Exercise Development Guide for Validating Influenza Pandemic Preparedness Plans

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World Health Organization
Western Pacific Region

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EXERCISE DEVELOPMENT GUIDE

FOR VALIDATING

INFLUENZA PANDEMIC PREPAREDNESS PLANS

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1. Introduction

Purpose of this guide

Any plan requiring coordinated action by a number of players, which has not been validated through a process of practice, is simply a collection of ideas and concepts waiting for translation into action. The process of 'practising a plan' is universally known as an 'exercise'. The primary purposes of an exercise are to train the users of the plan and to evaluate the effectiveness of the plan itself, not the participants in the exercise, who are intended to be engaged in activities and roles identified for them in the plan. Valuable results of an exercise include enhanced knowledge and understanding of the plan by those who use it and identification of gaps, weaknesses and opportunities to improve the effectiveness of the plan. In this context, an exercise is not the end point of the planning process, but a vital component of it. Practice is the process that brings life to a plan and keeps it fresh in the minds of those who will use it.

This guide describes and encourages the use of a widely accepted approach to the development of exercises for the validation of influenza pandemic preparedness plans. The approach is generic and can be easily adapted for the evaluation of emergency management plans for a broad range of hazards and threats. It is assumed that most users of this guide will have limited experience with emergency exercises. The guide has been written for those that may have limited experience and resources. A glossary of terms is in Annex A.

Influenza pandemic planning

It is anticipated that most users of this guide will be broadly familiar with the nature of the threat posed by influenza pandemic. Such an event occurs with the appearance of a new subtype of influenza 'A' virus, against which most of us have no immunity, resulting in a global impact with high numbers of cases and deaths. Increases in both local and global transportation, overcrowding in urban settings and marginal sanitary conditions in parts of the world will contribute to a very rapid spread of a pandemic virus. Such a pandemic will be considered a global emergency, requiring management of consequences across multiple jurisdictions and sectors of society.

How a new virus causes a pandemic, the consequences of a pandemic and why and how to plan for a pandemic are all outlined in the WHO Influenza Pandemic Preparedness Checklist[1] and the WHO Creating and Tracking Pandemics Preparedness Plans Guide.[2]

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[1] *WHO Influenza Pandemic Preparedness Checklist*. **Geneva, WHO 2005 (http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/index.html).**

[2] WHO Creating and Tracking Pandemic Preparedness Plans: A Guide. **(http://www.wpro.who.int/NR/rdonlyres/3D5C55D9-ABD2-42DD-9443-DD51A2475A7C/0/EDTedDRAFT2Creatingandtracking.pdf)**

A pandemic plan needs to remain a 'living' document to ensure that it reflects changes in capacities and capabilities and is still fresh in people's minds, even a few years after publication. This can best be achieved if the plan is regularly validated through exercises and revised based on the acquired experience and results of each exercise.

Scope of this guide

It is acknowledged that countries have varying capacities and capabilities for influenza pandemic planning and response, and that they are at different stages in the planning process. It is important to note that the exercise process is a very useful tool to assist in the development of plans and may be used at each stage of plan development to test the practicality of proposed actions.

While this guide is focused specifically on pandemic influenza, the basic framework can be applied to exercises for the full range of emergencies, from generic communicable disease outbreaks to management of the health consequences of natural and human-generated disasters.

Users of this guide will notice that there are references to a 'multisectoral' approach and 'partners and stakeholders'. These references are intended to reflect the growing recognition that in the current era, individuals, communities, societies and nations are becoming increasingly interdependent, such that an event that impacts one group or sector, resonates and may have significant impact in many others. This is particularly true of influenza pandemic. Consequently, countries and agencies developing pandemic plans are urged to include, as participants, a broad range of potentially affected and involved organizations and institutions, in both planning and exercise processes. Participation in an exercise provides the opportunity for government departments and other key agencies to examine and consider the requirements for heightened cooperation arrangements and actions that would take place before, during and after an influenza pandemic.

