



Program Information Documents (PID)

Appraisal Stage | Date Prepared/Updated: 02-May-2022 | Report No: PIDA262075



BASIC INFORMATION

A. Basic Program Data

Country India	Project ID P175676	Program Name PHSPP: Transforming India's Public Health Systems for Pandemic Preparedness Program	Parent Project ID (if any)
Region SOUTH ASIA	Estimated Appraisal Date 26-Apr-2022	Estimated Board Date 28-Jun-2022	Practice Area (Lead) Health, Nutrition & Population
Financing Instrument Program-for-Results Financing	Borrower(s) Ministry of Finance	Implementing Agency Ministry of Health and Family Welfare	

Proposed Program Development Objective(s)

The program development objective (PDO) is to strengthen pandemic preparedness and response systems, and institutions in India.

COST & FINANCING

SUMMARY (USD Millions)

Government program Cost	2,080.00
Total Operation Cost	500.00
Total Program Cost	500.00
Total Financing	500.00
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	500.00
World Bank Lending	500.00

Decision

The review did authorize the team to appraise and negotiate



B. Introduction and Context

Country Context

- 1. Growth rebound in FY22 has been quick, pulled up by investment, recovering consumer demand and, more importantly, a low base.** Real GDP growth moderated from an average of 7.4 percent during FY15/16-FY18/19 to an estimated 3.7 percent in FY19/20¹, mostly due to (i) shocks to the financial sector, and (ii) decline in private consumption growth². Against this backdrop, the outbreak of COVID-19 had a significant impact, with real GDP contracting by 6.6 percent in FY20/21³. On the fiscal side, the general government deficit widened significantly in FY20/21, owing to higher spending and low revenues⁴. However, with the easing of Covid-19 restrictions, Goods and Services Tax (GST) collections have crossed INR 1.1 trillion mark every month since July 2021. The robust GST revenues are expected to continue as the economic recovery gathers momentum. The real GDP growth⁵ for FY21/22 is likely to be 8.3 percent, on the back of increased capital expenditure by the government and recovering consumer demand. The real GDP in FY21/22 is expected to reach the FY19/20 level. Given the global concerns on significant uncertainty around the pandemic, elevated inflation, geo-political tensions and extended supply disruptions, growth in FY22/23 is expected to be 8 percent⁶. Nonetheless, the expected recovery will put India among the world's fastest-growing economies over the next two years.
- 2. Although India has made remarkable progress in reducing absolute poverty in recent years, the COVID-19 outbreak has delayed the course of poverty reduction⁷.** Between 2011-12 and 2020-21, India's poverty rate is estimated to have declined from 22.5 percent⁸ to values estimated to range between 9 to 12.3 percent⁹. However, recent projections of GDP per capita growth, taking into account the impact of the pandemic, suggest that poverty rates in 2020 have likely reverted to estimated levels in 2016¹⁰. Labor market indicators from high frequency surveys -including from the Centre for Monitoring Indian Economy (CMIE)- suggest that vulnerability has increased, particularly for urban households. Overall, the pandemic and its economic impacts are estimated to have raised urban poverty, creating a set of "new poor" that are relatively more likely to be engaged in the non-farm sector and to have received at least secondary education.

Sectoral and Institutional Context

- 3. India's health system has made steady progress in recent years, but the COVID-19 pandemic has clearly highlighted that essential public health functions required for responding to outbreaks are weak.** Infectious disease prevention, detection and control requires a reliable system of health surveillance that can generate real time data and applied public health skills to analyze the data to detect potential outbreaks-and respond in a timely manner. The system should be able to integrate data from multiple sources including national and

¹ National Accounts Data, National Statistical Office, Ministry of Statistics and Program Implementation (MOSPI).

² National Accounts Data, National Statistical Office, MOSPI.

³ National Accounts Data, National Statistical Office, MOSPI.

⁴ Union budget 2021, 2022, Ministry of Finance.

⁵ World Bank Global Economic Prospects, January 2022.

⁶ World Bank real GDP forecasts for FY22/23 published in April 2022.

⁷ World Bank projections. The Government of India has deployed significant resources for social assistance, including towards urban poor households and migrants.

⁸ Consumption Expenditure Survey 2011-12, National Sample Survey Office (NSSO), Government of India

⁹ World Bank estimates. Macro Poverty Outlook, October 2021.

