Report on

ASSESSMENT OF PUBLIC HEALTH CORE CAPACITIES OF THE INTERNATIONAL HEALTH REGULATION (2005)

Pakistan
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Epidemiology Surveillance and International Health Regulations
Division of Communicable Disease

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I. Background

Pakistan is governed by a Federal system and it includes four main provinces: Baluchistan, Khyber Pakhtunkhwa, Punjab and Sindh, in addition to other four provinces/ Administrative areas: Islamabad is the capital territory, Gligit Baltistan, Azad Kashmir and federally administered tribal areas. These provinces/ Administrative areas are varied in terms of their level of development.

After the devolution, the Federal Ministry of Health- among other seven ministries has been devolved through the 18th constitutional amendment and its departments have been merged with other 18 ministries at the national level as per the structure in Annex 1. New four ministries have been created including the Ministry of National Regulations and Services (MoNR&S) which is the IHR National Focal Point (IHR NFP). The MoNR&S manages 14 divisions described in Annex II. The National Institute of Health used to the IHR NFP till the assignment of MoNR&S in December 2012.

The provision Healthcare is a provincial responsibility. A department of health does exist at each province. Provincial health departments are headed by respective Secretaries and Director Generals. Executive District Officer (Health) oversees health at district levels. The federal role is limited to policy making, establishing quality standards and meeting international obligations.

Pakistan has 972 hospitals, 5, 344 basic health units and more than 100,000 health posts. The private sector and other local and international organizations support the government in providing health care services. The facilities of the private sector are concentrated in the urban areas and non-accessible to rural population. On average, 65% of population utilizes the private services.

The total population of Pakistan is around 177 million and the population growth rate is 2.05%. The communicable disease mortality rate is around 25% and the years of life lost because of communicable disease is 41%. Mortality due to non-communicable diseases and injuries is rising.

Pakistan has been at risk to various types of natural disasters of which cyclones, flooding, landslides, earthquakes and drought are more common. These disasters stretch every tier of economic, social, financial and agricultural life in Pakistan and increase the odds of disease epidemics that might have the potential of international spread.

The International Health Regulations 2005 (IHR) require that WHO Member States develop, strengthen and maintain capacities for surveillance and response, capacities at designated points of entry (PoE) and capacities for IHR related zoonotic, food safety, chemical and radionuclear hazards by 15 June 2012. The five year target date has passed and Pakistan fell short of these implementation goals. Pakistan has submitted a two year extension request for implementing the IHR by 15 June 2014 but not supported by an action plan. Therefore, has not obtained the extension yet.

II. Objectives

- Establish communication with the IHR National Focal Point
- Assess the IHR public health core capacity requirement for surveillance and response
- Assess the IHR capacity requirements for the IHR- four related hazards of zoonosis, food safety events, chemical and radio-nuclear
- Assist the national Authority of Pakistan to develop a plan of action to implement capacity requirements of IHR

III. Methodology

The mission has been conducted through:

1. Meeting with the acting head of WHO office in Islamabad, Pakistan
2. Meeting with IHR NFP of Pakistan and other senior officials at the Federal level
    a. IHR Advocacy meeting with the following IHR stakeholders:
    b. National IHR focal point, Ministry of Health (communicable diseases department including surveillance units and surveillance, laboratory and legislation), Ministry of Agriculture (surveillance and laboratory), Ministry of Environment, Ministry of industry and trade, Food and drug agencies and their laboratory, Ministry of justice, Points of entry and Civil aviation, Food and drug agency and national body deals with emergencies.

3. Interviews to with representatives from the IHR stakeholders to assess the IHR capacities at :
    a. Federal level: Islamabad; and
    b. Provincial levels: Karachi, Sindh, Peshawar, Baluchistan and Lahore, Pujab.

4. Field visits to health laboratories and veterinary laboratory in Islamabad, Karachi and Lahore.

IV. Observations

a. Legislation National legislation, policy and finance

Pakistan is in the process of revising its legislation. This is a good opportunity to address the required capacities of IHR under the new legislation that will be drafted soon to facilitate the implementation of IHR before it's finalized and endorsed.

b. Coordination and IHR National Focal Point Communication

The health cluster coordination mechanism exists at the Federal and the provincial level of the country and convenes meetings on monthly basis. The participants of such meetings are representatives from the governmental bodies, UN agencies and other international organizations, representatives from other clusters also participate in these meetings. The objectives of such meetings are to share information, prepare for and coordinate response to national public health emergencies. Other governmental sectors participate in the meeting depending on the event.

Communication and coordination between provinces exist through the Inter Provincial Ministries; however, communication and coordination between the provincial level and the federal level is neither sufficient nor formalized.

The IHR NFP is the Ministry of National Regulations and services (MNR&S) has been assigned to duty in December 2012 replacing the National Institute of Health that used to be the IHR NFP. The roles and responsibilities of the IHR NFP are not identified yet. The different IHR Stakeholders are not aware of the newly assigned IHR NFP. Neither coordination nor communication mechanisms exist between the IHR NFP and the different IHR stakeholders.

