The Regional Workshop on Strengthening and Networking of Public Health Emergency Operations Centre was organized in New Delhi, India from 29 September – 1 October 2015.

Public health emergency operations centres (EOCs) are physical or virtual centres responsible for the strategic management of public health emergencies providing support to on-scene response and relief activities. Although the format, structure, and size of individual EOCs vary widely, their role in public health emergency management and response is universally fundamental. EOCs are becoming more and more recognized as a means for effective national and international collaboration and coordination in preparing for and responding to the increasing occurrence of public health events and emergencies.

This report provides a summary of the proceedings of the workshop, as well as its conclusions and recommendations.
Regional Workshop on Strengthening and Networking of Public Health Emergency Operations Centre

Report of the regional workshop
New Delhi, India, 29 September–1 October 2015
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## Acronyms

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<tr>
<td>EIDs</td>
<td>Emerging Infectious Diseases</td>
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<td>EOC</td>
<td>Emergency operation Centre</td>
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<td>EOC-NET</td>
<td>Emergency Operation Centres Network</td>
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<tr>
<td>HEOC</td>
<td>Health Emergency Operation Centre</td>
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<tr>
<td>IHR</td>
<td>International Health Regulations</td>
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<tr>
<td>MERS-CoV</td>
<td>Middle-East Respiratory Syndrome Coronavirus</td>
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<tr>
<td>NCDC</td>
<td>National Centre for Disease Control</td>
</tr>
<tr>
<td>PHEOC</td>
<td>Public Health Emergency Operation Centre</td>
</tr>
<tr>
<td>SARS-CoV</td>
<td>Severe Acute Respiratory Syndrome Coronavirus</td>
</tr>
<tr>
<td>SHOC</td>
<td>Strategic Health Operation Centre</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children's Fund</td>
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<tr>
<td>US-CDC</td>
<td>United States Centres for Disease Control and Prevention</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>WHO SEARO</td>
<td>World Health Organization South-East Asia Regional Office</td>
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</table>
1. **Inaugural session and opening remarks**

A regional workshop was organized in New Delhi, India, from 29 September to 1 October 2015 with the overall objective to strengthen national public health emergency operation centres (PHEOCs) and the regional networking for public health emergencies preparedness and response.

The inaugural session included welcome remarks by Dr Roderico Ofrin, Director, Department of Health Security and Emergency Response, World Health Organization Regional Office for South-East Asia (WHO SEARO). He delivered the WHO Regional Director’s opening address that restate the experiences and lessons learned from the past public health events, the need for countries to develop core capacities under the International Health Regulations 2005, and the roles and functions of the emergency operation centre in supporting health emergency responses.

Dr Bardan Rana, Acting Regional Advisor for International Health and Regulations, WHO SEARO, highlighted the objectives of the regional workshop.

Professor Mahmudur Rahman, Ministry of Health and Family Welfare, Bangladesh, Dr Anurak Amornpetchsathaporn, Ministry of Public Health, Thailand, and Dr Custodia Benevides Florindo, Ministry of Health (MoH), Timor-Leste, were elected as the Chair, Co-Chair and Rapporteur of the workshop, respectively.

2. **Objectives**

The overall objective of the workshop is “To strengthen national public health emergency operation centres and the regional networking for public health emergencies preparedness and response”.
The specific objectives are to:

- present standards for a public health emergency operation centre;
- share experiences and lesson learned in building, evaluating, exercising, communicating and utilizing emergency operation centres for public health emergency response;
- present the framework and activities of the public health emergency operation centre network (EOC-NET); and
- identify key needs and gaps in strengthening of the national public health emergency operation centre and regional networking, and the way forward.

