95.50	112.25	112.25	109.50	113.50	109.14	118.53	128.83	128.83
5.	Grant to Central Council for Research in Siddha	21.50	19.29	19.09	30.00	27.00	27.00	32.00	32.00	32.00	29.00	30.56	30.56	41.35	62.45	61.71
6.	Central Council for Research in Sowa-Rigpa	0.50	83.00	83.00	91.00	81.50	79.18	95.50	112.25	112.25	109.50	113.50	109.14	118.53	128.83	128.83
	Total	370.57	468.74	469.60	532.00	494.00	477.60	553.00	638.50	638.45	659.91	721.53	691.93	764.72	830.60	821.30

Annexure III

S. No.	Name of the Study	Name of the Institute	State	Sample Size	Present Status
1.	Evaluation of the immuno-stimulatory potential of Ayurveda management protocol in cohort of Delhi police - An exploratory clinical study” New Delhi	AIIA, New Delhi	New Delhi	80,000	78233 persons enrolled. Follow-up under process.
2.	Prophylaxis with Neem capsules (<i>Azadirachtaindica</i>) in subjects coming in contact with COVID 19 patients AIIA ESIC Hospital Faridabad	AIIA ESIC Hospital Faridabad	Haryana	200	159 screened and 115 enrolled
3.	Evaluation of Prophylactic Effect of Comprehensive Ayurveda and Mindfulness Based Yoga Regimen among Quarantined Individuals Exposed to COVID-19 Patients - A Randomized Controlled Trial AIIMS New Delhi	AIIMS Delhi	New Delhi	300	-
4.	Evaluation of Prophylactic Effect of Comprehensive Ayurveda and Mindfulness Based Yoga Regimen among Healthcare Workers of a tertiary care hospital in Delhi during COVID-19 - A Randomized Controlled Trial AIIMS New Delhi	AIIMS Delhi	New Delhi	300	122 subjects enrolled
5.	Evaluation of the immuno-stimulatory potential (ShariraBala) of Ayurveda Management Protocol in a Cohort of DDA Residents of Gautampuri - An Exploratory Clinical Study AIIA	AIIA, Delhi	New Delhi	900	900 subjects enrolled. Study under process.
6.	“Evaluation of the efficacy of Ayurveda drugs for enhancing overall strength and immunity in health care workers of All India institute of Ayurveda - an exploratory clinical study”	AIIA, Delhi	New Delhi	425	417 subjects enrolled
7.	Evaluation of prophylactic effect of Ayurveda Interventions in the prevention of COVID -19 Infections in susceptible general population: A single arm clinical exploratory Study	AIIA, Delhi	New Delhi	500	259 subjects enrolled
8.	Identifying the pathological models of COVID-19 in <i>Ayurveda</i> : <i>Shat kriyakala&Vikarvighata</i> ; <i>bhavaabhava</i> - A Cross sectional study	AIIA, Delhi	New Delhi	75	33 subjects enrolled
9.	Impact of Ayurvedic Interventions in prevention of COVID-19 infection in identified containment area of Delhi	CARICD, Delhi	New Delhi	1500	Completed Drafting of Article is under process