Events are assessed within 48 hours by the governmental sector at provincial levels with the support of WHO and other relevant organization. Lack of awareness of obligations under IHR for the notification ad information sharing with WHO is a major concern. The IHR NFP doesn't have the capacity to receive and share information due to the lack of communication between the federal and provincial land the lack of awareness of obligations under IHR.

c. Surveillance

The unit of surveillance is available at the district health office in the department of health in each province. Health facility data are collected on monthly basis and sent to the surveillance unit at the district level through the District health information system. Joint assessment of Surveillance Systems followed by development of Action Plan by NHIRC was conducted in 2007. The action plan has not been implemented yet.

A Disease Early Warning and Response System (DEWS) was established in Pakistan by WHO in 1999. It started as a weekly review of health facility data and notification of epidemic prone diseases from health facilities. After the 2005 earthquake, aggregate numbers of consultations for major syndromes were collected and analyzed on weekly basis in addition to the immediate reporting of epidemic prone diseases. This system has been expanded gradually to include all the provinces and to cover most of the health facilities in each province. A list of 29 priority diseases is included in the DEWS. In January 2012, an online system of reporting called e-DEWS was introduced. This online system provides automatic compilation and analysis of data at district, provincial and national levels with automatic generation of alerts, which has increased the usefulness of the weekly reporting of data.

A surveillance guidance for the 29 diseases is available that includes case definitions, and the threshold of cases for each diseases, which is supposed to alert health care workers in each facility if the number of cases reached a higher level than the established threshold, sample collection and transportation procedures, prevention and control measures and case management. A standardized reporting form is used to capture data on the list of priority disease. Reports are sent from health care facilities to district level, then to province level to be integrated in the DHIS. Laboratory information feeds in the same system. Other events are reported but as unusual events without classification.

All DEWS reports are complete including the zero reporting. However, the timeliness of reporting ranges between 80-90%. The delay in reporting is usually from district to provincial as some facilities are located in marginalized areas and hard copies are difficult to be delivered through its normal route. The e-DEWS is expanding to cover all facilities and will overcome this challenge. The list of priority disease includes two types of diseases: Immediate reporting and weekly reporting. Cell phones, internet, radio communication (VHF) are the methods used for reporting events. Hard copies are also sent by persons for the three levels of reporting but mainly form health facility to district level. The data is systematically analyzed at the Provincial level and disaggregated by age, place and time using excel.

The DEWS surveillance officers in collaboration with the district health office investigate and respond to disease threats which are notified from health facilities. They also respond to disease threats revealed in the weekly reports as exceeding the disease threshold. Supervisory visit are usually carried out from the Provincial level to the district and health facility level in coordination with WHO to monitor the implementation of surveillance functions. Coordination meetings for the surveillance officers and WHO staff members at each Province meet on quarterly basis to share information and update their contact information.

Other disease vertical programs are available, these are: Tuberculosis, HIV/AIDS and vaccine preventable diseases. Few indicators from these programs are shared with the surveillance district office through the DHIS. Sentinel surveillance are also available for acute Hepatitis and acute influenza. Reported data is also fed in the DHIS

Event based surveillance is not formally established; however, some functions are available through the e-DEWS. Urgent public health events, if detected, are reported within 24 hours and include time and place of the event, source and type of risk, if known, and the number of cases and deaths and control measures, if any. Reported events are investigated and verified by the rapid response team and the WHO team and results are distributed to concerned parties to implement response measures.

There is no collaboration and information dissemination between Pakistan and the neighboring countries regarding public health events; however, Public health authorities in Pakistan have access to data and outbreak information from neighboring countries through WHO.

d. Response

The existing mechanism of health cluster operates as command and control center that coordinates and monitor disease outbreaks and other public health emergencies.

A Rapid Response Team (RRT) is available at the Provincial level and at some districts and can provide on-site assistance in coordination with WHO for investigation within 24 hours of initial notification. Initial reports are submitted to concerned parties within 24 hours. The RRT has a link with the senior health officials at provincial level to approve and implement containment measures. Guidelines for investigating outbreaks of some events are available. Members of the RRT are trained; however, not regularly on outbreak investigation and control, infection control, social mobilization and communication, and specimen collection and transportation. PPE, disinfectants, drugs and supplies and sample collection and transport material are available for the initial response. Guidance on the management of cases with priority infectious diseases is available.

Information dissemination and coordination between the provincial level and the federal level concerning response activities is not adequately maintained. Relevant information and recommendations communicated by WHO are regularly disseminated to concerned parties at provincial level during emergencies but not maintained during normal times.

A budget is allocated at the Provincial levels to respond to emergencies but is not sufficient to respond to some public health emergencies. Mechanism exists to rapidly mobilize resources between provinces through the Ministry of Inter Provincial Coordination (IPC). Additional resources are usually mobilized by international organization, when needed, to respond to emergencies.