3. Emergency response and public health emergency operation centre

3.1 Health emergency response capacities

The global burden due to emergencies has been increasing with more than 100 epidemic-prone diseases annually and humanitarian emergencies with the largest number of displaced population since the Second World War, an estimate of 60 million people. Since May 2014, WHO has declared the following three new Grade 3 emergencies:

1. The complex humanitarian crisis in Iraq (August 2014);
2. The Ebola virus disease outbreak in West Africa (July 2014); and

The major emergencies for the WHO South-East Asia Region (SEA Region) during 2014–2015 are the Ebola virus disease outbreak, the Nepal earthquake and the Middle East respiratory syndrome coronavirus (MERS-CoV).
The emergency response activities are currently driven by the following agreements or frameworks:

- International Health Regulations (2005)
- Global Health Security Agenda
- Regional Flagship on scaling up emergency risk management capacities in health
- Regional Committee resolution (RC68) – response to emergencies
- Climate change and health.

The tsunami and earthquake on 26 December 2004 and the many recurring disasters in the South-East Asia Region continuously highlight the importance of improving national emergency preparedness. In recognition of this, WHO SEARO and the 11 Member States of the SEA Region have formulated 12 benchmarks on emergency preparedness and response during a regional consultation in November 2005.

The benchmarks integrate multisectoral concerns at the community, subnational and national levels, and the framework has been elaborated with corresponding standards and indicators to facilitate effective planning, monitoring and evaluation.

Both the IHR 2005 and the benchmarks are used to build capacity, secure intersectoral linkages, improve planning and legislation, and strengthen emergency preparedness and response at both country and community levels.

### 3.2 Public health EOC and IHR – regional overview/update

The South-East Asia Region is particularly prone to national disasters due to its geographical attributes, sociopolitical context and rapid economic development. Between 2001 and 2010, the Region accounted for 46% of the global deaths due to all types of disasters.
The major disasters in the SEA Region included:

- 24 December 2004, the tsunami in the Indian Ocean affected five countries in the Region and killed not less than 300,000 people altogether;
- 27 May 2006, the earthquake near the city of Yogyakarta caused more than 5,700 deaths and 37,000 injuries;
- 15 November 2007, the cyclone Sidr hit Bangladesh on November 15, causing large-scale evacuations and 3,447 deaths;
- 2 May 2008, the cyclone Nargis in Myanmar, sent a storm surge 40 kilometres up the densely populated Irrawaddy delta, causing catastrophic destruction and at least 138,000 fatalities;
- 25 April 2015, the earthquake in Nepal killed more than 9,000 people and injured more than 23,000.

Globally, since the 1970s, more than 40 new emerging infectious diseases (EIDs) have been identified. These include:

- 1997 and 2003, avian influenza H5N1 in humans;
- April 2003, a severe acute respiratory syndrome caused by coronavirus (SARS-CoV);
- June 2009, a new strain of swine-origin influenza A subtype H1N1 spread worldwide and caused about 17,000 deaths;
- September 2012, Middle East respiratory syndrome coronavirus (MERS-CoV), which continues to cause morbidity with significant mortality, especially among vulnerable people who have underlying diseases or compromised immune systems;
- March 2013, influenza A subtype H7N9 caused 135 cases resulting in the death of one third of those infected;
- March 2014, a large-scale outbreak of Ebola virus disease started in West Africa.

The International Health Regulations (2005) is an internationally agreed instrument for global public health security. This represents the joint commitment for shared responsibilities and collective defence against disease spread and is legally binding for WHO Member States since
June 2007. The purpose of IHR (2005) is “to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade”.

All Member States in the SEA Region have established PHEOCs but they are known by different names in different countries. They are also different in terms of level of capacities, range of functions and hazards covered, procedures conducted, variation of information source, type of communication technologies used and flow of operational information.

In 2014, regional IHR and Regional Committee meetings encouraged initiatives aiming to accelerate IHR implementation. While Ebola, MERS-CoV, H7N9, and wild poliovirus highlight the need for IHR core capacity-strengthening and maintenance, Member State should invest more on IHR core capacities to better prevent, detect and respond to public health events, support establishment and strengthening of emergency operation centres as part of public health emergency preparedness and response.

