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Reimagining India's Public Health Governance System

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Executive Summary

India needs a new public health system, housed within the Ministry of Health and Family Welfare to streamline functions, improve transparency in operations, and ensure better health outcomes.

We propose a governance architecture structured around essential public health functions to ensure there is no conflict of interest/overlapping functions. It will comprise an overarching inter-ministerial board which will be responsible for policy-making and separate departments for monitoring, research, communication, and programme implementation. A quality control and finance department will oversee all these functions and provide transparency to the system.

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List of abbreviations:

- AHPPC – Australian Health Protection Principal Committee

- CDSCO – Central Drugs Standard Control Organisation

- CECC – Central Epidemic Command Centre

- DGHS – Directorate General of Health Services

- DHR – Department of Health Research

- DoHFW – Department of Health and Family Welfare

- EPHF – Essential Public Health Functions

- HMA – Health Monitoring Authority

- HPA – Health Promotion Authority

- ICMR – Indian Council of Medical Research

- IDSP – Integrated Disease Surveillance Programme

- ISU – Implementation Support Unit

- MoHFW – Ministry of Health and Family Welfare

- MoPH – Ministry of Public Health

- NCDC – National Centre for Disease Control

- NHA – National Health Accounts

- NHSO – National Health Security Office

*Introduction**

The COVID-19 pandemic has challenged public health response systems around the world. The rapid spread of the disease has led to shortages of critical resources such as testing kits, medical equipment, healthcare workers, etc. In addition, the outbreak has exposed gaps in public health governance systems, which have been slow to react and adapt to the scale and novelty of the disease.

In India, Sars-CoV-2 (the causative virus) has infected nearly 19 lakh people, resulting in nearly 40,000 deaths (as of 5 August 2020). The public health system in India is housed under the Ministry of Health and Family Welfare (MoHFW) and its response to this pandemic has come under severe criticism because of several issues. These issues include lack of transparent communication at briefings, delayed inclusion of private testing laboratories in India's testing capacity, centralising procurement of key supplies and price capping of testing kits.

A significant proportion of the response is anchored within the Indian Council of Medical Research (ICMR), a body primarily meant to perform research. The distribution of policy-making functions across agencies under the MoHFW appears to have been made as an ad-hoc response to the outbreak and remains inconsistent with the original functions of these agencies.

The ICMR has been tasked with validating and approving testing kits, instead of the Central Drugs Standard Control Organization (CDSCO) which routinely approves diagnostic kits. Overlapping functions between ICMR and Directorate General of Health Services (DGHS) have caused miscommunications. A revisit to the public health structure that deals with tackling public health threats is, therefore, essential to better respond to such incidents in the future.

Public health systems are created with the explicit purpose of improving population health and tackling any public health emergencies. The important routine functions of a public health system include formulating policy, monitoring health status, promoting health-seeking behaviour, and implementing programmes for improved public health. Infectious diseases are an obvious threat and therefore, devising strategies to combat them falls under the purview of public health. However, this is a subset of its function and cannot be conflated as the main focus of the public health system.

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Within the MoHFW, various public health functions are distributed between different agencies. The National Centre for Disease Control (NCDC), also under the DGHS, has been established for researching disease epidemiology and control of communicable diseases. Disease surveillance is carried out by the Integrated Disease Surveillance Programme (IDSP) under NCDC. Biomedical and public health research is anchored within the ICMR.

Further, maintenance and promotion of public health requires coordination between various ministries. For nutrition-related policies, the MoHFW has to work with the Ministry of Women and Child Development which anchors the National Nutrition Mission (POSHAN Abhiyaan). Similarly, the Ministry of Drinking Water and Sanitation is an important collaborator for policies related to access to clean water and sanitation facilities.

Public Health is "the science and art of preventing disease, prolonging life, and promoting health through the organised efforts and informed choices of society, organisations, public and private communities, and individuals".[1] Matters of public health affect the population at large, such as an infectious outbreak or lack of sanitation services.

There are externalities involved; for instance, one vaccinated or un-vaccinated person can affect the health outcomes of others in the community/area. While health is a state subject, the MoHFW needs to play a leadership role in public health, because of inter-state externalities. This is particularly true of public health emergencies such as COVID-19.

However, the current organisation of agencies under the MoHFW is ill-equipped to swiftly respond to the on-going pandemic. Overlapping functions, opacity in departmental priorities, lack of clear mechanisms for inter-ministerial coordination and an ambiguous policymaking and communication strategies mar the presence of any coherent response to an outbreak that India, despite being forewarned about this eventuality. Even during non-pandemic situations, lack of data surveillance, inter-agency co-ordination and centralisation of functions have impacted the ministry's functioning.

This discussion document re-imagines the MoHFW to have a central focus on public health improvement and a supplementary regulatory role for healthcare functions in India. Such a structure will emphasise the Union government's commitment to improved public health and allow the devolution of powers to states, to work on providing healthcare facilities.

The vision is to have better population health outcomes through an improved public health governance system. The improved system will have mechanisms for coordination, transparency, and accountability which will allow for smooth functioning and an efficient response to matters of public health.

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Most importantly, we resurrect the National Public Health Board as imagined in the National Public Health Bill, 2009 to be the major multi-ministerial policy making agency for public health in India. Further, we consolidate public health functions and organise them under four major heads – health monitoring, health research, health promotion and implementation to streamline funds and operations across any public health programme. Finally, we envision separate regulatory, financial, and quality compliance monitoring mechanisms to prevent any conflict of interest and maintain transparency in government spending and functioning.

In the following sections we present the salient features of a good public health system, discuss a case study of how our current MoHFW structure has led to internal conflicts of interests and then propose a new public health system for India.

What Makes A Good Public Health Governance System?

A comparative study of public health systems of other countries reveals the following salient features of good public health governance:

i.   A policy-making platform which allows for intersectoral coordination[2] to make the policy more holistic, considering public health requires coordination with ministries pertaining to nutrition, environment, transport, pharmaceuticals etc.

ii.   Clearly defined roles and responsibilities with respect to public health functions to uncouple steering (policy and regulatory roles that provide guidance and direction) and rowing (service delivery and compliance roles that produce goods or services) functions as recommended in the Core Strategy framework in *Banishing Bureaucracy: The Five Strategies for Reinventing Government*.[3] This demarcation of duties will prevent overlapping of responsibilities and ensure efficient working of the public health authority.

iii.   A strong data collection and management system to assist with evidence-based policymaking and setting up standards for program implementation[4].

iv.   Institutions for quality control and regulatory compliance, to safeguard public health, whilst enforcing better transparency and accountability[5].

Below we discuss the public health governance of select countries which embrace these features.