2. Types of exercises

Most authorities agree that there are five general types of emergency exercises. Within each type there is a range of possibilities, from simple and low cost to elaborately complex and relatively costly. **The objective in this guide is to highlight an approach that will yield the most useful results for the least expenditure of resources. In most situations this will be a table-top exercise (see below)**. Member States can select an appropriate type of exercise to meet their needs and develop a detailed manual for the exercise based on instructions in this guide; however, **the majority of the examples in this guide reflect the requirements of a table-top exercise.** Users of this guide with limited experience in developing and conducting exercises are encouraged to start with small, manageable exercises to develop their knowledge and skills. They will then be able to assist their organization in developing a comprehensive exercise programme that links continuing evolution of their emergency response plans to the lessons learnt from the appropriate type and scale of exercises.

- **Orientation**

An orientation takes the form of informal discussion designed to familiarize participants with plans, roles and procedures with a focus on questions of coordination and assignment of responsibilities. Typically the orientation is conducted by the author(s) of the plan with the assistance of a capable note-taker who keeps track of the discussions, identified plan weaknesses and suggestions for improvement. Of the five types of exercises, an

orientation is the simplest and costs the least. It should be considered the absolute minimum requirement for validating a plan or sections of a plan under development.

- **Drill**

A drill is used to develop and maintain skills in a single response procedure, such as alerting and notification, passage of critical information, activation of emergency resources and practice of specialized emergency skills that constitute one or more components of an emergency plan and procedure. Drills are limited in scope and should have a procedural focus to train and support specific skills and interactions as part of a larger organizational response.

- **Table-top**

A table-top exercise is a process in which officials and/or key staff with emergency management responsibilities are gathered together informally, without tight time constraints, to examine and discuss simulated emergency situations and attempt to resolve problems based on their emergency plans. Often, the simulation contains elements of ambiguity to encourage creativity in the application of the emergency plan. The success of the exercise is largely determined by group participation in the identification of problem areas. Of the five types of exercises, the table-top is the workhorse, ranging in scope and complexity from the simplicity of the orientation to nearly the complexity of a functional exercise (see below). Table-top exercises can be conducted over time periods from a few hours to a few days, but usually require only a few hours up to one day. Equipment and resources are not deployed and time pressures are not introduced. The exercise is guided by a simulated series of events that require some subject matter expertise to prepare. While many table-top exercises require relatively little planning and coordination, a large-scale and rigorous table-top exercise requires dedicated planning resources, skilled facilitation and trained evaluators to be most effective.

It is assumed that most users of this guide will prefer the table-top exercise as the optimum process for evaluating their pandemic influenza response and management plans.

- **Functional**

A functional exercise is different from a table-top exercise in three ways. First, it is interactive, requiring participants to respond to each other in the roles designated for them in the plan. Second, it is conducted under time constraints that would be similar to, or often more challenging than a real event. Finally, it is usually conducted in the facility designated for coordination/management of a real event, so the available tools and technologies can be used and evaluated. Functional exercises are fully simulated at significant levels of detail, usually covering multiple functions and are designed to validate policies, roles and responsibilities, capabilities and procedures, of single or multiple emergency management functions or agencies. The design, conduct and evaluation of a functional exercise require considerable resources to ensure maximum benefit.

- **Full-scale**

Where a functional exercise concentrates on the policy and interactive elements of the management of an emergency, a full-scale exercise focuses on the operational capability of emergency response and management systems. Typically this will include actual deployment of the resources required to demonstrate coordination and response capabilities in as realistic a setting as possible without putting the safety of the public and staff at risk. Properly executed full-scale exercises require more resources for planning, conduct and evaluation

than a functional exercise, plus the added staffing, operational and insurance costs of mobilizing emergency resources in real time.

3. Planning an exercise

Many countries have gained experience in pandemic planning and response through dealing with the threat or actuality of severe acute respiratory syndrome (SARS) and highly pathogenic avian influenza. It is important that lessons be learnt from these outbreaks and that countries be prepared. Any time that an emergency response or management plan is adjusted to reflect new knowledge or changes in context, it is advisable to conduct an exercise to revalidate the plan. The type and scope of the exercise is a matter of judgement. This guide describes a comprehensive approach, suitable for a large and thorough table-top or small-scale functional exercise. Users of this guide may use as much of the material as they judge to be appropriate to tailor the scale of exercise to that which best meets their needs. Annexes A to D contain tools to assist exercise developers. These tools will not be sufficient to develop and conduct a large-scale functional or full-scale exercise, but familiarity with the material in this guide will enable users to comfortably contribute to the planning and participate in these more complex types of exercises.