3.3 **Global overview on public health EOC**

A public health emergency operations centre is the central location where responsible personnel gather to coordinate operational information and resources for strategic and tactical management of public health events and emergencies. The purpose of a health emergency operations centre (HEOC) is to provide a location and capacity for managing the health sector’s contribution to an emergency. Thus it may be large or small, dedicated or shared and permanent or temporary. With the multisectoral and multidisciplinary nature of response, EOC supports effective communication and coordination, timely and accurate information sharing, and exchange is essential for taking action.

In recent years, there has been an increase in the frequency and magnitude of public health emergencies. These emergencies include pandemic influenza A H1N1 in 2009, Haiti earthquake in 2010, MERS-CoV in 2012, Fukushima incident in Japan in 2012, Typhoon Haiyan in the Philippines in 2013, Ebola virus outbreak in West Africa in 2014 and Nepal earthquake in 2015.
On the one hand, common issues found in the management of emergency responses are as follows:

- lack of leadership, related to qualifications or judgement;
- lack of coordination, due to failures in cooperation;
- lack of integration, due to competition;
- lack or loss of resources, due to failures in planning;
- lack of planning, due to absence of commitment;
- lack of media support, due to all of the above plus failures in risk and crisis communication.

On the other hand, successful emergency management systems should:

- focus decisions and resources on priority objectives;
- support sustained, high levels of collaboration and communication;
- provide systemic accountability mechanisms;
- be designed to address a number of principles.

Based on an observation from the recent Ebola outbreak response in West Africa, different approaches, concepts and terminology for emergency management had been used by different agencies/organizations.

4. Country presentations

4.1 Bangladesh

The lead agency for any disaster in the country is the National Disaster Management Council. The National Plan for Disaster Management 2010–2015 has been developed and implemented. PHEOC is situated at the Institute of Epidemiology, Disease Control and Research (IEDCR) and focuses mainly on disease surveillance and response and not on other emergencies. Multidisciplinary Collaborative One Health approach was used for disease outbreak investigation. Lack of trained manpower and financial discipline were some of the challenges faced by the country.
4.2 Bhutan

The Disaster Management Act 2013 is the main legal instrument, and the Department of Disaster Management under the Ministry of Home and Cultural Affairs had been entrusted with managing any disaster in the country. The public health emergency operations centre mainly focuses on disease surveillance and response while some measures are being taken to consider for other disasters to be included in their mandate. The in-house technical capabilities are very limited; likewise the financial support from the government is also limited.

4.3 India

The Integrated Disease Surveillance Programme (IDSP) is responsible for detection, verification, risk assessment and responding to any disease outbreaks in the country through a well-established surveillance network system. The programme was launched in 2004 with World Bank assistance for a period up to March 2012 and continues with domestic budgetary support. Surveillance activities are decentralized and public health laboratories are strengthened. Information technology is used for collection, compilation, analysis and dissemination of data. Intersectoral coordination between human and the animal sector is also established. A strategic health operations centre (SHOC) was established to strengthen disease surveillance and response using the latest information and communication technology that allows monitoring of surveillance activities at various sites concurrently. The centre acts as a 24x7 command, and provides distance learning and capacity-building support.

4.4 Indonesia

Hazard mapping and disaster risks were identified in Indonesia and accordingly the Ministry of Health was entrusted with the disaster management coordination in the country. There are nine regional centres for Health Crisis Management based on the cluster system with well-defined mandates and responsibilities. The Strategic Plan for Disaster Management 2010–2019 has been developed to focus on eight key health priorities. The Plan emphasizes strengthening human resource capacity, reviewing disaster policy analysis and formulation, and revitalizing the “Integrated Health Emergency and Disaster Management System” through
the health cluster system. Indonesia has identified strong leadership at all levels and shifted from emergency and disaster response to emergency and disaster preparedness and management as a priority. IHR 2005, the Global Health Security Agenda, the Sendai Framework for Risk Reduction (2015–2030), and the regional flagship on scaling up emergency risk management capacities in health are some of the platforms that helped in networking and coordination processes in Indonesia.