¹⁰ World Bank estimates. Source: Macro Poverty Outlook, 2020.



international epidemic events, risk factors associated with communicable diseases, surveillance of epizootics and diseases of animal origin, emergency and climate-related events, and natural disasters. Without a strong supportive laboratory network at block and district levels backed up by referral laboratories to confirm the etiological agents, the surveillance system will be ineffective in testing and tracing of the infected to contain spread of outbreaks as well as monitor emerging and reemerging pathogens. Proactive engagement with private sector for sharing surveillance information remains important to countries like India where healthcare provision and financing is significantly private. With increasing evidence of contribution of zoonotic diseases on humans, urgent priority is required to augment One Health actions. The growing challenge of Anti-Microbial Resistance (AMR) due to irrational use of antibiotics has a huge impact on management of emerging infectious diseases requiring priority investments in tracking AMR and guiding rational use of antibiotics. Finally, climate change will have a huge impact on human health if no corrective, adaptive, or mitigating measures are initiated.

4. **COVID-19 pandemic has also underscored the need for strong foundational bio-medical research ability to promptly identify biosecurity risks of emerging and reemerging pathogens.** Keeping track of emerging and reemerging pathogens, especially those of zoonotic origin which are increasingly contributing to epidemic outbreaks and maintaining hot maps identifying vulnerable areas has become a critical national function for ensuring biosecurity. The Indian Council of Medical Research (ICMR) played a vital role in indigenous vaccine development and established validation platforms for assessing COVID-19 diagnostic kits which helped in domestic industry growth which improved access as well as steeply brought down prices of testing kits. There is a need to sustain these efforts and further enhance engagement with private sector to scale up new technology platforms for novel disease.
5. **The COVID-19 pandemic has highlighted overlapping roles and blurred accountabilities for the National Center for Disease Control (NCDC) and the ICMR.** National-level stewardship for disease surveillance and response rests with the NCDC while promotion of biosecurity through research remains the responsibility of the ICMR. In the Indian federal structure, however, responsibility to identify and respond to disease outbreaks remains with the states. The Integrated Disease Surveillance Program (IDSP) started in 2004 provides the essential framework for pandemic response through state-led decentralized laboratory-based, IT-enabled disease surveillance. The National Disaster Management Agency (NDMA) supports emergency responses during natural and manmade disasters. The NCDC's role during COVID-19 was limited to development of surveillance protocols and risk communication, while the ICMR took the lead in evolving testing strategy and scaling-up the private sector involvement including lab accreditation, and validation of test kits, among others. There is a need to clearly define roles and responsibilities of key national entities responsible for India's pandemic response to avoid overlaps. Furthermore, strong national stewardship with adequate autonomy, resources, and accountability will be critical for the transformation of both NCDC and ICMR into world class institutes.
6. **Independent and government reviews highlighted the urgent need to reform and revamp India's public health architecture to meet 21st century disease threats, investigation, and responses.** Gaps in public health infrastructure cut across key agencies mandated to respond to pandemics and disease outbreaks in India. Outdated legal frameworks compound these inefficiencies. Human resources shortages for core public health functions impact the work of the NCDC, ICMR, National Health Mission (NHM), and states. As of now, only 10 states have 80 percent of the core surveillance positions in the district (District Surveillance Officer, Epidemiologist, and Data Manager) filled. Efforts to integrate vertical surveillance systems of major communicable and non-communicable diseases under Integrated Health Information Platform (IHIP) did not progress well. The 2015 Joint Monitoring Mission assessment for IDSP remains relevant: i) need to move to case



based reporting for high priority diseases integrating outbreak data with the portal system; ii) lack of national laboratory policy and strategic plan for strengthening laboratories to address fragmentation of laboratories under different vertical programs; iii) inadequate quality management and lack of quality documentation; iv) need to augment zoonotic disease surveillance systems ensuring better collaboration between health, veterinary, agriculture and wildlife departments.

7. **With continuing vulnerability to future waves, India has four potential pathways to address the health systems challenges posed by the pandemic.** First, ensuring high level of vigilance to *prevent* future disease outbreaks building on investments made for COVID-19 containment. Second, build a robust world class public health surveillance system to promptly *detect* disease outbreaks using real-time data and *respond* effectively as envisaged under the Pradhan Mantri- Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) and the white paper "Vision 2025 for Public Health Surveillance in India". Third, build stronger national institutes to provide effective direction and leadership including analytical underpinning for pandemic preparedness and enhanced biosecurity and comply with international norms. Finally, India needs a 21st century people centric health system founded on a robust primary healthcare system capable of handling its rapidly changing demographic, epidemiological, environmental, and social determinants of health ensuring equity with a strong foundation for prevention and health promotion. All these are critical elements of the Global Health Security Index (GHSI).
8. **A complementary set of World Bank engagements is proposed to support this expansive and ambitious reform agenda.** The proposed Program aims to build a resilient public health system by expanding disease surveillance systems providing real-time data supported by a network of public health laboratories, effective implementation of One Health, enhancing India's bio-security capacity by supporting bio-medical research on emerging and re-emerging infectious diseases and initiating a pathway to transform core public health institutions and research agencies as global centers of excellence. A parallel complementary Program is being proposed to address reforms to achieve universal and effective health coverage, better public health spending and accountability for results.