There is a referral system but not functioning in some cases due to the shortage of ambulances and security threats which hinder the referral of patients from one level to another.

No programs are available to protect health care workers in health facilities. Isolation units are available in the some hospitals. Expand the existing national decontamination capacity to include all hazards.

e. Preparedness

Hazard sites and facilities that could be source of public health emergencies, such as: chemical and radioactive hazardous material transportation routes, facilities for the management of radioactive wastes, industrial sites, have been mapped out.

A national plan for emergency preparedness, response and recovery exist at each province. These plans have been put into testing through multiple real emergencies that faced the country. Other specific plans for meningitis, cholera and avian influenza are available.

A Plan for surge capacity plan for the management of large numbers of affected individuals during public health emergencies exist in some provinces.

The country doesn't have the enough financial capacity to procure equipment and supplies that will be needed for large scale emergencies but accessible through the international organizations that serve the country. Pakistan has access to experts through the different international organization serving in the country including WHO and CDC to support the country to respond to public health events.

f. Risk communication

Communication with partners is maintained through the manual archiving system. There is no inventory for communication partners.

During emergencies, information is shared timely with partners and with the public by practice and not based on a written policy or guidelines. The country has a spokesperson for communication during emergencies. In addition, each Province has a spokesperson for communication during province related emergencies.

Appropriate community messages and information material are developed for emerging events with the support of different international organizations. Health education and promotion workers conduct field visits to educate communities as the majority of population.

g. Human resources

After the devolution, the major challenge related to Human resources is the reorganization of the Human Resources for Health (HRH) and establishment of linkages and coordination between the Federation and the provinces in terms of formulation and regulation of HRH policies and decisions.

The current capacity of human resources is not mapped by specialty in the provinces. There is shortage of qualified human resources in different specialties. Training is provided to health care workers but not based on a plan. A field epidemiology training program exists in the country. Work has begun on developing HRH strategies in 2 provinces: Punjab and Sindh but not in the other provinces.

h. Laboratory

Assessment was carried out to the following laboratories: National Institute of Health and Central veterinary laboratory in Islamabad; Civil hospital laboratory and Drug testing Laboratory in

Karachi; Food laboratory and Diagnostic veterinary lab in Karachi; and Institute of public health, Drug testing laboratory and University of veterinary and animal science in Lahore.

An official document and national laboratory policy identifying roles and responsibilities of laboratories are not available except in Baluchistan. Laboratories in the divisions and district levels do not have the needed capacities which increase the workload on the central laboratory. There is no laboratory capacity to confirm chemical, radiological or biological events. Enough certified shippers and a shipping company are available and reliable domestic sample collection, storage and transport system is available.

National Institute of Health, Islamabad

The facility is well established and spaces are enough for the current activities. Spaces could be modified and divided into more rooms if new units to be added in the future. The infrastructure is old and renovation is needed. All needed units and techniques exist but updating of equipment and techniques are needed in some areas. Quality and biorisk management system has been established.

The laboratory is very well engaged with external collaborating centers whether globally "e.g. CDC and HPA" or regionally "e.g. NAMRU-3" and participating in external quality programs "e.g. REQAS". Laboratories are well engaged and participating in surveillance and response activities. Data system is electronic. No regular data sharing but data is released when needed. The lab is trying to get laboratory information management system "LIMS" to improve the system.

Central veterinary laboratory, Islamabad

It serves as a diagnostic laboratory and research center and participates in surveillance as well. It works as a national reference laboratory for 10 provincial laboratories. It collaborates strongly with health laboratories as both participate in the FELTP. It receives reagents and proficiency panels annually from OIE reference laboratories in Italy and UK. It twins with one of FAO collaborating center in Australia.

The facility and infrastructure are in a good shape, equipment and techniques are updated, and enough well trained staff is available. Budget is limited. This is solved through other sources of funding like studies and projects. The laboratory is starting its process of accreditation. A dedicated team is working on this issue. Data is managed using electronic and paper based system. Laboratory is sharing data with the government, FAO and OIE.

Civil hospital laboratory, Karachi

It is a 1800 bed general hospital. It serves as a collecting site for ILI and SARI surveillance. The laboratory is highly updated and most of the techniques are done automatically. Data system is electronic and working efficiently. Quality and biorisk management system are under establishment and need to be strengthened.

Drug testing laboratory, Karachi

It is one of the laboratories that are located in each province to serve in ensuring the quality of the drugs collected from companies, medical stores and institutions. All needed testing and techniques are available except microbiology and testing of injectable products. Data and results are shared with the quality control board. Facility is old, renovation is needed. There is no quality or biorisk management system

Food laboratory, Karachi
It is one of 3 similar laboratories in the province. It tests raw food materials collected from markets and warehouses. Food specimens collected from restaurants or hotels are not regularly tested but only in emergency cases. Standards used are old "since 1965: and updating is needed.
Equipment need to be updated. Request has been already sent for this issue. Training on the new equipment and techniques is needed and requested. Results are shared with food quality control board, legal division and food civil court. Quality and biorisk management system need to be empowered.