The purpose of an exercise is to practise a plan, or elements of a plan, in such a way as to evaluate the plan itself, train users in its operation, and strengthen interdepartmental, interagency and intersectoral links between the many organizations that may be involved. When developing an exercise for validating or evaluating a plan for influenza pandemic management, or any other plans, there are four basic questions that should be addressed from the start.

- ***Is there a policy-level commitment to undertake and/or participate in the exercise?***

The appropriate policy level depends on the type and scope of exercise and will range from senior elected and appointed officials to executive heads of government departments and agencies. It is highly desirable that those responsible for leaderships recognize the importance of practising a plan and are committed to using the outcomes to improve pandemic preparedness.

- ***What are the intended scope and objectives of the exercise?***

Scope and objectives are linked. The larger the scope, the more objectives can be included, but realistic limits should be established. A few well-conceived objectives will assist in securing the commitment of policy-makers and exercise participants. When developing objectives, it is useful to consider that when problems arise in the management of emergencies, it is usually due to one or all of the following five critical issues:

- lack of clarity about authority and responsibility,
- communications failures,
- too many responders and agencies responding in an unplanned way,
- poor use or absence of specialized resources, and
- unplanned, usually negative media.

Developing exercise objectives that address these issues is one way to ensure the success of the plan.

- ***Who will coordinate the exercise?***

One organization or individual must be responsible for coordinating the exercise. In the case of either an orientation or a drill, the coordinating agency usually will be the principal author/owner of the plan and will also provide the facilitation for the exercise. In all other types of exercises the coordinator may be from outside the agency that prepared the plan. This provides a valuable measure of objectivity in the exercise process. In large-scale exercises it is common to have a coordination team drawn from all of the significant participating agencies.

- ***Who should be involved in the exercise?***

Generally speaking, exercise participants should always include all those who are directly involved in the operation of the plan, or section of the plan, that is being evaluated. In the case of a table-top exercise it is common to allow a number of observers who have a professional, operational or policy interest in the outcome. This is similarly true for functional and full-scale exercises, but **care should be taken to ensure that the presence of too many observers does not interfere with the conduct of the exercise.**

Participants in pandemic exercises should include representatives from all the sectors and stakeholders that have been or should be involved in influenza pandemic management planning. These could include representatives from any or all of the following:

- national and regional health authorities, including preventive, curative and diagnostic services, the national drug regulatory authority, and the national reference laboratory, representatives of the associations of physicians, particularly general practitioners and respiratory physicians, nurses and pharmacists;
- health emergency coordinators;
- environmental health officials;
- veterinary authorities and experts in animal influenza viruses;
- media relations and risk communications experts;
- public or private organizations that monitor health indicators, use of health care facilities and pharmaceuticals;
- local hospitals and health care staff;
- health informatics;
- the pharmaceutical industry, both manufacturers and distributors;
- social services administrations;
- public safety, military, civil defence and/or government emergency measures organizations or teams;
- forensic specialists;
- other concerned government agencies or ministries and departments like finance, civil affairs, transport, and security;
- health ethicists;

- nongovernmental and voluntary organizations, such as the national Red Cross or Red Crescent Society;
- critical infrastructure services such as electricity water and telecommunications;
- logisticians;
- tourism officials; and
- others.