PforR Program Scope

9. **The overall government program is guided by the India National Health Policy of 2017 and described in the documents for PM-ABHIM.** To drive a holistic and broader reform agenda, the Government's program (p) will include: (a) relevant institutions of the Ministry of Health and Family Welfare (MOHFW) that includes the ICMR under the Department of Health Research, the NCDC and the Disaster Management Cell under Public Health (PH) Division and the International Health (IH) Division under the Directorate General of Health Services; and (b) activities under the PM-ABHIM program relevant for pandemic preparedness and response.
10. **Transforming India's Public Health Systems for Pandemic Preparedness PforR ("P") is focused on strengthening pandemic preparedness and response in MOHFW agencies.** The scope will include: i) key public health agencies, i.e., the ICMR, the NCDC and divisions within MOHFW (PH and IH); ii) selected pandemic preparedness and response activities under three results areas in PM-ABHIM implemented by these three key agencies.
11. **Considering the results areas and attributable program results, the overall expenditure framework of the government program ("p") for FY2022-23 to FY2026-27 is estimated at US\$1.66 billion.** The proposed PforR Program ("P") is a subset of the government program ("p"). The fiscal boundary of this Program will be the



expenditure lines related to strengthened surveillance and pandemic response, including research, and will be based on two major components: 1) regular budget allocated to the PH and IH divisions of MOHFW, the NCDC and relevant institutions of the ICMR for the abovementioned areas, and 2) incremental cost for improving effectiveness and scaling up these interventions under PM-ABHIM. The total PforR Program expenditure framework for five years is estimated at US\$1.26 billion, to which the World Bank contribution will be US\$500 million (equivalent to 40 percent of the total Program financing). The Bank Program boundary will exclude costs for biosafety level-IV (BSL-IV) labs at NCDC and ICMR and will include projected recurring expenditures for ICMR Headquarters and relevant institutions (National Institute of Virology & National AIDS Research Institute Pune). During the Program boundary analysis due care has been taken to include only the expenditure trends/projections for the above-mentioned agencies (under the Central Sector components of the PM-ABHIM scheme), and there is no overlap with the Program Expenditure Framework (PEF) for the Enhanced Health Service Delivery Program, the other PforR operation focused on the Centrally Sponsored Scheme (CSS) components of the PM-ABHIM scheme, being prepared in parallel.

C. Proposed Program Development Objective(s)

Program Development Objective(s)

12. The project development objective (PDO) is to strengthen pandemic preparedness and response systems, and institutions in India.
13. The following indicators will be used to measure progress towards the PDO:
 - Outbreak alerts generated by IHIP investigated within 48 hours by District/State Surveillance teams;
 - Metropolitan surveillance units meeting established performance benchmark;
 - NCDC publishes treatment guidelines on rational use of antibiotics for common infections based on AMR surveillance;
 - National risk-map with hot spots for Zoonotic diseases of human importance prepared and updated;
 - Researchers trained by Zonal NIVs with competency in genomic sequencing (disaggregated by gender);
 - Advanced and frontline (disaggregated by gender) public health workforce received training to build core competencies in preventing, detecting, and responding to disease outbreaks.

Description of the Program RAs:

14. The Program will support the following three RAs that contribute to the overall outcomes of the Government Program.
15. **Results Area 1 (RA1): Expanding an Information Technology (IT) enabled surveillance system and One Health coordination.** This RA aims to prepare India's surveillance system to be 21st century ready to "detect and report" epidemics of potential international concern through real-time surveillance and reporting, enhanced accessibility and use of surveillance data; ensure "rapid response" by expanding surveillance capacity and developing and exercising emergency preparedness and response plans; and "prevent" emergence or release of pathogens including those constituting public health risk by enhancing surveillance of AMR and zoonotic diseases. Specific thematic areas under this results area include:
 - Development and strengthening of surveillance reporting through Integrated Health Information Platform (IHIP) to generate real time surveillance data to provide early alerts of infectious disease outbreaks.