AUSTRALIA

According to a 2020 Best Countries Report that assessed the quality of life based on several indicators (public health system being one of them), Australia ranked 8th among 73 countries representing the Americas, Asia, Europe, and the Middle East and Africa.[6] Australia has a Department of Health which is divided into divisions and sub-divisions, with a clarity on what each of them is responsible for – a

regulatory division that looks after regulating drugs, medical devices, labs; primary care division that is responsible for maintaining a network of primary health centres; corporate operations that looks after legislation, finance, and communication.[7] State and territory governments are responsible for matters of health. The Australian Health Protection Principal Committee (AHPPC) is the key agency when it comes to decision-making in times of health emergencies. It is composed of all state and territory Chief Health Officers and is chaired by the Australian Chief Medical Officer.[8]

The AHPPC has been at the top of decision making for managing COVID-19 crisis. Australia has been successful in flattening the curve through screening incoming travellers, expanding telehealth services, testing, and contact tracing.[9] Australians have free or low-cost access to healthcare services through Australia's public health facilities and Medicare (its universal health care scheme).[10]

THAILAND

Thailand is often praised for its health system and its feat of achieving Universal Health Coverage. It is a great example of how health system reforms can result in improved governance. Since its inception, the Ministry of Public Health (MOPH) had been responsible for policy formulation, regulation, service provision and human resource development.[11] With the advent of health system reforms in 1990s, autonomous institutions were established under the MOPH, which led to separation of steering and rowing functions. The MOPH is composed of three clusters that look after disease control, medical services, and service support.[12] The National Health Security Office (NHSO) is responsible for managing health services budget and purchasing. It also has a National Health Commission Office which convenes the annual National Health Assembly, ensuring participatory engagement by all relevant ministries and non-state actors in formulating health policy.[13]

Owing to its limited resources, instead of mass screening, Thailand adopted aggressive contact tracing strategy in response to COVID-19.[14] These measures combined with Thailand's low-cost healthcare services and a presence of public health facilities at community level helped it to control the outbreak. The NHSO has a major role to play as it ensures health security for vulnerable people, by managing the universal coverage scheme.

TAIWAN

Taiwan's health system is characterised by "good accessibility, comprehensive population coverage, short waiting times"[15], affordability and a strong database that supports planning, monitoring and evaluation. This can be attributed to Taiwan's health governance structure which consists of Ministry of Health and Welfare, a complex network of departments and divisions underneath them. There are separate department for planning, accounting, statistics and so on. The system works efficiently as the responsibilities of each department and their divisions are clearly defined which leaves no scope for overlapping of functions.[16] It has established a Central Epidemic Command Centre, which is activated in times of health emergencies, to facilitate coordination across various government departments and mobilise resources.[17]

As soon as Taiwan became aware about the unknown pneumonia cases in China, it activated its Central Epidemic Command Centre. Managing of the COVID-19 crisis is being done through the CECC, including communication. The Ministry of Health has been transparent since the beginning of the outbreak, as the health minister addresses the population regularly through televised media briefings.[18]

India's Public Health System

The MoHFW has a complex structure, which governs both healthcare and public health in India, but it lacks mechanism for inter-ministerial coordination.

Lack of clarity over division of responsibilities across various departments of MoHFW has affected its ability to effectively carry out essential public health functions.

Presently, the MoHFW is divided into two departments – Dept. of Health and Family Welfare (DoHFW), and Dept. of Health Research (DHR). The MoHFW is tasked with the governance of a variety of health-related schemes and is expected to work closely with other ministries and state governments for the implementation of programmes. Over the past decades, India has made significant progress in the reduction of infant mortality rate, maternal mortality rate, life expectancy and penetration of health services. The collaboration between agencies of MoHFW and the state government of Kerala was the key to quickly responding to and containing the dangerous Nipah outbreak which claimed 21 lives in 2018.[19] However, the MoHFW is ailed with an opaque structure, with many agencies resulting into overlapping functions. This has led to inefficient delivery of public health services and resulted in lack of preparedness in emergencies.

While the functions of DHR are relatively better defined, there is no clarity on what the DoHFW's functions are. Instead there is just a mix of subjects, divisions and bureaus that come under the department.[20] Moreover, none of them has its responsibilities explicitly listed. There are no mechanisms for coordinating with other departments and ministries. This is even more problematic, since some functions crucial to the public health system fall under the ambit of other departments and ministries. For example, monitoring the quality of pharmaceuticals is integral to the public health system. However, the Department of Pharmaceuticals falls under a completely different ministry, i.e. the Ministry of Chemicals and Fertilisers[21], while the approval and testing of drugs are under the ambit of the Central Drugs Standard Control Organisation (CDSCO), which works under the MoHFW.[22]

There is a need to separate public health research from biomedical research.

Similarly, the National Centre for Disease Control (NCDC) is responsible for outbreak investigations.[23] However, the DHR's mandate, under which the Indian Council of Medical Research (ICMR) falls, states that it is also involved in the "investigation of outbreaks due to new and exotic agents and development of tools for prevention".[24] Epidemiological functions like outbreak investigations should be headed by public health agencies, with the support from biomedical research as needed. Currently, the public health research is subsumed under ICMR itself. Public health functions should not be the responsibilities of a biomedical research organisation. While coordination is needed between public health research and biomedical research, it is ideal to have separate bodies for each of them. A big reason for this overlap and confusion in function is the outdated and unclear legislation which governs the division of duties between the various departments and response to outbreaks is outdated and unclear.

The Epidemics Act, 1897 is outdated and does not have provisions to effectively respond to public health emergencies.

The demarcation of duties between some of the health agencies is detailed in Business Allocation Rules, 1961. However, these rules are unclear. For example, the ICMR is mandated to investigate biosecurity threats, although epidemic surveillance is under Integrated Disease Surveillance Programme (IDSP). Consequently, ICMR has been in control of approving private laboratories and its own laboratories for testing. Response to pandemic is determined by the archaic Epidemics Act of 1897, which primarily endows governments with special powers to enforce measures such as quarantining people. However, the Act fails to create a mechanism to come up with a calibrated health response proportional to the health threat. Even routine public health functions are governed by a myriad set of laws, which delegate public health functions to various different ministries and agencies. The new public health system structure attempts to unify the key public health functions established by these laws under one National Public Health Board.

There is a disconnect between the Union and state governments, when it comes to matters of health.