4. Designing an exercise

The organization responsible for coordinating the exercise, (usually, but not always, the one responsible for the plan) may appoint a **sponsor**, customarily drawn from the executive levels of the organization. The role of the sponsor is to provide linkage with the policy levels of the organization for the **exercise director** who is appointed to oversee the design, conduct and evaluation of the exercise. (In a small organization conducting a small exercise, the sponsor and exercise director will likely be the same person.). Depending on the scope and objectives of the exercise, the design process can involve one or many participants. As the number of agencies and organizations participating in the exercise increases, the sponsor may create a senior-level, multi-agency steering committee. Similarly, the exercise director may need to create a **design team** to engage the interests of multiple participants. In all cases, the issue of scale is important. Large-scale exercises, while very useful, can pose significant organizational and management challenges. An alternative is a few smaller, sequentially linked exercises, involving partners and stakeholders with common interests, which can yield equally useful outcomes. **First-time exercise planners should try to keep the scope as limited as possible until they are comfortable with the challenges of a larger undertaking.** A flow chart depicting key stages in a moderate to large table-top exercise is in Annex E.

Four distinct components in an exercise design are outlined below:

- **The scenario**

All exercises, even small orientations and drills, need a scenario. The purpose of the scenario is to create, for the participants, a plausible story line or script within which to practise the plan. The first part of the scenario, referred to as the narrative, sets the scene for an exercise to begin and follows with a hypothetical situation creating the need for emergency response. The narrative is usually provided to the exercise participants in advance to create a context for the exercise and enable them to prepare. The scenario consists of a sequence of events designed to achieve the exercise objectives and is supported by a key events list and in larger exercises, a master scenario events list. To support facilitation of the process, the scenario is often partitioned into sections or chapters that coincide approximately with the key events. For example, the key events in a pandemic influenza exercise would naturally coincide with events that trigger changes in the WHO alerting system. Following each section or chapter is a series of questions, designed to stimulate discussion and consideration of the organizations plans. A sample scenario for influenza pandemic is in Annex C.

- **The exercise facilitation or control plan**

This plan contains instructions for the person(s) (facilitators or controllers) that actually run the exercise. It gives advice on how and when to input or inject the next sequence of events from the scenario (e.g. by video, facsimile, simulated telephone call, announcement by facilitator or whatever realistic or creative process the design team has imagined) and how the intended interaction among the participants will be facilitated (e.g. by one or multiple facilitators or designated participants). For the purposes of influenza pandemic exercises, the concept of a facilitated table-top exercise is optimum. In larger functional and full-scale exercises, with multiple points of input, the facilitation plan is referred to as a control plan, the purpose of which is to guide multiple controllers and simulators.

- **The exercise plan**

All participants should be given a copy of the exercise plan. This document provides an overview of the exercise and includes some or all of the following information: date, time, location, duration, participants, purpose, type of exercise, scope, assumptions and artificialities, scenario narrative (see above), evaluation process and 'rules of engagement'. In larger, more complex functional and full-scale exercises, this material would be incorporated into a "Players Handbook", which would also detail all the resources available to the participants. A template for an exercise plan can be found in Annex B.

- **The evaluation plan**

An evaluation plan describes the procedures and standards to be used for evaluating the effectiveness of emergency management policies, plans, procedures and resources. All exercises, including a small orientation, should have an evaluation component, which may be as simple as a knowledgeable note-taker, who monitors the process and works with the facilitator to produce an evaluation report for the participants. The same applies to a table-top exercise. As the scope and complexity of the exercise expands, so does the need for multiple evaluators, who work together as a team to produce an evaluation report. It is preferable that evaluators be knowledgeable about the expected responses to issues raised through the scenario. They are often provided with checklists for each scenario to enable them to record whether the input and the planned response would produce the desired outcome. An evaluation plan template is in Annex D.

5. Administering and conducting an exercise

Maintaining administrative records of exercises provides evidence of due diligence in the pursuit of enhanced public safety. Normally the exercise plan and evaluation report, along with reports of any subsequent follow-up action, are sufficient documentation to satisfy this requirement.

All exercises have certain process requirements that, when properly addressed, help ensure that the objectives of practice, learning, evaluation and generation of commitment are achieved.

- **Confidentiality**

For exercises involving national security or revealing of legitimately secret or other proprietary interests, there are certain conventions and expectations regarding the confidentiality of exercise materials, processes and outcomes. Generally speaking, these will not apply to exercises of a public health nature, but it is an expected courtesy that post-exercise comments by participants be limited to their own experience and learning from the process. For most purposes, **there is little need for confidentiality in the exercise design process, except for the convention of keeping the details of the scenario in confidence**. This is not necessarily to surprise the participants, but to foster a sense of realism, where not all events can be predicted.