Diagnostic veterinary laboratory, Karachi
It is a provincial lab independent from Islamabad laboratory. Facility is old, Space is limited and more spaces will be available when the new building is ready. Most of the techniques are available but updating is needed. Quality and biorisk management systems need to be strengthened

Institute of public health, Lahore
The main mission for this laboratory is TB testing and MDR surveillance. For that purpose the laboratory is provided with all needed techniques. It also provides training to other laboratories. It collaborates with NIH in Islamabad especially with problematic or unidentified specimens.

There is a general bacteriology laboratory which is used in outbreaks, surveillance and as a reference to other laboratories in the province. Virology laboratory is performing serology and molecular biology testing. Virus isolation is not established yet.

The budget is provided through programs not the government. As no regular budgeting or annual purchasing system is available, laboratory activities could be interrupted. There is a good well-functioning quality system but biorisk program should be empowered

Drug testing laboratory, Lahore
It is one of the laboratories that are located in each province to serve in ensuring the quality of the drugs collected from medical stores and institutions. It provides chemical, microbiological, sterility, pyrogen, endotoxins testing and instrumental analysis. Data and results are shared with the quality control board. Quality or biorisk management systems need to be strengthened.

University of veterinary and animal science, Lahore
The laboratory is under control of Punjab government and high education commission. It is a diagnostic and research laboratory and serve as national reference laboratory. The equipment and diagnostics are covered autonomously through fees paid by the farmers. There is enough man power with continuous training.

Quality system is well established and quality operations laboratory is accredited. Biorisk program needs to be empowered. The laboratory is following OIE guidelines and is receiving different proficiency panels for the sake of quality assurance from UK, Canada, Thailand and Netherland. Quality laboratory is testing all imported and exported animals and food. The facility is producing vaccine and could be used as a regional collaborator.

i. Points of Entry

The Points of Entry (PoE) are supervised by the central Health establishments under the authority of the MoNR&S. Authorities for customs, immigration, health, agriculture and animal have activities the PoE. The designated PoE for the IHR implementation are not defined and so the competent authority for each PoE.

Health documents are partially implemented at the PoE. There is coordination between the PoE responsible authority and with the health, animal and food safety sectors.

There is a lack of awareness about IHR and obligations come under them, particularly among workers at the port. This highlights the lack of clear roles and responsibilities of the IHR NFP and lack of and communication between the IHR NFP and the competent and responsible authorities at PoE.

A system is partially available at the PoE to respond to reports of illness among passengers on conveyances. The PoE have partial access to equipment and trained personnel for attending ill passengers or animals, transport to appropriate medical facilities and for the inspection of conveyances. Program for the control of vectors and reservoirs are partially functioning.

j. IHR related hazard

1. Zoonosis

Provincial policy for the surveillance and response to some zoonotic events is in place. Surveillance is in place for some animal diseases with zoonotic potential. Guidelines for investigation and control of some zoonotic events are available. The list of notified animal disease is reported on monthly basis. Some events are reported immediately.

There is coordination between the animal sector and human sector in the investigation and response to zoonotic events through meetings and sharing of information.

No guidelines are available for the management of zoonotic events. No risk communication plan for zoonotic events; however, the public are usually educated on zoonotic events.
Laboratory capacity does exist for testing of some zoonotic event.

2. Food Safety

Legislation, national policy and regulations for food safety are available at the federal level but not implemented at Provincial levels.
Food safety comes under the authority of health department and food and agriculture department at the provincial levels. Food laboratory is available in some provinces but services are more advanced in the laboratory at the federal level. Most of Requirements for preparedness and response to food safety are not available in the country.
Standards for quality control are mostly not followed for the locally produced products, particularly for products that are consumed locally. Also, regulations and quality control measures are not followed for the products imported illegally, which constitute a large proportion of imported products.

3. Chemical

Pakistan has legislation and a national strategy for chemical safety. After the devolution, the implementation of the strategy has been given to the provinces under the environmental

protection agencies. The law enforcement agency under each province is responsible on the laws and regulations for chemical related issues.

Manuals and guidelines for the surveillance, investigation and control of chemical events are available at the federal level but not at the provincial levels. WHO is working with the provinces to develop provincial manuals and guidelines. A policy to manage industrial and medical wastes is in place. The list of chemical hazards has been identified in the Pakistan environmental protection act developed in 1997.

Communication and coordination with all relevant sectors including the public health sector is inadequate

4. Radio-nuclear

Pakistan is advanced in this area. The country has legislation and national policies on the export and use of radiological and nuclear material. Legislation and national polices on the transport of the material within the country and international also exist. Responsible authorities are identified based on the purpose of the use of such material, i.e. Ministry of Foreign Affairs, Ministry of Defecne, National Atomic energy. Mechanisms for Coordination and communication between the different stakeholders are available and formalized.