4.5 Maldives

Under the Disaster Management Act 2015, the National Disaster Management Centre (NDMC) coordinates with all disaster management actors during any national emergency. The levels of responses to any emergency were identified according to the magnitude of disasters. Types of emergencies include diseases such as dengue fever, seasonal influenza and diarrheal diseases; and flood and international spread of disease. Activities identified for 2016–2017 are as follows:

- to undertake a detailed health risk assessment
- to strengthen coordination with other emergency management actors and
- to disseminate the Health Emergency Framework and Plans.

4.6 Myanmar

Myanmar has the Early Warning Alert and Response System for both disasters and public health emergencies. Under the Natural Disaster Management Law, enacted on 31 July 2013, the Government of the Republic of the Union of Myanmar established the National Disaster Preparedness Central Committee (NDPCC) in May 2013 responsible for coordination of the national level disaster response activities. The National Natural Disaster Management Committee (NNDMC) delivers relief and recovery services through the emergency operations centre and recovery coordination centre (RCC) and the recovery planning forum, which are responsible for liaising with the state and regional level authorities to develop contextualized and locally appropriate intervention plans. The national public health emergencies preparedness and response plan had been developed with the objectives to build a more resilient and safer community through conceptualization, development and implementation
of appropriate disaster risk reduction programmes and culture of safety. It provides a mechanism whereby the disaster risk reduction initiatives can be monitored and coordinated between government ministries and departments, UN organizations and other key stakeholders. Emergency operation centres have been established for the National Disaster Management Committee at the Ministry and at states/regional public health departments.

4.7 Nepal

The Natural Calamities (Relief) Act 1982 was promulgated for the first time in 1982 with the objective of smooth execution of pre- and post-disaster relief and rescue works by bringing the work of disaster management under the scope and responsibility of the government. The Act has also made provision of an institutional framework necessary for managing disasters. The Local Self Governance Act 1999 has promoted the concept of local self-governance within the decentralization framework for managing environment-friendly development. This Act has given due emphasis to the interrelationship between the development process, environment, and disasters explicitly and implicitly. At the central level, the Central Disaster Relief Committee (CDRC) with 27 members is chaired by the Minister of Home Affairs. The Natural Calamities (Relief) Act 1982 has the provision of forming the regional level committee as necessary. Regional committees have proven their usefulness for carrying out rescue and relief operations and coordination in more than one district and at present are functional in all regions.

The Office of the Prime Minister and Council of Ministers has been performing the task of directing, coordinating, facilitating the preparation of national policy and strategy for reduction of natural and non-natural disasters, and managing the Prime Minister's Relief Fund. The National Planning Commission has been playing the leading role in the formulation of long-term, periodic and annual disaster management plans. The Ministry of Home Affairs works as the coordinating ministry for management of disasters, imparts necessary training, makes arrangement of medicines, equipment and treatment services for affected population.

As per the Guidelines of the Local Self Governance Act 1999, and as prescribed by other prevalent laws of the nation, District Development Committee (DDCs), municipalities and Village Development Committee
(VDCs) have been performing the job of mainstreaming disaster risk reduction, management of district level periodic plans and information on disasters. In addition, they are also performing the role of first responder to disasters. In 2003, the Epidemiology and Disease Control Division of the Department of Health Services of the Ministry of Health and Population (MOHP/DHS/EDCD) prepared the Health Sector Emergency Preparedness and Disaster Response Plan with the objective to enhance the capacity of the health sector in Nepal to provide humanitarian relief to the people in need in an effective and timely manner. The Health EOC within the Ministry of Health and Population functions as a central repository of policies, guidelines, and human resources for health and supports decision-makers during emergencies for appropriate response by providing information for better coordination and communication among stakeholders and health facilities.