- **Use of audiovisual tools**

Audiovisual devices, which are now sufficiently commonplace, are frequently used during exercises. They are most effective in two circumstances: (1) as a means to input scenario information into the exercise play, and (2) as an aid to evaluation, where they are used to record the observations and reports of players. Use of recording devices during exercise play, without the expressed consent of all the players, is considered offensive by some people and inhibiting by many.

- **Inviting the participants**

Invitations to participate in the exercise are usually issued by the sponsoring organization, with a répondez s'il vous plaît (RSVP) request to assist the planners and organizers. To assist invitees in preparing for their participation, it is common practice to include with the invitation, a package of information that includes a copy or a summary of the exercise plan (see below), a list of all those who have been invited and a request that participants bring to the exercise a copy of their organizations' emergency response and management plans.

- **Participant registration**

The most important part of registration is ensuring that organizers have up-to-date contact information for all participants, so that they can receive the evaluation report. Providing copies of the contact information to all participants helps to build and support the community of interest.

- **Opening address**

The commencement of an exercise of any type and size can benefit from a well-conceived opening address delivered by the most appropriate senior-level person available. The purpose of the address is to welcome and recognize the interests of the host agency and the participants, set the tone, create expectations for cooperative engagement in the process and express confidence in the ability of the participating partners and stakeholders to build on the experience they are about to have.

- **Organizing the participants**

Exercise participants should be organized in a way that encourages easy discussion of issues raised by the exercise scenario. A skilled facilitator can work with quite a large group of participants, up to about 20. Above that, the size of the group is inhibiting for some participants and the number of potential interactions becomes difficult to manage. **Discussion**

groups are usually more productive if the number of participants is between four and twelve.

A small exercise (orientation, drill or table-top) with a limited number of participants will usually be held in a modest meeting or conference room. Participants will be seated around a table; while participants' support staff and observers are seated around the perimeter of the room. Support staffs are there to assist the participants and, therefore, are part of the exercise. Observers are not part of the exercise, so should have only limited participation, but may join in the evaluation.

A larger table-top exercise requires a much larger setting as it will have multiple tables, each with its own facilitator and evaluator. Participants can be grouped at tables in a variety of ways depending on the exercise objectives, number of participants, and the judgment of the exercise development team. Common groupings include:

- Functional grouping, where participants have common or highly interdependent functions and the objective is to foster comprehensive emergency planning. Examples: military, civil defence and security forces; health care services; social services; elected officials (local, provincial national governments); health ministry officials; medical supplies industries; critical infrastructure industries (electricity, water, sanitation, telecommunications, public works).

- Geographical grouping, where participants have location in common and the objective is to foster greater integration of emergency planning and response. Examples: local community services and government; regional/provincial services and government; regional health authorities; national infrastructure agencies, industries and government.

When there are multiple tables, a facilitator and evaluator are required at each table. While it is not ideal, when exercise resources are scarce, it is common to ask each table to appoint its own evaluator or recorder, and sometimes its own chairperson who fulfils the facilitation function. Table facilitators are responsible for encouraging and guiding the discussion at their tables. A **lead facilitator** or the **exercise director** then handles the overall facilitation of the exercise**.**

- **Introducing the exercise**

The facilitator initiates the exercise process by first reviewing in summary form the key points in the exercise plan, emphasizing the objectives and rules of engagement. It is often desirable to briefly review the nature of the threat that the scenario addresses. For example, some participants may not fully understand influenza pandemic and may be using the exercise to evaluate the effectiveness of their generic response and management plan to deal with the specific issues raised by an influenza pandemic. It is often helpful if the most senior, largest or most responsible jurisdiction briefly describes their plan, in order to create additional context for participants.