According to Monica Das Gupta's and Manju Rani's 2004 study, which assessed the implementation of public health functions at the national level, the MoHFW works in isolation, which results in a lack of coordination with key actors.[25] It should also be noted that according to the seventh schedule of the Constitution, health is a state subject.[26]

Ideally, the MoHFW should work closely with state governments when it comes to decision-making, which would lead to better governance outcomes. This lack of coordination was evident when the MoHFW unilaterally decided to procure PPEs and distribute it, during the COVID-19 crisis, without any consultation with state governments. This decision was not well received by the state governments, as it transgressed on their autonomy and impacted their ability to respond effectively to local requirements.[27]

ICMR performing regulatory functions in matters of COVID-19 testing has led to conflict of interest.

The two main issues with the current health governance that have become evident through the COVID-19 outbreak, are the overlapping of functions of different entities, and internal conflicts of interest. For example, both ICMR and CDSCO were tasked with approving test kits. In April 2020, ICMR invited expression of interest for rapid antibody test kits from Chinese manufacturers; many of them were rejected based on issues of unreliability. The CDSCO, however, approved some of these companies rejected by ICMR in its procurement list[28]. As per ICMR's response guide to COVID-19, it is responsible for making testing kits, procuring and distributing kits *and* conducting testing itself.[29] Thus, ICMR has created conflicts of interest by subsuming all these functions under its own authority. This conflict of interest can lead to unhealthy competition between ICMR and competitor products it is approving and governmental overreach in creating an atmosphere favourable for a certain set of products.

The IDSP, which runs through the NCDC, is responsible for surveillance of epidemic prone diseases and monitoring disease trends. It has a laboratory-based, IT-enabled surveillance system, up at national level and decentralised to district levels.[30] However, the ICMR, which in essence does not have any syndromic (carried out by frontline health workers) or presumptive surveillance (carried out by doctors) capacities, is setting up protocols for the same and carrying out surveillance as well, for COVID-19.[31]

The absence of a dedicated public health body in MoHFW has led to lack of accountability and transparency in India's response to COVID-19.

In summary, a single agency subsuming all the public health functions while tackling the response to public health crisis has led to lack of accountability and transparency in India's response to COVID-19. This has further led to ill-informed policy decisions, miscommunications, and an ill-coordinated and inconsistent health response. States such as Kerala which have taken self-initiative to strengthen their internal public health systems have done seemingly better than others.

The benefits of a well-developed public health system are manifold. A new, rationally-structured public health system incorporating learnings from other countries and India's own COVID-19 response will help achieve better health outcomes in a timely manner, reduce out-of-pocket expenditure for citizens and increase productivity. In the following section, we discuss the objectives of our proposed public health governance system.

Objectives of A New Public Health Governance System

A Public Health Governance System should secure the national interest by enabling efficient public health service delivery, improving population health parameters, promoting research, and strengthening biosecurity.

We propose the following objectives for the New Public Health Governance System:

i. **Prosperity**
    a) Increase human productivity via improved population health
    b) Reduce out-of-pocket health-related expenditure by achieving improved health outcomes through an efficient public health system and by reducing dependence on curative measures
    c) Reduce maternal and infant death rate
    d) Improve living conditions via improving health-seeking behaviour

ii. **Security**
    a) Strengthen biodefense capabilities against both natural and artificial agents through improved surveillance capacities
    b) Protect against naturally occurring outbreaks

iii. **Science**
    a) Advance health research on Indian populations
    b) Set up surveillance and research infrastructure, creating a network of laboratories
    c) Promote education and training in health field

Principles of Public Health Governance System

The structure of a new public health governance system must espouse the following principles:

i. **The primary function of a public health system is to improve public health.**
In 2017, the MoHFW had proposed a National Public Health Bill with an emphasis on setting up mechanisms for responding to public health emergencies. In a post-COVID-19 world, this may be conflated as a primary role of a public health system. However, the setting up of a public health governance structure must be rooted in the primary function of improving public health indicators. Addressing public health threats in a fast-tracked mission mode is a function of the public health apparatus, but the powers and structuring of the apparatus cannot be based on this function alone.

ii. **There should be no conflict of interest for a department/agency under the public health system.**
No agency involved in public health work should be approving its own products or vetting its own research work. Similarly, agencies which are approving products for commercialisation should not be creating their own competitive products. Different agencies can take up tasks across the product value chain: set up policies for products, create products, approve products, and maintain quality checks. No agency should take funding from another department/agency that it is holding accountable. For example, if ICMR creates products through biomedical research and CDSCO approves such products, ICMR should not be funding any work within the CDSCO.

It is key that the new public health system allocates responsibilities to different agencies to prevent such lapses. The Core Strategy framework in Banishing Bureaucracy recommends differentiating responsibilities based on their nature - policy making, regulatory, compliance and service delivery. Thus, India's new public health system should designate public health functions according to these roles and then assign the roles to different entities to enable smooth functioning of the system.

iii. **There should not be any overlapping functions within the public health system.**
All agencies/departments should be created and equipped with appropriately qualified personnel for the tasks allotted to that agency/department. Same functions should not be given to two different departments. This can cause

confusion and dereliction of duty. Functions should be streamlined and appropriately distributed through the public health governance system.

iv.   **Quality control and redressal mechanism should be set up for public grievances.**
The public health system should have checkpoints for quality control and sufficient mechanisms built in for redressal of public grievances.

v.   **There should be devolution of powers to local governments.**
The Union government can be the primary policy setting entity in the public health system so to maintain uniform public health standards across the country. However, service functions must be devolved down to local government levels to ensure a proper coverage of health services.

vi.   **The focus should be on consumer rights.**
Consumers of public health including all citizens of India and their rights to dignity, non-discrimination, health, justice, choice and right to benefits of scientific progress need to be respected and must be of paramount importance for public health governance.

Based on these principles, this document proposes the following public health governance system for India.

A New Public Health Governance System for India

A public health system is primarily designed to monitor, improve, and mitigate threats to public health. For India's new public health governance system, we have structured the departments based on the essential public health functions outlined below.

Various agencies such as World Health Organisation (WHO), US Centers for Disease Control (CDC) and Prevention, and Program for Appropriate Technology in Health (PATH) have recommended the following list of functions as Essential Public Health Functions (EPHFs)[32] :

EPHF 1. Development of policies and institutional capacity for public health planning and management

EPHF 2. Monitoring, evaluation, and analysis of health status

EPHF 3. Surveillance, research, and control of the risks and threats to public health

EPHF 4. Research in public health

EPHF 5. Health promotion

EPHF 6. Human resources development and training in public health

EPHF 7. Quality assurance in personal and population-based health services

In the next steps, we have applied the Core Strategy Framework to design a public health system with differentiated policy, regulatory, compliance and service delivery functions to achieve the above essential public health functions.