4.8 Sri Lanka

Key structures for the National Emergency Response System, under the Disaster Management Act No.13 (2006), include the National Council for Disaster management, the Ministry of Disaster Management, the Disaster Management Centre (DMC), and the National Disaster Management Coordination Committee (NDMCC). The other important components are the Sri Lanka Comprehensive Disaster Management Plan (SLCDMP) and the Health Sector Disaster Preparedness and Response System. The Public Health EOC is in the Disaster Preparedness and Response Division, under the Secretary of Health, and responsible for the management of health-related issues for any type of emergency. The Ministry of Disaster Management and the Ministry of Health jointly manage the early warning system.

4.9 Thailand

The National Disaster Prevention and Mitigation Plan of Thailand focuses on both natural and unnatural disasters. The plan is devised by the National Disaster Prevention and Mitigation Committee under the provision of the Disaster Prevention and Mitigation Act (2007). The Department of Disaster Prevention and Mitigation and the Ministry of Interior are accountable for the implementation of the plan, which involved all concerned ministries/departments in emergency operations. Public Health EOCs are established at the national, ministerial, departmental, regional and
Regional Workshop on Strengthening and Networking of Public Health Emergency Operations Centre

The roles of the Public Health EOC at the Ministry of Public Health are

- provision of resources, including roster of experts,
- situation awareness managed at the central level including networking of departmental,
- management of the emergency health-care system including supplies and equipment at regional and provincial levels
- communication for command and coordination; and
- standard of emergency medical services, database, training and public awareness.

The Centre also manages the funding system for medical care cost of any injuries from disaster during the first time in hospital treatment of the critical period.

4.10 Timor-Leste

The Ministry of Social Solidarity (MoSS) is the coordinating agency for disaster risk management (DRM). In 2015, the Ministry of Interior (MoI) was identified as the lead agency for DRM. The DRM Policy was developed by the MoSS in 2008. The National Disaster Operation Centre (DOC), under the National Disaster Management Directorate (NDMD) of the MoSS, is responsible for coordinating the preparation and response in relation to any emergencies. The structure includes the National Inter-ministry Committee that is coordinated by the Cabinet of the Prime Minister, MoSS and MoI in partnership and cooperation with other relevant government agencies, civil societies, communities as well as international partners. In the Ministry of Health, the National Directorate of Hospital Support and Services (NDHSS) in collaboration with the National Directorate of Public Health (NDPH) lead Emergency/Disaster Risk Management (ERM). The Ministry allocated a budget for ambulance services and funds for emergency response. Timor-Leste has a command and coordination system that deals with natural, human-induced and communicable disease emergencies as well as surveillance and early warning systems. The emergency response support teams such as operation, communication, logistics, finance and administration are yet to be formalized. Timor-Leste plans to develop the national strategy on disaster risk management for health and establish a functional public health EOC in 2016.
5. **Country experiences**

**India**

In India, the number of H1N1 positive specimens had increased during the pandemic in 2009 and continued until the third quarter of 2010. Influenza virus activities were relatively low from 2011 to 2014 while H1N1 was still in significant proportion. From the beginning of 2015, the number of H1N1 positive specimens increased sharply and declined to minimal by the end of April.

The strategic health operation centre, established within the National Centre for Disease Control (NCDC), Ministry of Health and Family Welfare, is responsible for surveillance of epidemic-prone diseases, event-based surveillance and coordination of public health response. When H1N1 was reported in early 2015, SHOC was activated as a command centre to coordinate the response. The Integrated Disease Surveillance Programme and its state units had enhanced the surveillance for influenza-like illness (ILI) and severe acute respiratory infections (SARI). The states of Gujarat, Maharashtra, Madhya Pradesh, Rajasthan and Telangana were doing active surveillance in the community to detect cases at an early stage. Data on H1N1 from all 36 states and union territories were collected, compiled, analysed and reported to higher levels. Central Rapid Response Teams were deployed to four severely affected states. Medicine (Oseltamivir) and Personal Protective Equipments (PPEs) were supplied adequately. The Ministry of Health and Family Welfare also raised public awareness through media communication and recommended vaccination for health-care workers.