- **Exercise play**

The facilitator sequentially introduces each section or chapter of the scenario, with a scheduled pause after each. The text of the scenario can be provided (injected) in a variety of ways including: handouts for each section, video, computer presentation, read aloud, acted out in a theatrical simulation, or any creative, attention-getting combination. Printed handouts, augmented verbally if necessary by the facilitator, are the most common and reliable methods. During the scheduled pauses, participants work through a series of

questions that follow each section with the assistance of the facilitators or chairpersons at each table. The participants respond to the scenario questions based on their experience, knowledge and current plans and procedures within their agencies. Immediately prior to injecting the next section of the scenario, the facilitator should encourage participants to summarize the most important points for the evaluator(s) to note. This is a useful time to use audio-visual recording devices, if their use has been included in the exercise plan and the players have consented.

- **Initial evaluation**

Immediately following the exercise play it is essential to conduct an initial evaluation of the outcomes. In a small orientation, drill or table-top exercise this will consist of the facilitator and recorder reflecting back to the participants and discussing their observations about: what aspects of the plan worked well; what needs improvement; and what did not work. In a larger multisectoral exercise, the evaluation process requires that the evaluator and facilitator at each table report their observations verbally to the assembled participants. Evaluators should note which organizations have undertaken to adjust their plans in response to issues that arose during the exercise. When this is complete, the lead facilitator should invite an evaluation of the exercise itself, with regard to whether the overall exercise objectives were met. This may take the form of either a post-exercise discussion, or more formally using a prepared evaluation form. The facilitator should ensure that the evaluators' notes are collected for inclusion in the written report, and that all audio-visual recordings are collected.

- **Closing address**

At the end of an exercise, most participants will have little appetite for a lengthy address, but it is important to briefly acknowledge the effort and commitment of participants, confirm that there will be an evaluation report produced and will be available in the near future, acknowledge commitments made by organizations to improve their plans and acknowledge the team that developed and conducted the exercise.

- **Post-exercise documentation**

As soon as practical after the exercise, the exercise director and facilitator, working with the evaluators, should prepare the evaluation report, which will capture any significant weaknesses in plans, note particular strengths and record any commitments to adjust and strengthen plans. It is good practice to then schedule a smaller follow-up exercise to evaluate the improvements, and demonstrate that lessons from the original exercise were actually learnt, but this is more practical with smaller exercises that are internal to an organization.

ANNEX A

GLOSSARY

Artificialities: the events played in an exercise are not real at the time. Consequently they are considered 'artificial' and some aspects are less potentially 'real' than others. These are identified as artificialities, which are required to facilitate the exercise.

Checklist: an evaluation tool based on the expected responses detailed in an organization's plans, that will make to address a particular set of circumstances. An evaluation checklist itemizes the expected responses to each scenario input and the evaluator checks off whether the organization provided the intended response.

Concepts: the general ideas about how the exercise and its components will be structured and the process to make it work to achieve the intended objectives.

Concept of evaluation management*:* describes in general terms, the evaluation process, how the evaluation team is organized and any tools they will use.

Concept of play*:* provides a description of the players involved in the exercise, how they are expected to engage and limitations of the exercise due to constraints such as time and resources.

Exercise concept*:* summarizes the overall structure and process of the exercise and includes the concepts of play and evaluation management.

Concept of evaluation management: See 'Concepts'

Concept of play: See 'Concepts'

Control (plan): See 'Plans"

Critical infrastructure (services): infrastructure within which failures will produce widespread social, health and economic consequences, are considered to be critical infrastructure. This includes services such as public utilities, financial institutions, public safety and other government services, health care and related services etc.

Design team: See 'Teams'

Development team

See 'Teams'

Drill (exercise): a type of smaller scale exercise, the purpose of which is to develop skills and behaviours that require elements of automatic response involving procedures and interactions.

Due diligence: the legally or morally required conscientious attention to accountability, that a person or organization would reasonably expect.

Emergency plans: documents that describe how an organization will address an emergency which typically (should) include components of mitigation or prevention, preparation, response management and recovery.

Evaluation plan: See 'Plans'

Evaluation report: a report prepared after the exercise by the evaluation team and exercise director, which details the observations of the evaluators and summarizes those aspects of the emergency plan(s) that worked well, those that require improvement and those that require new thinking and procedures.