The proposed hierarchical public health governance structure consists of a National Public Health Board responsible for policy development. Under its purview will be designated departments for monitoring health status, performing research, promoting health, and implementing public health policies. These departments include a health monitoring authority, a department of health research, health promotion authority and an implementation support unit. The work performed by these departments will be overseen by the National Health Accounts, Quality Control Unit and a Regulatory Authority.
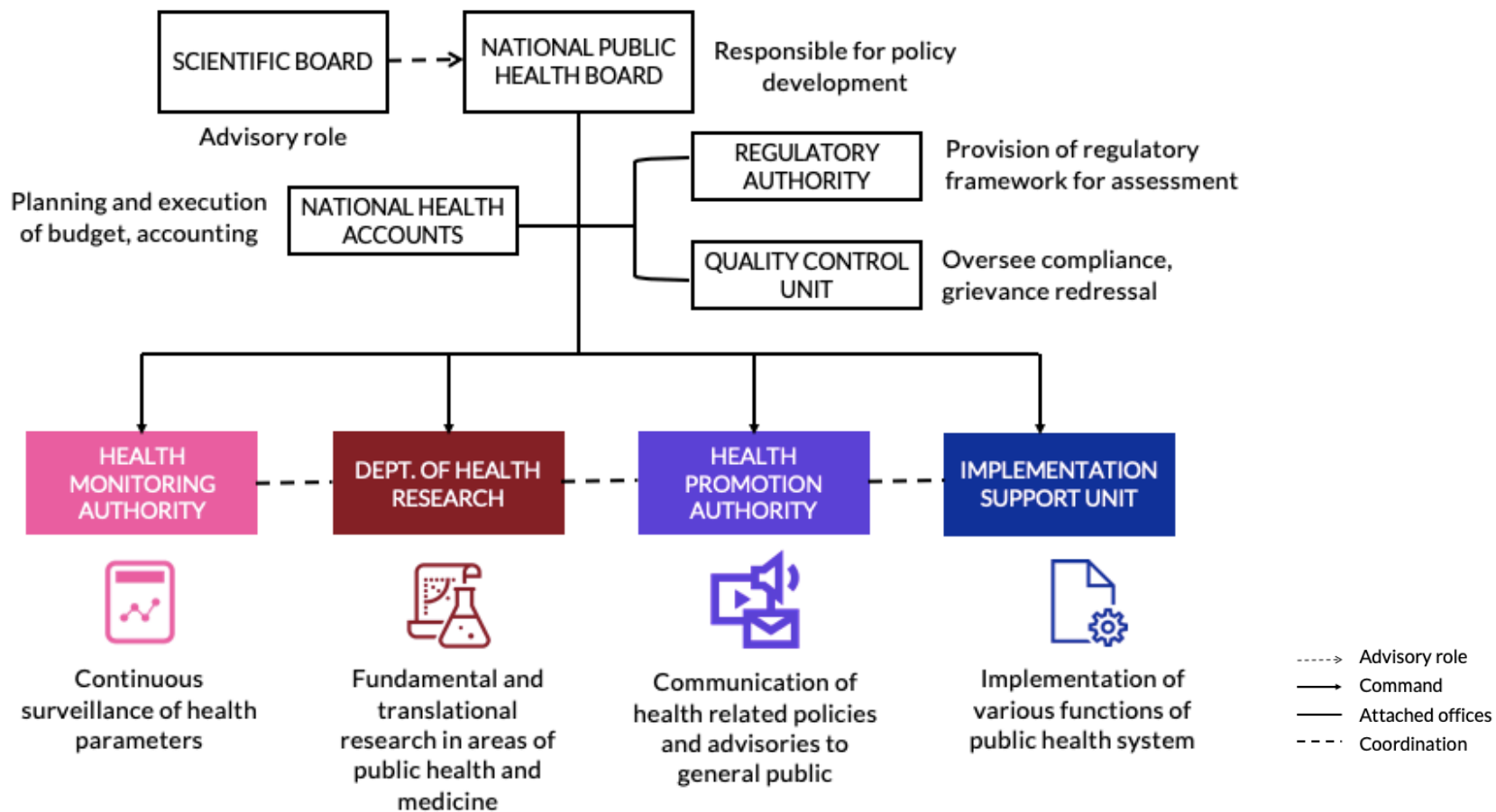
Figure 1: Overview of the reimagined public health governance system

NATIONAL PUBLIC HEALTH BOARD

The National Health Bill, 2009 had proposed the formation of a National Public Health Board to formulate and negotiate policies related to public health.[33] Similarly, our governance system also suggests a National Board in the primary policy making role. The Board would consist of:

(a) The Secretary, Ministry of Health and Family Welfare, as chairperson;
(b) Secretaries or their nominees, from Ministries pertaining to women and child development, rural and urban development, social justice and empowerment, environment, industry, food and agriculture, Panchayati Raj, finance, water and sanitation, information & broadcasting or any other pertinent area;
(c) 5 representatives from the State Governments (who will be appointed by rotation every 3 years so that all States get represented by turns).

This Board will be advised by a Scientific Board comprised of:

(a) Representatives from Health Monitoring Authority, Health Research, Health Promotion and Implementation Support Units;
(b) 5 representatives of recognised professional associations and statutory councils relating to health at national level; and
(c) 5 expert representatives of national eminence, from various areas of technical expertise or knowledge on health.

Functions of the Board

The Board will function to create public health related policies and guidance for achieving better health outcomes based on proposals and advice of the scientific board. The National Health Bill gives a comprehensive list of functions for the Board. Briefly, the functions will include:

i.   Policy on Health
ii.   Guidelines on National Disease Alleviation Programmes
iii.   Policy on National Health Programmes
iv.   Setting standards for health service delivery
v.   Setting minimum acceptable standards for nutrition, water, and sanitation.

In addition to these functions, the Board can also declare outbreaks as a public health emergency and will be tasked with assessing and taking pre-emptive steps, in case of an outbreak arising outside of India.

The other non-policy functions are divided into 4 groups based on their outcomes. In our structure, each of these has a dedicated department:

i.   **Health Monitoring** - EPHF2 (Monitoring, evaluation, and analysis of health status); EPHF 3 (Surveillance, research, and control of the risks and threats to public health)

ii.   **Health Research** - EPHF 4 (Research in public health)

iii.   **Health Promotion** - EPHF 5 (Health promotion)

iv.   **Implementation Support** - EPHF 6 (Human resources development and training in public health); EPHF 7 (Quality assurance in personal and population-based health services)

HEALTH MONITORING AUTHORITY

The Health Monitoring Authority (HMA) is primarily tasked with continuous surveillance of health parameters in the population. These parameters include birth and death rates, non-communicable and communicable diseases, and physical and mental health.