**Indonesia**

The Centre for Health Crisis Management is responsible for the following: to prepare and implement technical policy for handling crises and other health emergencies; coordinate and provide guidance for monitoring and prevention; and mobilize resources for pre-emergency, during and post-emergency (recovery) periods. The office works with the National Board of Disaster Management and stakeholders from other sectors at the national, regional, district and community levels.
Thailand

To enhance the country’s capacities in disaster risk management, Thailand developed a strategy for 2015 for preparedness and resilience in response to all types of hazards. The disaster preparedness and management plan incorporated both national and international disaster management frameworks and includes coordination with all sectors.

The public health emergency operation centre was established within the Ministry of Public Health for command and coordination before, during and after emergency events. The centre was activated during the country’s internal political conflict in 2013–2014, and extended its support to Nepal for the recent earthquake in 2015.

6. Partnership

United States Centers for Disease Control and Prevention (US-CDC)

In the United States, CDC assumes a leading role in IHR implementation as it relates to human disease. The main focus is on detection, prevention and control. CDC is also working with its partners to actualize IHR through the Global Health Security Agenda; to promote global health security as an international priority; and to spur progress towards full implementation of IHR.

US-CDC supports four core capacities for IHR:

- capacity-building for disease surveillance and outbreak response, including laboratory capacity;
- strengthening preparedness and emergency management capability;
- training in field epidemiology and laboratory; and
- information technology tools for disease surveillance and response reporting.
United Nations Children’s Fund (UNICEF)

UNICEF is an active member of the Inter-Agency Standing Committee and participates in the activities of the health cluster led by WHO.

7. Emergency operation centres network

An EOC is an effective way to achieve coordination among agencies responding to a major emergency or disaster. It can support effective communication and coordination and provide timely, accurate information sharing that is essential for emergency response.

WHO launched the EOC-NET during a consultation meeting in 2012 with a vision that all public health EOCs will have the capacity and capability to perform core functions to ensure an effective response to public health events and emergencies. It shall serve as a mechanism to provide consistently evidence-based information, expert support to Member States in developing and assessing public health EOCs, and as a platform to improve collaboration on public health events and emergency. As of September 2015, 80 emergency operation centres, institutions and professionals joined the network. Through expert consultations, EOC-NET published a systemic review of EOC in 2013 and is in the process of finalizing a framework for public health EOCs. The main purpose is to provide guidance to jurisdictions and agencies on best practices in developing and operating a PHEOC with a focus on five core functions such as management, operations, planning, logistics, and finance/administration, as well as four essential elements, namely physical facility/location, data and information; plans and procedures; and roster of skilled trained personnel.

8. Field visits

On the second day of the workshop, participants were divided into two groups and both groups visited WHO SEARO’s strategic health operations centre and MOHFW’s National Centre for Disease Control EOC. Views and comments from the groups were summarized as follows:

➢ Both EOCs (NCDC and SHOC) are well-equipped.
Challenges at the country level include:
- lack of communication between central and subnational levels;
- need to establish/improve coordinated mechanism within the government system – the Disaster Management Department and the Communicable Disease Department in particular; and
- mobilization of both human and financial resources during emergencies.

Technical areas for WHO support include:
- communication with public and government agencies during emergencies;
- training of personnel for PHEOC; and
- development of data management system for PHEOC.

9. Tool review: high-level checklist for planning and strengthening a public health EOC

Participants were involved in the review of WHO’s high-level checklist for planning and strengthening a public health EOC based on countries’ experiences and context. Comments from participants were summarized in Table 1 below.