S. No.	Name of the Study	Name of the Institute	State	Sample Size	Present Status
10.	A prospective non-randomized open label controlled interventional study on the effect of Guduchi GhanVati/SudarshanGhanVatias a prophylactic measure among high risk population (Health Care Workers/ Containment Zone population) exposed to COVID 19	CCRAS institutes	16 States across the India	40,000	Ongoing Enrolled: 30000
11.	Evaluation of the efficacy of an Ayurvedic intervention (Chyawanprash) in the prevention of COVID-19 pandemic among Health Care Personnel – An open label single arm prospective study”	A&U Tibbia College Karol Bagh, New Delhi	New Delhi	50	Enrolled: 50, Completed = 49 Dropout = 1
12.	Evaluation of protective potential of an Ayurvedic Rasayan (Chyawanprash) in the prevention of COVID-19 among Health Care Personnel – An open label, prospective Randomized controlled parallel group study	CBPACS, Najafgarh New Delhi	New Delhi	200	Enrolled 200 completed: 155
13.	Evaluation of Efficacy and Safety of Ayurveda Intervention (Ayush -64) in the management of COVID-19 infection (Asymptomatic & Mild to Moderate symptoms)- An open label single arm prospective clinical trial”	A&U Tibbia College Karol Bagh, New Delhi	New Delhi	40	Enrolled: 40 Completed: 33 Dropouts: 4 Ongoing = 3
14.	A pilot study to assess the efficacy of Ayush - 64 in COVID - 19 cases	CBPACS, Najafgarh New Delhi	New Delhi	40	Study completed on 20 th August, 2020. Data analysis under process.
15.	Evaluation of Efficacy and Safety of Ayurveda Intervention (Ayush-64) add-on-therapy for patients with Covid-19 infection (Stage-I)- A Randomized controlled clinical trial	GMC, Nagpur	Maharashtra	60	Enrolled: 44 (Grp 1: 22 and Grp 2: 22) Completed 36 (Grp 1: 17 and Grp 2: 19)
16.	A Randomized, Open Label, Parallel Efficacy, Active Control, Exploratory Clinical Trial to Evaluate Efficacy and Safety of an Ayurvedic Formulation (AYUSH 64) as Adjunct Treatment to Standard of Care for the management of Mild to Moderate COVID-19 Patients	Dhanwantri Ayurveda college, Chandigarh	Chandigarh	80	Enrolled: 80 Completed 75
17.	Clinical Evaluation of Chyawanprash for the prevention of COVID-19 among Health Care Personnel – An open label, prospective Randomized controlled study	KGMU Lucknow	Uttar Pradesh	200	Yet to be initiated
18.	A Prospective Randomized Controlled Clinical Trial to evaluate the Efficacy and	Dhanwantri Ayurveda	Chandigarh	60	Yet to be initiated

S. No.	Name of the Study	Name of the Institute	State	Sample Size	Present Status
	Safety of Ayurveda Interventions (Ashwagandha Tablet and Shunti Capsule) in the management of COVID-19 infection (Mild to Moderate symptoms)	College, Chandigarh			
19.	Prospective non randomized open label control interventional study on the effect of Ayurvedic Raksha Kit (Chavanprash, Samsahmanivati&Haritaki) as Prophylactic measure among police personal working in the vicinity of COVID -19 facilities	CCRAS-NIIMH, Hyderabad	Telangana	1500 (750 Trial & 750) Control	Enrolment completed; Data analysis under process.
20.	Prospective non randomized open label control interventional study on the effect of Ayurvedic Raksha Kit-1 (Ayush 64, Samsahmanivati&Chayvanprasha) as Prophylactic measure among Ayush healthcare workers working in the vicinity of COVID -19 facilities	CCRAS-NIIMH, Hyderabad	Telangana	500 (250 Trial & 250) Control)	Enrolment completed; Data analysis under process.
21.	A prospective non-randomized open labeled controlled interventional study on the effect of Ashwagandha (<i>Withaniasomnifera</i>) as a prophylactic measure among high risk population (Health Care Workers/Containment Zone Population) exposed to COVID-19	CCRAS-NIIMH, Hyderabad	Telangana	3600 (1800 trial & 1800 control) * Due to logistic reasons could not target sample size of 5000 (2500 trial and 2500 control as planned)	Enrolment completed; Data analysis under process.
22.	A prospective non-randomized open labeled controlled interventional study on the effect of Guduchi (<i>Tinosporacordifolia</i>) as a prophylactic measure among high risk population (Health Care Workers/Containment Zone Population) exposed to COVID-19	CCRAS-NIIMH, Hyderabad	Telangana	2800 (1400 trial + 1400 Control) * Due to logistic reasons could not target sample size of 5000	900 trial & 900 control group completed.