Rigorous monitoring underlies identification of existing health problems and early detection of emerging health issues. For example, health monitoring can identify areas where children are suffering from malnutrition. Based on this assessment, tailored policies can be designed to facilitate access to nutritious food depending on the context of that area, and to assess the impact of these policies. In another instance, disease surveillance can help in the early detection, containment, and response to an infectious disease such as Dengue or Nipah.
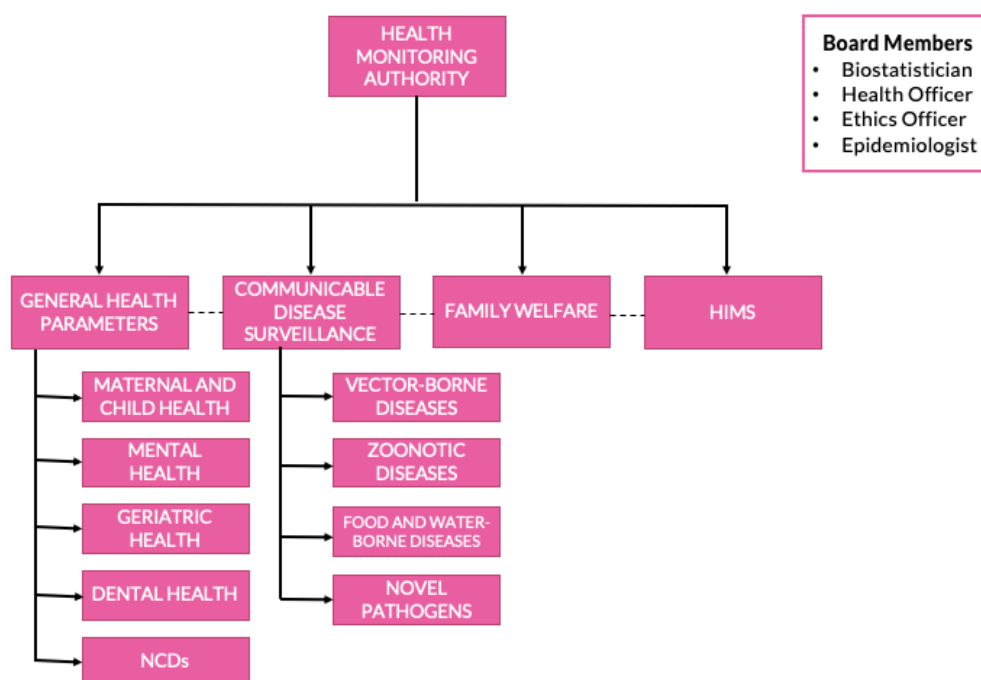

Figure 2: Structure of the Health Monitoring Authority

Constitution of the HMA Board

The Health Monitoring Board consists of an epidemiologist, statisticians, bioethicists, a public health expert and a health officer, as a chairperson. This Board will liaise with individual heads of departments within the Health Ministry (such as health research or implementation support units) or other ministries (for example, with the Ministry of Home Affairs for Census data) to implement data collection policies and other agencies as required. The Board will also liaise with the Ministry of Home Affairs to access Census and other demographic data as may be required for analysis of the health data.

Functions of the Health Monitoring Authority

i.   Create standards and protocols for monitoring health and disease parameters to be followed by government and private entities involved in health surveillance.

ii.   Ensure health monitoring protocols are ethically sound and conform to taking informed consent.

iii. Design protocols and quality control requirements for collection, maintenance, and analysis of data.

iv.   Contract out or set up agencies to perform surveillance and data collection for various health parameters as needed for various public health initiatives.

As guided by the National Public Health Board on mission programmes and important health indicators for India, the HMA can set up relevant surveillance programmes. The actual surveillance of disease or health status can either be contracted to private players, state governments or performed by HMA itself where such services are not available.

Structure of Health Surveillance Units

In addition to the Health Monitoring Board, there are oversight officers for health status monitoring. These include:

i.   **For General Health Parameters:**

   a) Maternal Health – in charge of collating health parameters for expectant and new mothers. Includes access to nutritious food, clean water and sanitation, health services, sanitary wear and routine health parameters associated with pregnancy and post-partum conditions as may be prescribed by the Health Monitoring Board.

   b) Child Health – in charge of collating health parameters for children up to the age of 18 years.

   c) Geriatric Health – in charge of collating data on citizens over 65 years of age.

   d) Mental Health – in charge of collating data on mental health parameters including indicators for mental stress, anxiety, suicidal tendencies.

   e) Non-communicable diseases - For general health parameters such as blood pressures, glucose levels etc.. From a public health point of view, two important threats exist:

   - Tobacco abuse – collating data on tobacco use, including disease prevalence.
   - Alcohol abuse – collating data on alcohol abuse including disease prevalence.

ii.   **Diseases impacting public health:**

   Surveillance of communicable diseases is key to their containment. These public health threats can be further divided into:

a) Vector-borne diseases – such as dengue, malaria.

b) Zoonotic diseases – such as Nipah. This deparment will also coordinate with other agencies that monitor diseases in animal populations.

c) Food and water-borne diseases – such as cholera. This department will coordinate with Ministry of Water and Sanitation as required.

d) Other communicable diseases – such as HIV.

e) Novel Pathogens – This department will document any novel disease outbreak (whether in India or elsewhere). They will co-ordinate with Health Research and Health Promotion Departments to take further steps in mitigating the spread of the disease to and within India.

iii.   Family Welfare:

It will be in charge of collating data related to family planning such as fertility rate, unmet needs, birth spacing; coordinating with DHR for formulating policies and designing programs and with ISU for implementing those programs.

iv.   Health Information Management System (HIMS):

An integrated HIMS which will bring together the private and public health sector is needed. This will lead to a robust data repository and help in regulating the private health sector. It will also help in making the surveillance of diseases more efficient.

The HIMS will also be responsible for providing data on grading of health facilities nationwide and on the availability and utilisation of services at all levels which will support the MoHFW with planning, management and decision making.[34] However, the HIMS set up needs to be backed by a strong data protection law and safeguards for user privacy as the data is transferred across people. The Digital Information Security in Healthcare Act (DISHA) discussed these aspects, however the Bill is yet to be passed in Parliament.