<table>
<thead>
<tr>
<th>Country</th>
<th>National priorities</th>
<th>Checklist comments</th>
</tr>
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</table>
| Bangladesh| • Need for EOC in an organogram – formalized in a structure in health system. Access to government funds  
• Some capacity but can improve in areas like infrastructure, human resource, etc.  
• Empowerment of EOC in decision-making | • Is it for public health EOC or EOC – scope of function (essential, optimal and desirable criteria)  
• Set up core functions  
• Scaling up  
• 14.1 – two indicators asked in one question |
<p>| Bhutan    | • Need to make a decision on where health EOC is based –                              | • Answered in terms of national level EOCs                                           |</p>
<table>
<thead>
<tr>
<th>Country</th>
<th>National priorities</th>
<th>Checklist comments</th>
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<tbody>
<tr>
<td>India</td>
<td>e.g. MOH Other units</td>
<td>• Revisit EOC with MoH (location, systems)</td>
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<td></td>
<td>• Linkage with other sectors and other EOCs</td>
<td>• Comprehensive</td>
</tr>
<tr>
<td></td>
<td>• Issues on command structure and legal mandate</td>
<td>• Too elaborate</td>
</tr>
<tr>
<td></td>
<td>• Scope of expertise in EOCs – e.g. risk communication</td>
<td>• Scaling is needed</td>
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<td></td>
<td>• Back-up contingency plan</td>
<td>• Some decisions are taken elsewhere and not at the health EOC</td>
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<tr>
<td></td>
<td></td>
<td>• Clarity on expectation in the checklist</td>
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<tr>
<td></td>
<td></td>
<td>- Minimum standards</td>
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<tr>
<td></td>
<td></td>
<td>- Number 17 – credentialing</td>
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<tr>
<td></td>
<td></td>
<td>(Foreign Medical Team, support between states)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Essential criteria and desirable criteria</td>
</tr>
<tr>
<td>Indonesia</td>
<td>• Linkage with CDC operations and EOC</td>
<td>• Simpler language is needed</td>
</tr>
<tr>
<td></td>
<td>• Linkage with communications</td>
<td>• Questions keep repeating</td>
</tr>
<tr>
<td></td>
<td>• Components are available and accessible but with other units</td>
<td>• Sometimes too detail</td>
</tr>
<tr>
<td>Maldives</td>
<td>Need to formalize plan and sensitize groups</td>
<td>Helpful in identifying gaps</td>
</tr>
<tr>
<td>Myanmar</td>
<td>• No specific plan for EOC</td>
<td>• The checklist covers all areas</td>
</tr>
<tr>
<td></td>
<td>• Have plans for specific scenarios various hazards</td>
<td>• Many points under one question—difficult to answer as a yes or no</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Simple language</td>
</tr>
<tr>
<td>Nepal</td>
<td>• Need for linkages with the EOC and communicable disease unit and the health information centre</td>
<td>• Clarify questionnaire on the EOC software</td>
</tr>
<tr>
<td></td>
<td>• Need for more trained personnel</td>
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<table>
<thead>
<tr>
<th>Country</th>
<th>National priorities</th>
<th>Checklist comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sri Lanka</td>
<td>• Separation of Epidemiology unit and Development and Planning Unit</td>
<td>• Some questions require more scaling, more choices rather than just yes or no</td>
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<td></td>
<td>• Found some points that could be done with less resources (e.g. rosters)</td>
<td>• Same issue on shelter as Thailand</td>
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<td>• Same issue on shelter as Thailand</td>
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<tr>
<td>Thailand</td>
<td>• Mostly achieved – some key points are under progress</td>
<td>More choices</td>
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<td>• Work is specific to health – other issues such as shelter are in other sectors</td>
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<tr>
<td>Timor-Leste</td>
<td>• Convince higher authorities</td>
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<td></td>
<td>• standard operating procedures (SOPs), human resources</td>
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<td>• physical infrastructure</td>
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### 10. Conclusions

(1) There are global, regional and national drivers towards improving capacities for health emergency management. Core capacities described in the IHR and the SEARO benchmarks for emergency preparedness provide the overall framework.