S. No.	Name of the Study	Name of the Institute	State	Sample Size	Present Status
				(2500 trial and 2500 control as planned)	
23.	A prospective non-randomized open labeled controlled interventional study on the effect of ChyavanprashLehyam as a prophylactic measure among high risk population (Health Care Workers/Containment Zone Population) exposed to COVID-19	CCRAS-NIIMH, Hyderabad	Telangana	1000 (500 trial+500 control) * Due to logistic reasons could not target sample size of 5000 (2500 trial and 2500 control as planned)	325 trial and 300 control group completed.
24.	Efficacy of Ayurveda Intervention (AYUSH 64) as add-on therapy in COVID 19 patients - An open label randomized controlled trial	IPGT&RA Jamnagar	Gujarat	80	Enrolment completed Data analysis under process.
25.	Clinical outcome of Ayurved treatment on COVID 19 patients: a retrospective cohort study	IPGT&RA Jamnagar	Gujarat	-	940 screened and 762 included Study Completed, paper drafted.
26.	An open label, Multi centric, Randomized, Comparative, Prospective Interventional Community based Clinical Study to Evaluate Safety and Efficacy of Guduchi Ghana Vati as a Preventive Remedy on Healthy Individuals in Pandemic of COVID-19 (06 containment areas of Rajasthan; Jaipur A, Jaipur B, Ajmer, Kota, Jodhpur, Tonk)	National Institute of Ayurveda, Jaipur	Rajasthan	6000 in each arm = 12000	Randomized: Ctrl: 4746 Test: 4746 Completed: Ctrl: 586 Test: 611
27.	Clinical evaluation of DaburChyawanprash (DCP) as a preventive remedy in pandemic of COVID-19- An Open label, Multi centric, Randomized, Comparative, Prospective Interventional Community based Clinical Study on Healthy Individuals (At 5 other Centres:	National Institute of Ayurveda, Jaipur	Rajasthan	600 [180 at NIA] Milk group-87 Drug	Screened: 777 Screen Failure: 42 No. of Subjects Randomized:

S. No.	Name of the Study	Name of the Institute	State	Sample Size	Present Status
				group-86 Screen Failure:	721 Total No. of Subjects completed Day 45 visit (for interim analysis): 403 No. of subjects in DCP group: 201 No. of subjects in Milk group: 202
28.	Evaluation of Efficacy and safety of Ayurveda Intervention (Ayush-64) add-on therapy for patients with COVID-19 infection (Stage-I)-An Open labelled, Parallel Group, Randomized controlled clinical trial (In collaboration with All India Institute of Medical Sciences, Jodhpur)	National Institute of Ayurveda, Jaipur	Rajasthan	60 [130 in each group]	Total no. of subjects Recruited: 45 Std. Group-23 Add on Drug Group-22 Randomized-45
29.	A cross-sectional retrospective study on Immunobooster kit (Chyavanprasha, Immunity booster capsules and Kwatha) prophylaxis for the prevention of COVID-19	National Institute of Ayurveda, Jaipur	Rajasthan	1000	Total number of subjects Recruited 1000 Study under process.
30.	A prospective interventional study on the effect of Arsenicum album 30 C as a prophylactic measure among High risk population exposed to COVID-19.	North eastern institute of ayurveda and homeopathy, Shillong	Meghalaya	5000	As on 21 st August 2020, 5000 enrolment completed Study under process.
31.	A prospective interventional study on the effect of ASA-20(Ayush kwath, Samsamanivati, Anutaila) as a prophylaxis measure among High risk population exposed to COVID-19	North eastern institute of ayurveda and homeopathy, Shillong	Meghalaya	5000	As on 21 st August 2020, 3803 enrolment till date
32.	A prospective open label randomised controlled trial of Ayurvedic intervention in asymptomatic and mild symptomatic cases of COVID-19	North eastern institute of ayurveda and homeopathy, Shillong	Meghalaya	200	As on 26 th of August 2020, Total enrolment: 38
33.	A prospective double blind randomised controlled trial of Eupatorium perfoliatum 30 C in asymptomatic and mild symptomatic cases of COVID-19.	North eastern institute of ayurveda and homeopathy, Shillong	Meghalaya	200	As on 26 th of August 2020, Total enrolment: 28