DEPARTMENT OF HEALTH RESEARCH

The Department of Health Research (DHR) will perform fundamental and translational research in the areas of public health and medicine. This research may be based on data obtained through the HMA or through independent sources. The research will innovate solutions for improving public health within India.
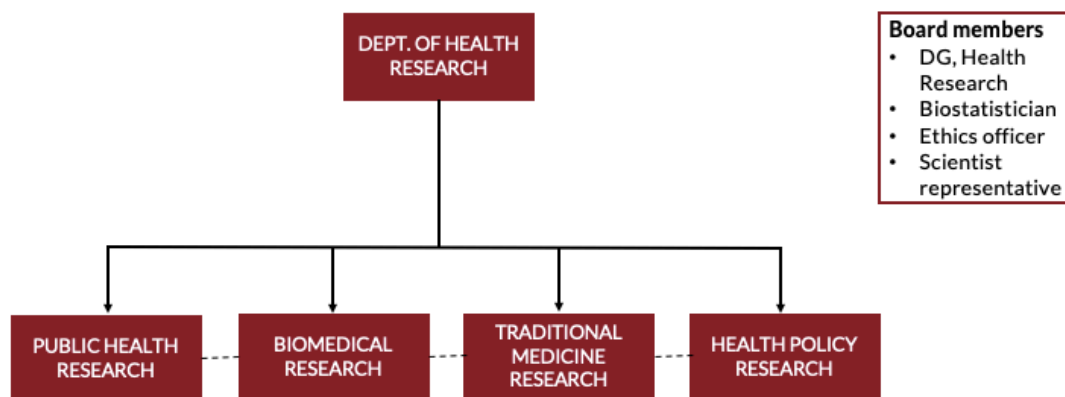

Figure 3: Structure of Department of Health Research

Functions and Structure of DHR

Headed by a Board of a clinician scientist, epidemiologist, social scientist and ethics officer, the main function of the DHR is to contribute new ideas and products for improving public health outcomes in India. There are three branches of research:

i.   **Public Health Research** – for analysing public health data and recommending population-based solutions. For example, observing the impact of certain traditional practices on health.

ii.   **Biomedical Research** – for researching scientific and medical interventions for improved public health outcomes. For example, designing a cheaper diagnostic kit for an infectious agent.

iii.   **Traditional Medicine Research** – for researching proposals using traditional medicines with contemporary scientific rigour.

iv.   **Health Policy Research** – for assessing impact of policies on health and recommending policies based on emerging scientific evidence.

HEALTH PROMOTION AUTHORITY

The Health Promotion Authority (HPA) is tasked with communicating health related policies and advisories to the general public via different channels.
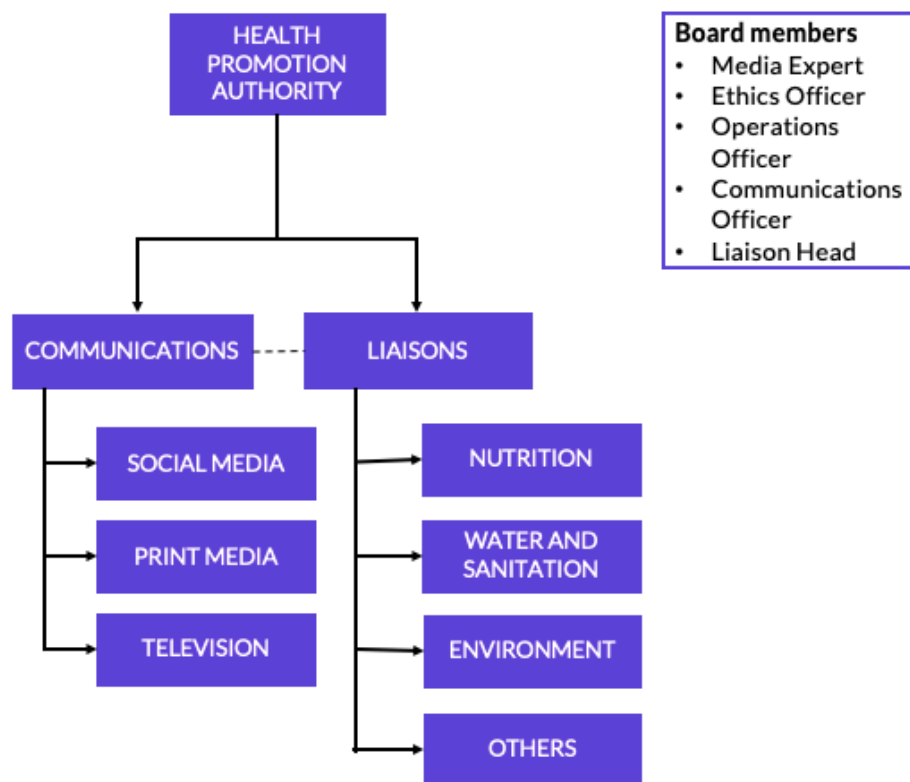

Figure 4: Structure of the Health Promotion Authority

The HPA Board consists of Operations Officer, Ethics Officer Communications Officer, Media Expert and Liaison Head. The Operations Officer will be tasked with liaising with HMA and DHR to obtain up-to-date health advisories and ensure appropriate and timely dissemination of the advisories through the HPA. The Communications Officer will oversee different channels of communications and co-ordinate the dissemination of the advisories. The Liaison Officer will work with relevant ministries outside of the MoHFW and communicate advisories to them for further action, if needed. For example, if the health advisory based on DHR data recommends that eating fortified biscuits can improve nutritional outcomes, the Liaison Officer will work with Ministry of Woman and Child Development to create a policy advisory for including fortified biscuits into the National Nutrition Mission.

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IMPLEMENTATION SUPPORT UNIT

The Implementation Support Unit (ISU) is designed to help implement the various functions of the public health system.
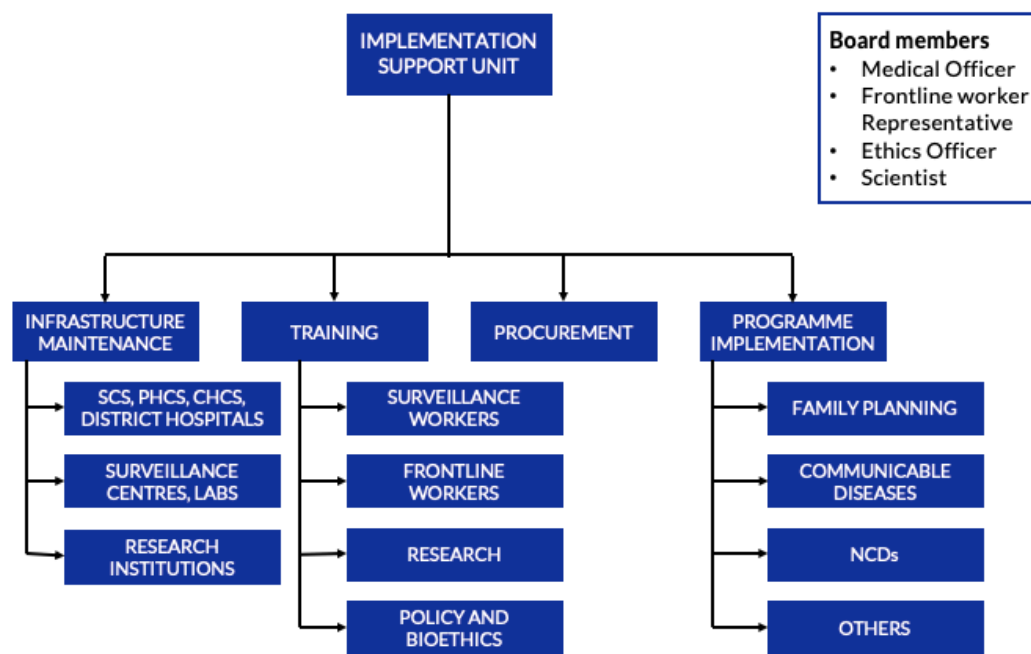