(2) HEOCs are central to the health emergency management in countries and play a critical role before, during and after emergencies. Countries have different configurations of their HEOCs based on their health and disaster management systems.

(3) HEOCs in countries are used for various events/incidents across all hazards with their central function focused on health actions.
Countries presented various models of how HEOCs are structured and organized. HEOCs in countries have similarities such as:

(a) availability of legislation/mandate support;
(b) use of response and contingency plans;
(c) organizational structures are present for national and subnational levels in health and other sectors, with a need to clarify the concept of operations between various sectors and other jurisdictions;
(d) products developed and shared (e.g. situation reports, epidemiologic information); and
(e) use of HEOCs as a point of decision support based on information (health, operational) collected.

Regarding HEOCs, countries face similar challenges in the following areas:

(a) authority, scope and mandate of HEOCs, and its distinction to the surveillance and health information systems;
(b) coordination with other HEOCs within and outside ministries of health;
(c) information sharing within health and across other sectors;
(d) financing for further development and surge funds during an emergency;
(e) trained and designated staff;
(f) SOP development;
(g) risk communication;
(h) appropriate use of information and communications technology; and
(i) physical infrastructure, planning and coordination of resources, e.g. logistics, surge capacity.
Regarding the checklist for planning and strengthening HEOC, the participants agreed that:

(a) participants feedback would be used to improve the checklist; and

(b) it may serve as a guide to countries for continuously improving HEOC functioning and capacity.

The gaps identified by participants will be used as the basis of an initial action plan to strengthen HEOCs in Member States.

11. Recommendations

For Member States

- Establish and/or strengthen HEOCs by developing a follow-up action plan based on the findings of the regional workshop.

- May use the PHEOC framework once finalized as a guide for continuous improvement of HEOCs in countries.

For WHO

- Support Member States to establish and/or strengthen HEOCs by developing a follow-up action plan based on the findings of the regional workshop.

- Revise the draft PHEOC framework based on suggestions of participants of the regional workshop, in addition to a wider consultation.

12. Closing session

Dr Roderico Ofrin, Director, Department of Health Security and Emergency Response, WHO SEARO, expressed his gratitude to the Chairman, Co-Chair, Rapporteur and participants for their active participation and contribution, and the WHO Secretariat team for their support to the regional workshop, and then declared the meeting closed.
Annex 1

Objectives

General Objective

To strengthen national public health emergency operation centres and the regional networking for public health emergencies preparedness and response.

Specific Objectives:

(1) (1) To present standards for a public health emergency operation centre;

(2) (2) To share experiences and lesson learned in building, evaluating, exercising, communicating, and utilizing emergency operation centres for public health emergency response;

(3) (3) To present the framework and activities of the public health emergency operation centre network; and

(4) (4) To identify key needs and gaps in strengthening of the national public health emergency operation centre and regional networking, and the way forward.
Annex 2

Agenda

- Opening session
- Emergency response and public health emergency operation centre
- Country system, sharing of experiences and partnership
- Field visit
- Group work
- EOC framework and way forward
- Closing session
Annex 3

List of participants

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Regional Workshop on Strengthening and Networking of Public Health Emergency Operations Centre

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The Regional Workshop on Strengthening and Networking of Public Health Emergency Operations Centre was organized in New Delhi, India from 29 September – 1 October 2015.

Public health emergency operations centres (EOCs) are physical or virtual centres responsible for the strategic management of public health emergencies providing support to on-scene response and relief activities. Although the format, structure, and size of individual EOCs vary widely, their role in public health emergency management and response is universally fundamental. EOCs are becoming more and more recognized as a means for effective national and international collaboration and coordination in preparing for and responding to the increasing occurrence of public health events and emergencies.

This report provides a summary of the proceedings of the workshop, as well as its conclusions and recommendations.