S. No.	Name of the Study	Name of the Institute	State	Sample Size	Present Status
34.	Assessment of efficacy and safety of Ayurvedic drug combination in preventing the progression of severity of the disease in asymptomatic and mild symptomatic cases of COVID-19: A randomised controlled trial	North eastern institute of ayurveda and homeopathy, Shillong	Meghalaya	200	As on 26 th of August 2020, Total enrolment: 32
35.	Homoeopathy as an adjuvant to standard treatment protocol in management of corona virus infection- a randomised, placebo controlled, open label study	CCRH, New Delhi	Maharashtra	300	148 patients enrolled in study Ongoing
36.	Effect of adjuvant homoeopathy with standard treatment protocol in management of covid-19: a randomised, open label, placebo controlled, parallel group study	CCRH, New Delhi	Uttar Pradesh	100	49 patients are enrolled in study Ongoing
37.	Effectiveness of Arsenicum Album 30c In Prevention of Covid-19 In Individuals Residing in Hotspots of Red Zones in Delhi– A Comparative Cohort Study	CCRH, New Delhi	New Delhi	10000	10313 enrolled.
38.	Comparative Effectiveness of Pre-Identified Homoeopathic Medicines in Asymptomatic Covid -19 Individuals Receiving Standard Treatment Protocol–An Open Label, Randomised, Placebo Controlled Trial	CCRH, New Delhi	Madhya Pradesh	200	145 cases enrolled Study ongoing
39.	Effectiveness of individualized homoeopathy as an add-on to standard treatment of covid-19 – a multicentric, randomized, parallel arm, single blind, placebo, controlled trial	CCRH, New Delhi	Madhya Pradesh	300	Sample size achieved Study ongoing
40.	Effectiveness of Arsenicum Album 30c in Prevention of Covid-19 in Individuals Residing in Hot Spots of Red Zones– A Multicentric, Randomised, Cluster Level, Controlled Trial	CCRH, New Delhi	In 06 States	32051	Sample size achieved
41.	Community based Cluster Randomized Open Level Controlled Field Trial to Evaluate the Effectiveness of Homoeopathic Prophylaxis and Standard Prophylaxis against COVID-19”.	National Institute of homeopathy	West Bengal	7040	Yet to start enrolment
42.	Population based prospective study on effectiveness and outcome of Unani medicine prophylactic intervention on population at risk of COVID -19	CCRUM, New Delhi and NIUM	06 States across the India	Total Sample size = 40,000 (Test = 20,000 + Control=20,000)*	Enrolment and follow up completed Data analysis under process.

S. No.	Name of the Study	Name of the Institute	State	Sample Size	Present Status
43.	A Study on Prophylactic Interventions of Unani Medicine on High / Moderate risk Population of Covid-19	CCRUM, New Delhi	New Delhi	Enrolled 81 (Test=40+ Control 41)	Enrolment completed. Data analysis under process.
44.	An Add-on study entitled "A prospective, interventional, case control study to observe and assess the safety and efficacy of Unani regimen in preventing the progression of severity of the disease in hospitalized SARS-CoV2 tested positive asymptomatic /mild to moderate symptomatic COVID-19 cases, managed as per Govt of India COVID-19 management guidelines, at a COVID-19 management facility	CCRUM, New Delhi and NIUM	New Delhi	60 (Test=30 + Control=30) Applied for CTRI Reg.	61enrolled Group A Intervention: 30 Group B (Control): 31
45.	A prospective Non-randomized Open label Controlled Interventional study on the effect of Siddha intervention – KabaSura Kudineer (KSK) as a Prophylactic measure among high risk population (Health Care Workers/Containment Zone population) exposed to COVID-19 (SIDDHALION)	CCRS, Chennai	Tamil Nadu	20000	Study completed Data analysis under process.
46.	A prospective, single centre randomized open labelled comparative clinical study to evaluate the effectiveness of Siddha medicine, Kabasurakudineer and vitamin c-zinc supplementation in the management of asymptomatic COVID 19 patients. at Government Stanley Medical College	CCRS, Chennai	Tamil Nadu	60	Study completed Manuscript finalization under process.
47.	A prospective, non-randomized, single-arm interventional study to assess the safety and efficacy of Siddha Sasthric Medicines – Fixed Regimen in the prevention of COVID-19 disease progression of asymptomatic, and mild at Siddha COVID Care Centre, Chennai,	CCRS, Chennai	Tamil Nadu	60	50 enrolled, 42 completed the study
48.	A randomized open labelled clinical study to compare the effectiveness of Kabasurakudineer and Vitamin-C Zinc supplementation in the management of asymptomatic SARS-CoV-2 patients at Govt. Theni Medical College & Hospital, Theni	CCRS, Chennai	Tamil Nadu	60	Enrolment completed On 24/8/2020. Follow-up under process.
49.	A prospective, non-randomised, single arm observational study to access the safety and effectiveness of Siddha Sasthric Medicines – Fixed Regimen intervention in prevention of COVID-19 disease progression of severity	CCRS, Chennai	Tamil Nadu	200	70 enrolled and completed the study 20 are currently enrolled and