National policies exist on the management of the radiological and nuclear wastes and the wastes from hospitals including the private hospitals. Monitoring programs to detect radiological or nuclear exposure and contamination are in place in relevant facilities. Manuals and guidelines for the surveillance, investigation and control of radiological or nuclear events are available. An inventory of hazard sites and facilities which could be the source of radiological or nuclear public health emergencies of national or international concern is available.

Communication and coordination mechanism is in place between the national competent authorities responsible for nuclear regulatory control and the IHR NFP; however, not pursuant to IHR. Communication and coordination with all relevant sectors including with the public health sector is inadequate

V. Recommendations

a. National legislation, policy and finance

1. Assessment of the legislation, regulations or administrative requirements, and other governmental instruments to determine if they facilitate full implementation of the IHR and to make sure the following are governed by the domestic law:

- Public health surveillance and response to all hazards
- IHR NFP designation and operations
- Cross-border agreements, protocols or memoranda of understanding with neighboring countries with regard to public health emergencies
- The implementing structures and the roles and responsibilities of various administrative levels and stakeholders in IHR implementation
- The terms of reference, roles and responsibilities of the IHR NFP
- National budget or budget line to support the implementation of the IHR core capacities.

2. Consider the possibility of benefiting from other Member States in the Region in their experience in assessing and revising their national legislation to facilitate the implementation of the IHR.

3. Allocate budget at the federal and provincial levels for the implementation of IHR.

b. Coordination and IHR National Focal Point Communication

1. Develop the Terms of reference of the IHR NFP and widely disseminate them among the different sectors.

2. Establish a Multisectoral body with defined roles and responsibilities for implementing the IHR at the Provincial level with the following sectors.
    - Health, agriculture, animal and fishery, foreign affairs, environment, defense/military, emergency preparedness and response, trade, customs/immigration, food safety, drug and chemicals safety, interior, competent authority for Points of Entry.

3. Establish coordination and collaboration mechanism between the this committee/sectors and the IHR NFP

4. Establishing Emergency Operation Centers (EOC) could be one form of the multisectoral body. Identifying communication mechanisms between the EOCs/ multisectoral committees at the provincial levels and with the federal level/IHR NFP is necessary. Surveillance/DEWS responsible officers should be represented in these committees. The establishment of Provincial Health Emergency Preparedness and Response Unit- proposed by Punjab and described I Annex IV- is also another good example to strengthen information sharing coordination among different sectors for better response to emergencies of national and international concern.

5. Carry out activities to increase the awareness of IHR stakeholders at provincial levels including:
    - Access to all documents and guidelines
    - Dissemination of the plan of action for the IHR implementation
    - Meetings and trainings on IHR at the federal and provincial levels.
    - Establish an operation committee between the IHR NFP and technical units responsible for PoE to coordinate and ensure implementation of surveillance and response activities at PoE.

6. Enhance the use of the decision instrument in Annex 2 of the IHR systematically to guide the EOCs/ multisectoral committees on events with potential international concern and communicate information to IHRNFP.

7. Enhance coordination and collaboration with neighboring countries through bilateral or multilateral agreements to support the implementation of IHR.

c. Surveillance

1. The existing coordination meetings for coordinating surveillance and response activities are very good and it's strongly recommended to keep the momentum of such meetings.

2. Expand the list of priority diseases to include other events related to all hazards: Food borne diseases, zoonotic events, chemical / toxicological and radiological events, i.e. integrating the surveillance activities from different sectors including the PoE.

3. Increase the number of supervisory visits from the Provincial to district and health facility level to monitor the implementation of the surveillance and response functions.

4. Establish surveillance for Nosocomial infection and adverse drug reaction

5. Establish a formal event based surveillance
    a. Develop standard operating procedures and guidance for the establishment of event based surveillance.
    b. Expand the source of information to include all sectors: animal, environmental, chemical, drugs, food safety, quarantine services, points of entry, media, community, military, poisons, embassies and the other sectors after their establishment: health inspection and sanitation agencies, poison centers, water supplies companies, radiation protection offices and monitoring systems.
    c. Establish a list of events to be notified by communities with the case definition of each event and to intensify the work of the health promotion workers to maintain the notification of the listed events in addition to other events that are not included in the list.

6. Establish cross border surveillance for all event including all hazards.

d. Response

1. Train of available staff to be part of the RRT at provincial and district levels to expedite the investigation process, particularly in areas that have access problems.

2. Establish cross border mechanism to respond to cross border public health emergencies.

3. Develop guidelines for the management of cases infected with all priority conditions, chemical events, poisoning and radio-nuclear events.

4. Share available case management guidelines on priority infectious disease with all levels and develop SOP or guidance on the management of cases outside health facilities, triage and management of mass causality event.

5. Provide training to relevant staff on the case management of the different events including all hazards.

6. Introduce programs at health facilities to protect health care workers.

7. Establish infection prevention and control policy and program. Develop SOPs an guidelines for infection control including hand hygiene, safe injection practice, the use of the PPE, management of medical wastes and disposal, contaminated wastes and standards for isolation ward. Provide training to all health care workers, particularly those at hospital levels on infection control

8. Rehabilitation of existing hospitals to include units for isolation of patients and establishment of isolation units at designated PoE.