Figure 5: Structure of Implementation Support Unit

Similar to other departments, the ISU will have a Board to decide on rules and protocols for the different services that fall under it. These include infrastructure and capacity building, procurement, training, and implementation of programmes as advised by the National Public Health Board.

Structure of ISU

i.   **Infrastructure Maintenance** – This department will oversee capacity building and maintenance of infrastructure used in delivering public health functions. This includes hospitals, surveillance centres and research institutions.

ii.   **Training** – This department will create resources for training the various professionals that will be part of the public health governance and delivery systems.

iii.   **Procurement** – This department will procure items for public health use. It will also maintain a national stockpile of essential medical supplies including PPE, essential drugs, and vaccines. Financial reports will be sent to the National Health Accounts. Items could include vaccines, contraceptives, etc. as agreed by the

National Public Health Board and approved by the Regulatory Authority (see below).

iv. **Programme Implementation** – This department will oversee the designing and implementation of health programmes through the public health system, by coordinating with the HMA and DHR. Programmes will be seeded as decided by the National Public Health Board and can be de-prioritised once the programme goals are met. This department may involve relevant external experts as needed.

REGULATORY AUTHORITY

This department will provide the regulatory framework for assessing the services and products created for public health use. These services and products may be developed within the ministry or by other institutions/companies. Regulatory approvals for all public health-related products/services will be routed through this authority. These include drugs, vaccines, medical devices, clinical trials for new products.

NATIONAL HEALTH ACCOUNTS

This authority will have three main units:

i. **Planning** – This unit will be responsible for budget formulation. It will work in coordination with the Health Monitoring Authority and ISU, to have a better understanding of the indicators that various health areas are showing and make decisions for allocation of budget accordingly. It will have a sub-unit for coordination with international and bilateral agencies to keep an account of grants and aids.

ii. **Execution** - This unit will establish channels for budget disbursement to various departments and units, to ensure that funds reach without any difficulties.

iii. **Accounting and reporting** – This unit will keep an account of how funds are spent. It will coordinate with the HMA so that health outcomes and expenditure can be seen in tandem. This will give a better picture of how much of an increase or decrease in expenditure affected the health outcomes.

QUALITY CONTROL AND COMPLIANCE

A separate quality control department will be constituted to oversee that the various public health departments comply with the quality standards as laid down by the National Public Health Board. This department will also function as a redressal mechanism for complaints. It will house the Research Integrity Unit – to quality check research and publication ethics on documents published by DHR.

PUBLIC HEALTH RESPONSE TO EMERGENCY

The National Public Health Board can declare a public health threat to be an emergency. The Board should also set rules for calibrating a response to the outbreak in proportion to the level of threat. The Board can *suo moto* decide on examining a threat for its relevance to the Indian public health system, or representatives from the various public health departments can petition the Board to investigate a potential threat.

Once a public health emergency has been notified, the Board will create a Public Health Response Team to plan and implement a response to the threat. The Team will be drawn from the various relevant departments of the Public Health Response system and expert members from outside the system as deemed necessary by the Board. This Team will draft a response and will be endowed with special powers to fast-track proposals for an immediate and effective response. The Team will remain accountable to the Quality Control and Compliance Arm and the National Public Health Board. The Board will periodically review the response measures and their impact on mitigating the threat.

Thus, this system does not envision a separate public health response mechanism, but instead re-purposes the existing infrastructure to create a focused response against a possible or existing threat.

FLOW OF FUNDS

The National Health Accounts will control disbursement of funds and submit reports to the National Public Health Board and CAG for auditing. Budgets will be recommended by the National Public Health Board and all departments will have to report their expenditures to the National Health Accounts. No department will be allowed to take funding from another department which may lead to a conflict of interest.

WORKING WITH LOCAL AND STATE GOVERNMENTS

State governments should form their individual State Public Health Boards and supplementary governance structures to work with the Union governance structure. The ideal implementation machinery would be for the Union government to decide and fund programmes, the state machinery to channelise the funding and local governance mechanisms to monitor the ground-level working of the programme. Continuing with the example of reducing IMR, once the HPA communicates a policy recommendation to the state government, the state infrastructure should work with the ISU to implement the programme using funding from Union or state government as mandated. The state can have its independent ISU unit to provide functional oversight. The district level governance structure will monitor the implementation of programme and check for quality control.