- Strengthening of Points of Entry to meet international health regulation standards for enhanced cross border surveillance.
 - Strengthening of capacities of metropolitan cities to identify and contain disease hotspots and populations vulnerable to emerging and reemerging diseases.
 - Strengthening of disaster and epidemic preparedness by creating healthy emergency operation centers.
 - Strengthening of all divisions of NCDC focused on applied public health capacity building and establishment of regional centers.
 - Enhancement of ability to detect novel pathogens by expanding biosafety laboratory network to enhance advanced outbreak investigations and response.
 - Expansion of network of sentinel sites for One Health surveillance and network of One Health coordinators to monitor trends of zoonotic diseases.
 - Implementation of an enhanced national program for anti-microbial resistance.
 - Support for measures to ensure pandemic preparedness and response plans cater to the needs of women and other vulnerable populations, including through gender disaggregated data reporting.
 - Preparation of state level action plans on climate change and health to strengthen climate resilience.
16. Under PHSPP, the NCDC will prepare a report on number of women affected by reported outbreaks and ensure pandemic preparedness and response plans are grounded in sound gender analyses and needs of other vulnerable populations. PHSPP will also strengthen climate resilience by ensuring that all states prepare action plans on climate change and health.
17. **Results Area 2: Enhancing Bio-security Capacity:** This RA is implemented by the ICMR, India's premier bio-medical research agency with a focus on enhancing capacity to detect emerging and reemerging pathogens with a focus on zoonotic disease risk mapping to inform India's bio-security response including commercialization of new technologies to prevent, detect or treat diseases of national importance and collaborative research with other countries in southeast Asia region to identify novel pathogens. Key thematic areas under this results area include:
- Identification of hotspots for zoonotic diseases and creation of national risk maps through establishment of a new center for One Health research to build One Health research capacity.
 - Capacity building of medical colleges and state research institutes in viral diagnostics including genome sequencing, including through establishment of zonal national institutes of virology.
 - Expansion of network of viral disease research laboratories for expanded surveillance of pan-respiratory viruses and improved diagnosis of fevers of unknown etiology.
 - Promotion of commercialization of technologies to prevent, diagnose and treat infectious diseases through strengthening of ICMR's Medical Device and Diagnostic Mission Secretariat to create relevant policies and establish public-private platform to engage with the industry.
 - Building of Southeast Asia regional capacity to undertake collaborative research on disease dynamics of identified regionally important pathogens by creating a regional platform.



- Development of tools and playbooks for early warning signals and community engagement and risk communication during health emergencies
 - Capacity building in disease elimination science through establishment and operation of a new division for research in disease elimination at ICMR's National AIDS Research Institute.
 - Capacity building in applied research for diseases of national importance, including through expansion of partnerships with medical colleges and state research institutions through multi-disciplinary research units and model rural health research units.
18. Under the PHSSP, the ICMR will be supporting capacity building of young scientists in advanced diagnostic technique, disease elimination, mathematical modeling and also undertaking multi-disciplinary research. To encourage career advancement of women professionals, ICMR will be reporting gender disaggregated data of trainees attending these programs.
19. **Results Area 3: Transforming core Public Health Institutions and Research Agencies.** This RA specifically focuses on building institutional capacity to implement the program to deliver high quality results as envisaged. This area also has focus on initiating actions to transform NCDC and ICMR as world class institutions over medium term. Specific activities include:
- Creation of a national Pandemic Preparedness Coordination Structure to enhance collaboration and complementarity between NCDC and ICMR and to regularly update India's pandemic preparedness plans.
 - Establishment of Epidemic Intelligence Service (EIS) cell at the NCDC for promoting training and career pathways in EIS, getting EIS program affiliated to universities, and expanding field epidemiology training program.
 - Capacity building of NCDC for Program implementation, including through relevant leadership enhancement, divisions and support agencies to ensure timely implementation and operationalization through planned infrastructure, equipment and human resources.
 - Review of NCDC capacity and best global practices to develop an action plan to transform NCDC to a world class institute for prevention and control of diseases, and implementation of such action plan.
 - Strengthening of procurement and internal audit functions at the ICMR.
 - Training of public health workers to develop competencies in prevention, detection and response to disease outbreaks.
20. Under the program, NCDC will be training over 1000 public health work force to develop competencies in prevention, detection and response to disease outbreaks. Additionally, NCDC will review its existing HR policies and organizational culture to promote gender equality at the workplace.