9. Expand the existing national decontamination capacity to include all hazards.

e. Preparedness

1. Expand the mapping out potential hazards to include diseases, transmission and pattern, contaminated food processing sites and water sources. Carry out an assessment of national needs for medical and public health supplies based on risk assessment and national priorities.

2. Expand the national/provincial plan for emergency preparedness and response to address all hazards including those at PoE and include all the following components: Intersectoral collaboration and coordination between the different stakeholders and at the different administrative levels with identified roles and responsibilities, IHR NFP communication, Risk communication, infection control, laboratory services, outbreak response, health system response, collection and dissemination of information and stockpiling for all hazard.

3. Develop/strengthen provincial plan for surge capacity for the management of large numbers of affected individuals during public health emergencies that address issues of triage, referral, transport, quarantine, decontamination, SOPs and protocols/guidelines.

4. Make accessible, in coordination with the other international organizations, a stockpile for all hazards, which includes drugs for national priority disease, antiviral drugs and vaccines, chemical-toxin antidotes, radiation emergency supplies, PPE and diagnostic reagents and kits. National/provincial plans for the management of these stockpiles should be developed to include: training of logisticians, procurement procedures, mobilizing national and international stockpiles, storage and warehousing, security of stockpiles, distribution and transportation of stockpiles.

f. Risk Communication

1. Develop an inventory for communication partners and SOPs that define the roles and responsibilities of each partner.

2. Establish mechanisms to ensure Information regarding ongoing emergency-preparedness activities is systematically communicated to the public and the media.

3. Establish a mechanism that ensures that the perceptions of individuals and communities affected by public health emergencies are addressed.

4. Develop and test a plan for communication based on risk assessment that targets population including the vulnerable population, identifies procedures for the communication of risk information by stakeholders to responders and to the public during emergencies, identify the right channels and formats to disseminate information to partners and to public, and identifies partners, roles and responsibilities.

g. Human Resources

1. Map out capacity of available human resources by specialties.

2. Carry out a provincial training need assessment to support the implementation of IHR and develop a provincial plan for training based on the results of the assessment.

3. The structure proposed by Punjab- establishing Country Coordination and Facilitation working group (CCF)- described in Annex III is a good example to fill in the gaps identified in the capacity of human resources and be copied in other provinces.

h. Laboratory

1. Having a national legislation and policy identifying roles and responsibilities for public health laboratories is a must and should be created. Standards needed in food laboratories should be updated.

2. Laboratories in the divisions and district levels should be empowered for better distribution of workload.

3. Laboratory capacity to confirm chemical, radiological or biological events should be established.

4. National plan for renovating all the old facilities should be created taking into consideration biosafety and biosecurity measures. Another plan for updating old equipment and techniques should be in place to enable the laboratories to meet the criteria needed for IHR 2005 implementation.

5. Quality and biorisk management systems are a big gap and should be empowered.

6. Annual budget enough for covering different laboratory activities should be allocated to all laboratories in different sectors, especially for those with no regular budgeting e.g. veterinary lab in Islamabad and TB laboratory in Lahore

i. Point of Entry (PoE)

1. Designate PoE for the implementation of IHR.

2. Define the competent authority and other responsible authorities at each designated PoE and strengthen coordination and communication between them and with the IHRNFP.

3. Establish surveillance for public health events at PoE.

4. Develop national guidelines for detection, reporting and response to events related to travel and transport at conveyances.

5. Develop national guidelines for the application of public health measures recommended by WHO for application at PoE: Entry/exit screening, Treatment/management of suspect or ill travellers, Isolation, quarantine of people, Quarantine of animals, contact tracing and laboratory facilities.

6. Develop a national plan of action for build the capacity of IHR at the designated PoE based on the results of the assessment including the development of contingency plan for each designated PoE.

7. Strengthen the accessibility of the PoE to equipment and trained personnel for attending ill passengers or animals, transport to appropriate medical facilities and for the inspection of conveyances.

8. Strengthen programs for the control of vectors and reservoirs are partially functioning.

9. Identify the responsible authority for issuing ship sanitation certificates and share it to WHO

10. Carry out an in-depth assessment of the designated PoE in Pakistan.

j. IHR related hazards-

1. Zoonosis

- Expand the provincial policy for surveillance and response to include all potential zoonotic events.
- Develop strategic plan to strengthen the surveillance and response to include all potential zoonotic events.
- Strengthen coordination with other relevant sectors and with the IHR NFP and formalize the share information on regular cases.
- Develop guidelines for the case management of national priority zoonotic events.
- Enhance laboratory capacity to confirm zoonotic events.
- Develop a risk communication plan for zoonotic events.
- Enforce partnership with international organization specialized in zoonotic events such as GLEWS.