Programme Implementation Simulation

We will discuss examples of how the new public health governance system will work in two different scenarios – when a national health programme needs to be implemented and when there is a public health emergency.
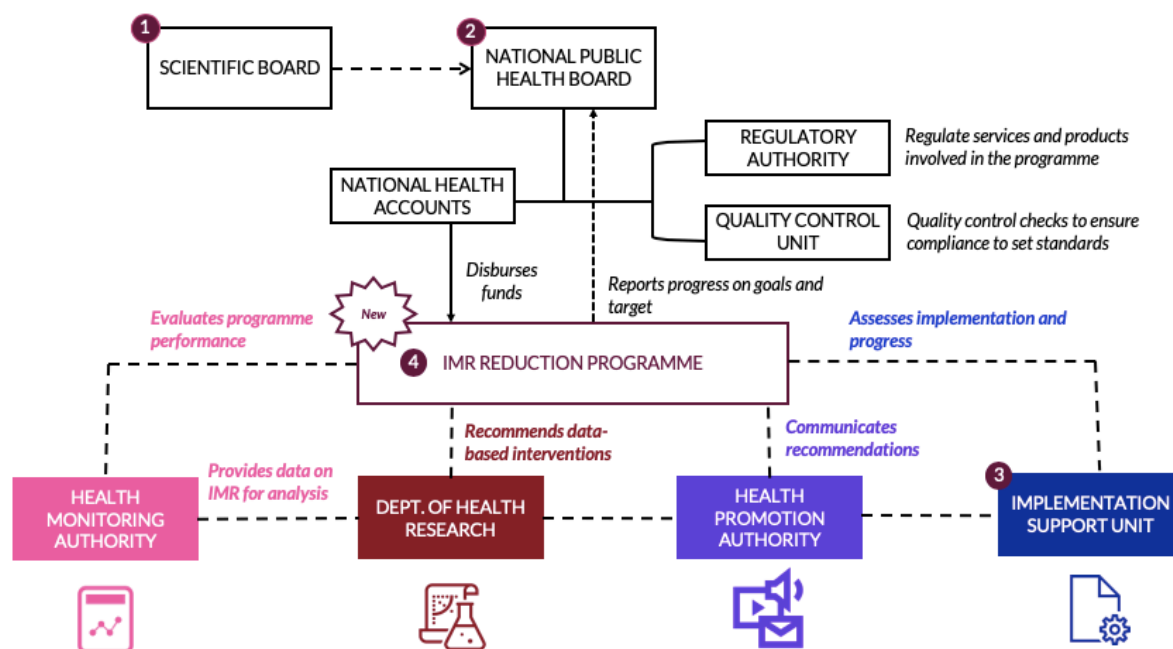
NATIONAL HEALTH PROGRAMME

Figure 6: Overview of implementation of a National Health Programme

To understand how this structure works, let us consider a programme meant to reduce infant mortality rate (IMR) by 5% in a timeframe of three years. The National Public Health Board on the advice of the scientific board will authorise such a programme along with guidelines for reaching this goal.

The programme will be seeded in the ISU and a cross-department team will be formed. Finances and budgets will be sourced through the National Health Accounts. The HMA will provide data on IMR and associated demographic and health indicator information. The DHR will analyse the data to recommend actionable interventions. The Health Policy Unit will attest to the recommendations.

The HPA will work across ministries and with local governments/institutions to communicate the recommendations. The ISU will provide any implementation support required and assess the progress of the project.

The HMA will continue real-time surveillance and report on the impact of the project. The programme team will remain accountable to the National Public Health Board and will provide periodic updates on the project. Once the goal is achieved or the time frame expires, the programme team will report its progress to the National Public Health Board for programme closure or extension as required.
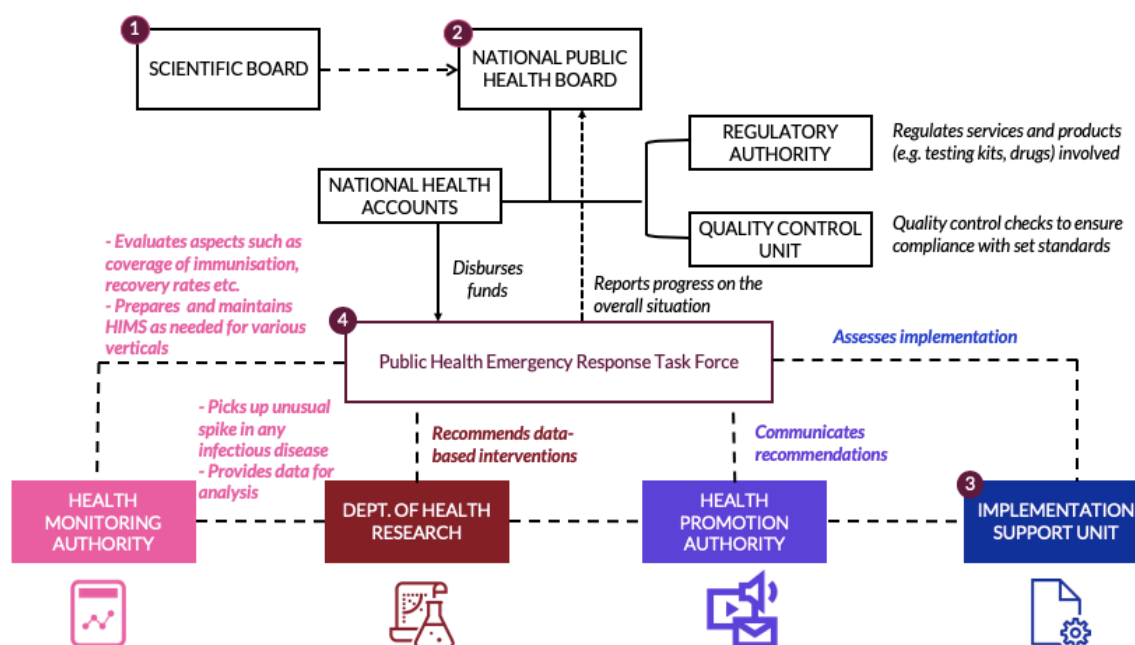
FUTURE OUTBREAK SITUATIONS

Figure 7: Overview of Public Health Emergency Response

Consider another respiratory disease outbreak originating inside India. The Health Monitoring Authority will pick up unusual spike in infectious cases and report it to the National Public Health Board. The Board on the advice of the Scientific Board can assign the formation of a cross-department task force to manage the public health response. This task force will be on similar lines as formed for the National Health Programme but can be endowed with special powers by the National Public Health Board to fast-track research and funding allocations for the specific response to the health threat.

The task force will assign research projects and take necessary steps such as supplying PPE to healthcare workers and expediting clinical trials for pharmaceuticals/vaccines.

The National Public Health Board will invite external experts to advise the taskforce if required. The taskforce will be accountable to the National Public Health Board, National Health Accounts and Quality Control and Compliance unit. The taskforce will be dissolved once the outbreak is under control.

If the outbreak originates outside India, the Scientific Advisory Board will be responsible to advise the National Public Health Board to take action. The HMA or DHR can also independently petition the Scientific advisory board to discuss a potential outbreak situation. Once the National Public Health Board decides to take action on an emerging public health situation, further steps will be taken similar to the scenario described above.

Conclusion

The current MoHFW has a complex and opaque governance structure and requires a complete overhaul to put public health as the central issue of governance. Our proposed structure focuses on public heath monitoring and improvement as the primary goal of the ministry of health. We propose that this can be achieved by a total overhaul of the public health system by creating new departments delineated according to essential public health functions, incorporating learnings from other countries' health systems.

Removal of conflict of interest and overlapping functions and clear demarcation of duties will ensure expedition of decision-making process and aid improvement of public health in India. Expediting operations for rapid response to public health threats will streamline the response to pandemics like COVID-19. Creation of health specific programmes will help focus on solving health issues.

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