D. Environmental and Social Effects

21. **Environmental and Social Systems Assessment (ESSA)** for the PHSPP Program has been completed in line with the World Bank Guidance for conducting ESSAs for Program for Results (PforR) financing operations. The ESSA assesses the gaps in the existing institutional, operational and regulatory systems and capacities to manage Environmental and Social (E&S) risks and recommends measures for strengthening them.
22. **The overall E&S risk has been rated as 'Substantial'.** Expansion of the current network of Public Health



Laboratories through the construction of new Biosafety Level 3 (BSL3) laboratories and strengthening of the capacity of existing public health laboratories has been identified as one of the key thrust areas along with enhancing capacity for surveillance and response mechanism under the program. Setting up of Regional National Institute of Virology(s), Regional NCDC Centre(s), and the Metropolitan Public Health Surveillance centers, along with the laboratory's construction and their operationalization are planned by both the key program beneficiaries i.e., NCDC and ICMR to enhance their surveillance capacity and research capabilities respectively. The overall impacts of the Program are likely to be positive, owing to benefits such as enhanced preparedness of the health sector towards any future pandemic or disease outbreaks. The PHSPP Program will not finance any activities that would cause high E&S risks and impacts such as land acquisition and/or involuntary resettlement, and construction of BSL4 laboratories. An exclusion list is included in the ESSA.

23. The key environmental risks associated with (a) construction-related occupational health and safety hazards to the workforce and associated community safety and health aspects; (b) lack of incorporation of design safety in the construction plan of Biosafety laboratories for preventing accidental escape/release of high-risk pathogens; and (c) biohazard risk from handling high-risk pathogens and associated biomedical wastes. Some of the activities to be carried out by the IHD for implementation of International Health Regulations at Point of Entry such as airport, ports, and land border units may also pose occupational health and environmental risks and include: (i) screening of international passengers for diseases under surveillance; (ii) disinfection, and deratting of ships and aircraft; (iii) supervision of sanitation, drinking water supply, anti-mosquito and anti-rodent work; (iv) public health clearance of dead bodies; (v) administration of yellow fever vaccines etc.
24. **Recommended E&S measures.** The ESSA recommendations focuses on strengthening the national systems and institutional arrangements for implementation, management, and reporting of E&S aspects, including (i) incorporation of environmental and social safeguards in the design, construction and operation of Biosafety Level III (BSLIII) laboratories; (ii) setting up committee in NCDC to advise the Executing agency(s) in design, and construction and help monitor the progress of BSLIII laboratories and other infrastructure facilities; (iii) NCDC/ICMR to periodically assess the preparedness and response capacities of the organizations on biosafety management for which a Monitoring Committee be constituted and protocol developed for assessing such capacity; (iv) All NCDC/ICMR/MOHFW healthcare facilities and diagnostic laboratories to report on biomedical waste generation and disposal through the Central Pollution Control Board (CPCB) mandated mobile application; (v) inclusion of occupational health and safety as well as labor welfare provisions in the construction contracts and its periodic monitoring; (vi) establishing mechanisms for technical advisory and monitoring supervision of E&S activities by the experts' groups during implementation; and (vii) provisions for environmental and social impact assessment (EIA) for managing E&S risks of potential substantial and/or high risk activities, through screening or site-specific Environment and Social management plans (ESMPs). In case the need arises, any Government land undertaken is preferable, or else donation is done voluntarily without any coercion for doing so, and the process of donation shall be institutionalized through a transparent and through the process of gift deeds.
25. **Stakeholder consultations and disclosure.** The draft ESSA report was shared with the stakeholders. A national-level multi-stakeholder workshop, to seek feedback and suggestions on the draft ESSA report, was organized on April 28, 2022. Based on the feedback received, the final ESSA report will be disclosed in country and on the World Bank's external website before negotiation.
26. **Climate co-benefits:** Given that India has extremely high exposure to flooding, including riverine, flash, and coastal floods, and increased exposure to tropical cyclones and their associated hazards and drought, the



Program aims to include climate considerations while enhancing pandemic preparedness through policy institutions and implementation. Through RA1, it aims to expand the disease surveillance system and effective delivery of One Health, the Program will implement state-level health plans that will help identify and integrate potential climate and disaster risks, vulnerable groups, and adaptation and mitigation measures. It will help monitor changes in disease outbreaks and research emerging threats due to novel viruses, vector-borne diseases, and zoonotic diseases—many of which are exacerbated by changing climatic conditions. Through RA2, the Program aims to achieve enhanced biosecurity capacity. In this regard, the Program will include climate considerations in the setting up and functioning national virology centers. Through RA3, the Program aims to strengthen core public health institutions and aid cadre development and training. The Program will include training and skill development on climate mitigation and adaptation activities.

27. **Gender interventions:** The Program will integrate gender interventions under relevant RAs. The program will support enhanced participation of women in capacity building activities and gender segregated data of training activities supported by the program will be monitored closely.

E. Financing

Program Financing (Template)

Sources	Amount (USD Million)	% of Total
International Bank for Reconstruction and Development (IBRD)	500.00	100.00
Total Program Financing	500.00	

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