2. IHR related hazard- Food safety

- Establish provincial policy for food safety and for the surveillance for food safety events.
- Strengthen coordination between relevant sectors and with the IHR NFP and formalize the share information on regular cases.
- Establish SOPs for safe handling, transporting, slaughtering of animals.
- Establish and enforce the use of national and international standards for food safety.
- Develop guidelines for the case management of food safety events.
- Establish a mechanism to trace back and recall food contaminated products.
- Enhance laboratory capacity to confirm food safety events.
- Enforce partnership with international organization specialized in food safety such as INFOSAN.

3. IHR related hazards-Chemical events

- Establish national policy for surveillance and response to chemical events.
- Strengthen coordination with other relevant sectors and formalize the share information on regular cases. Involving department responsible for chemical events in the national emergency response structure is one possible way.

- Develop guidelines and train relevant personnel on the management of chemical events.

- Strengthen the established poison Centers and identify the possibility of establishing other centers in the other provinces.

- Establish access to laboratory capacity to confirm chemical events.

- Develop a national public health plan for preparedness and response to chemical events as part of the national public health plan for preparedness and response

4. IHR related hazards- Radio-nuclear

- Enhance communication/coordination mechanism between the national competent authorities responsible for nuclear regulatory control and the IHR NFP for the IHR implementation.

- Strengthen coordination with other relevant sectors and formalize the share information on regular cases. Involving department responsible for radionuclear events in the national emergency response structure is one possible way.

- Develop guidelines and train relevant personnel on the management of radio-nuclear events.

- Establish access to laboratory capacity to confirm radio-nuclear events

- Establish access to centers/hospitals inside and outside the country to manage cases infected with radio-nuclear material.

- Develop a national public health plan for preparedness and response to radio-nuclear events as part of the national public health plan for preparedness and response.

ANNEX I
Plan of Action--- Attached

ANNEX II
The devolution of the divisions of Federal Ministry of Health

Previous functions	**Current arrangements**
Pakistan medical and dental council	Assigned to IPC Division
Pakistan nursing council	Assigned to IPC Division
College of physicians and surgeons	Assigned to IPC Division
National council for Tibb	Assigned to IPC Division
National council for homeopathy	Assigned to IPC Division
Pharmacy council of Pakistan	Assigned to IPC Division
National institute of health	Assigned to Cabinet Division
Proposed drug regulatory agency	Assigned to Cabinet Division
PIMS	Assigned to Capital A&D Division
Federal government services, hospitals	Assigned to Capital A&D Division
Directorate of Malaria control, Islamabad	Wound up
National health information resource center	Merged with NIH
Health services academy, Islamabad	Assigned to IPC Division
Federal Dental and Medicine College, Islamabad	Assigned to Capital A&D Division
Jinnah Post Graduate medical Centre, Karachi	Assigned to the Government of Sindh
National Institute of Child Health, Karachi	Assigned to the Government of Sindh
Directorate of central health establishment, Karachi	Assigned to IPC Division
National institute of cardiovascular disease	Assigned to the Government of Sindh
Sheikh Khalifa Ben Zaid Hospital, Quetta	Assigned to the Government of Baluchistan
Tobacco Control Cell	Merged with health services academy
Vertical programs	Devolved to the provinces
National health emergency preparedness and response network	Assigned to Cabinet Division

Annex III

Divisions under the responsibility of the Ministry of National Regulations and Services- IHR NFP

Division	Previous allocation
Pakistan Medical and Dental Council	IPC Division
Pakistan Council for Nursing	IPC Division
College of Physicians and Surgeons	IPC Division
National Councils for Tibb and Homeopathy	IPC Division
Pharmacy Council of Pakistan	IPC Division
International exchange of students and teachers, Foreign studies and Training	IPC Division
National Associations in Medical and Allied fields	IPC Division
Directorate of Central Health establishment	IPC Division
Academy of Educational Planning and Management	Capital A & D Division
Central Board of Film Censor Islamabad	Capital A & D Division
External examination and equivalence of Degrees and Diplomas	Cabinet Division
Commission for standards for higher education Cabinet Division	Cabinet Division
Women and Chest Diseases Hospital, Rawalpindi	-
Federal Government Tuberculosis Centre, Rawalpindi	-

Annex IV
Country Coordination and Facilitation working Group- Concept Note

The Country Coordination and Facilitation (CCF) is a strategy that promotes the centrality of the existing HRH committee (or the creation of one where they do not yet exist) as a process to bring together all stakeholders, to more effectively harness their contributions and to build coherence, coordination and relevance of all their actions. The CCF is not a new structure nor is it intended to burden any system with new requirements. Instead, the process aims to identify the comparative advantages of the various HRH stakeholders and facilitate collaboration for health systems strengthening around one health plan. It promotes the role of existing HRH working groups or committees as being central to the process of bringing together all stakeholders working in HRH at country/provincial level. The rationale for such a process is that it can harness the contribution of all stakeholders, facilitating a coherent, coordinated and relevant focus for all their actions at country/provincial level.