S. No.	Name of the Study	Name of the Institute	State	Sample Size	Present Status
	from COVID-19 Positive asymptomatic, mild or moderate to critical with reference to the Siddha guidelines of COVID-19 management, Ministry of AYUSH, Govt. of India at a Home Quarantine Chennai Containment Zone				undergoing treatment
50.	Retrospective Survival analysis to assess the length of stay of novel coronavirus (COVID-19) patients in GMC & ESIH Coimbatore who were under- Integrated Medicine -Zinc, Vitamin C & <i>Kabasura Kudineer (ZVcKK)</i>	CCRS, Chennai	Tamil Nadu	251	Study completed Data analysis under process.
51.	An open- label randomized controlled clinical trial to evaluate the safety and efficacy of selected Siddha formulations in patients diagnosed with COVID 19.	National institute of siddha, Chennai	Tamil Nadu	200	Enrolled 122 cases so far
52.	A prospective non randomized open label controlled intervention study on the effect of polyherbal Siddha formulation <i>KabasuraKudineer</i> as a prophylactic measure among high risk population (Health care workers / Containment Zone Population) exposed to Covid19.	National institute of siddha, Chennai	Tamil Nadu	20000	Enrolment status 27,400 Enrolment completed 19.8.2020
53.	An Observational Proof-of-Concept (PoC) Retrospective Study to Evaluate the Safety and Efficacy in COVID 19 patients treated with selected Siddha formulations and Standard of care.	National institute of siddha, Chennai	Tamil Nadu	200	Data has been captured of 200 patients
54.	A Randomized Controlled Clinical Trial to determine the complementary effect of selected Siddha formulations in facilitating the possibility of accelerated recovery in COVID 19 patient	National institute of siddha, Chennai	Tamil Nadu	150	132 participants enrolled
55.	A Randomized, Open Label, Parallel Efficacy, Active Control, Multi-Centre Exploratory Drug Trial to Evaluate Efficacy and Safety of AYUSH 64 as Adjunct Treatment to Standard of Care for the management of Mild to Moderate COVID-19 Patients.	AYUSH-CSIR Study	Maharashtra, Uttar Pradesh	140	140 subjects enrolled, follow-up under process.
56.	A Randomized, Open Label, Parallel Efficacy, Active Control, Multi-Centre Exploratory Drug Trial to Evaluate Efficacy and Safety of <i>Guduchi + Pippali</i> as Adjunct Treatment to Standard of Care for the management of Mild to Moderate COVID-19 Patients.	AYUSH-CSIR Study		Yet to be started	
57.	A Randomized, Open Label, Parallel Efficacy, Active Control, Multi-Centre	AYUSH-CSIR Study	Started only at 01	160	02 patients enrolled

S. No.	Name of the Study	Name of the Institute	State	Sample Size	Present Status
	Exploratory Drug Trial to Evaluate Efficacy and Safety of Yastimadhu as Adjunct Treatment to Standard of Care for the management of Mild to Moderate COVID-19 Patients.		centre-Maharashtra		
58.	Ashwagandha for the prophylaxis against SARS-CoV-2 Infection: A RandomisedHydrochloroquine Controlled Clinical Trial in Health Care Providers – Under CSIR, AYUSH task force	AYUSH-CSIR Study		Yet to be initiated	
59.	Multicentric studies on Yoga Interventions in Mild –Moderate severity Covid 19 patients-BY CCRYN	CCRYN	Chandigarh, Karnataka, New Delhi, Uttarakhand	Yet to start	