Principles for Country Coordination and Facilitation

- The HRH working group or committee should be the core of the CCF. The HRH unit in the DoH should be the focal point for coordination and the convener.
- Membership of the CCF should include: professional associations, training institutions, civil society NGOs and faith- based organizations), private sector, representatives from Departments of finance, education, labor, local government (and possibly other ministries such as gender), public service commission/agency, development partners (multilateral and bilateral agencies working in budgetary support or project mode) and regulatory bodies.
- There are a number of processes which have been established to address specific health problems and develop plans and decisions with HRH implications. Linkages need to be established between such processes and the CCF. For example CCM for the Global Fund which provides oversight to proposal development that have HRH implications for health systems strengthening
- Formal steps should be taken to establish processes for systemic collaboration to ensure that HRH matters reflected in their programs respect the provincial HRH plan and contribute to the outcomes of the CCF

Functions of the CCF

- Ensure that HRH priorities are identified and established as essential components of the health system
- Ensure frequent dialogue and information-sharing on developments in HRH with all concerned partners in resolving the HRH crisis
- Ensure the availability of robust and transparent information on HRH that can be used for planning and management of the health workforce
- Advocate for adequate resources for health and for governments to adhere to commitments made to national and international goals and pledges on HRH
- Advocate for and ensure that HRH is prioritized during planning for health and, in particular, for the Global Health Initiatives.
- Act as champions and promote the importance of HRH and its contribution to health systems development
- Ensure linkages are established with all public sector departments, private and civil society institutions that are involved with HRH
- Support negotiations and arbitration with different partners on matters relating to HRH;

- Ensure that best practices on HRH development and management are documented;
- Ensure that annual reviews of the status of HRH in the country are organized;
- Facilitate the publication of an annual report on the results of the review
- Ensure the monitoring and evaluation of the progress of HRH implementation, including the HRH strategic plan.

Membership

The proposed membership of the CCF working group or committee should include, among others, representatives from Departments of health, finance, education, labour, local government, public service commission, professional associations, training institutions, civil society (NGOs and faith-based organizations), private sector, development partners (multilateral and bilateral agencies working in budgetary support or project mode), regulatory bodies and, depending on the country situation, any other stakeholder whose work impacts on HRH.

Proposed Structure of Committee

1. Secretary DoH - Chair
2. Project Director Health Sector Reforms Unit – Secretary
3. Director General Health Services, Punjab – Member
4. Additional Secretary Establishment, DoH Punjab, – Member
5. Chief Planning Health – Member
6. Director P&D DoH Punjab – Member
7. Dean Institute of Public Health – Member
8. Registrar KEMU – Member
9. Registrar UHS – Member
10. Principal FJMC – Member
11. DG Nursing, Punjab – Member
12. Secretary Punjab Medical Faculty – Member
13. Program Director Health PRSP, Punjab – Member
14. President PMA Punjab – Member
15. President Para-medics Association – Member
16. Representative from WHO – Member
17. Co-opted – Members from different sectors, (finance, education, labor, local government, public service commission, training institutions like Punjab University, civil society (NGOs and faith-based organizations), private sector, development partners, regulatory bodies and, depending on the country situation, any other stakeholder whose work impacts on HRH.

Annex V
Provincial Health Emergency Preparedness and Response Unit-Punjab

Vision:
The vision of the proposed plan is adoption the policy of preparedness for different hazards and its health consequences by managing effectively both the risks and impact of natural and complex catastrophes.

Goal:
To increase the capacity of Department of Health to act proactively in responding to public health emergencies or disasters.

Out comes:
1. To build institutional capacity at provincial and district level in methods and techniques in risk reduction in terms of skills, logistics, and Coordination.
2. To develop multi-sectoral, and multidisciplinary coordination bodies and response & mitigation for risk reduction.

Institutional Arrangements
Establishment of Provincial Health Emergency Preparedness and Response Unit at Directorate General Health Services Office, Punjab with an expanded role in line with National HEPR framework. This unit will serve as main hub for all health related activities in any emergency situation.

Terms of Reference
1. To establish and maintain incident command structures to ensure efficient and effective operational coordination.
2. Formulate and launch awareness and capacity building programs.
3. To establish and strengthen existing warning and response systems, like DEWS, and implement emergency health information management system for timely detection, dissemination and efficient response to disasters and emergencies.
4. To provide a platform for uniform information gathering and sharing horizontally and vertically.
5. To timely mobilize the available resources and tap for additional required financial and material resources.
6. To ensure regular hazard mapping and vulnerability assessment.
7. To establish and ensure emergency medical services.
8. To serve as lead agency in provincial disaster management for line departments, UN agencies, and National & International Non-Governmental Organizations to ensure they are performing with in the international standards.
9. To establish and strengthen District HEPR units initially in High Risk Districts and later on expanding to all Districts in order to coop with all types of emergencies inclusive of Epidemics.
10. To develop mechanism for coordination with other stakeholders, UN organizations, NGOs and Media.