Evaluation team: See 'Teams'

Evaluator log: an evaluation tool that presents the exercise scenario sequence of events with prompts and notation space to support evaluator observations and note taking.

Exercise: an artificial or simulated process, the purpose of which is for participants to practice and learn, as part of an intention to evaluate or validate an intended course of action, such as an emergency plan.

Exercise concept: See 'Concepts'

Exercise development team: See 'Teams'

Exercise director: the person assigned overall management responsibility and authority for an exercise. They may assume additional roles within the exercise structure and process depending on their skills and the size (scope) of the exercise. In a small exercise it is possible for the exercise director to also be the sponsor, facilitator and evaluator.

Exercise plan: See 'Plans'

Exercise team: See 'Teams'

Facilitation/control/simulation team: See 'Teams'

Facilitation (plan): See 'Plans'

Full-scale (exercise): the most complex, and often large form of exercise, which requires actual movement of physical and human emergency response resources, as if there were a real emergency.

Functional (exercise): a form of exercise that is less complex than a full-scale (see above), but more challenging than a table-top (see below), in which the players respond in their planned roles to a fully simulated series of events. This form is used to practice policy-based interactive processes, such timely passage of critical information, identified in a plan.

Hazzard: a danger associated with a measure of risk (see 'threat'). Hazards tend to be associated with uncontrolled, naturally occurring dangers—earthquake, volcanic eruptions, wildfires, extreme weather etc.

Inject (s) (ed): messages, or information about the next stage or events in the scenario, are said to be injected when they are input into the exercise process for players to address.

Live deployment: actual assignment and movement of material and human resources, as if in a real response, as opposed to simulated movement, which simply pretends that the actions took place.

Logistical support: relates to coordination of the availability of materials, facilities and other resources required to conduct an exercise.

Logisticians: managers, whose expertise is the timely acquisition and movement of required equipment, supplies and personnel in complex campaigns or projects.

Narrative: the first part of an exercise scenario is called the narrative, which is intended to provide necessary background and set the stage for the storyline developed in the scenario. Small, simple exercises usually have a one or two statement narrative. Large complex exercises will often have lengthy narratives that detail a sequence of events leading up to the exercise scenario. Narratives are often derived from real events, to create a sense of authenticity or realism for the exercise.

Objectives: the goals or aims of the exercise, stated in such a way as to be observable and to the extent possible, measurable, in order to support the exercise evaluation process.

Orientation (exercise): the most simple form of an exercise, based entirely on presentation and discussion, the purpose of which is to acquaint users of a plan with its structure and features.

Pandemic influenza: a form of influenza which is distinguished from other forms by the lack of any immunity in humans due to the novelty of the casual virus, its ease of transmission among humans and its resulting high rates of illness and death globally in all exposed populations. The phrase 'influenza pandemic' relates to the same phenomenon, but has a slightly different meaning. Influenza pandemic is a form of pandemic (not influenza), the casual agent of which is influenza.

Participants: all the people involved in the development and conduct of an exercise including the sponsor(s), steering committee, developers, designers, controllers evaluators, administrative staff etc., excluding observers, whose role is limited to participating, by invitation only, in the initial exercise evaluation.

Participant support team: See 'Teams'

Plans: the details of an exercise design are contained in a variety of component plans. As in any design activity, the larger and more complex the design, the more component plans there will be.

Control / Facilitation / Simulation Plan: describes how the exercise will run. Large and/or complex exercises will have a control plan, to address multiple paths of interaction and/or points of engagement. Smaller, less complex exercises will address matters of control with a facilitation plan, which provides for one or more moderators (facilitators) to guide the exercise process. Functional and full-scale exercises will have a simulation plan to provide details about exercise inputs and responses that will be imitated (simulated).

Evaluation Plan: describes what and how the exercise will be evaluated, by whom and how multiple evaluators are organized, and the tools and procedures they will use.

Exercise Plan: is the high-level master blueprint for the overall exercise design that provides the framework for the component plans. For a large and complex exercise it provides the strategic context and the component plans provide the tactical elements. For a smaller, less complex exercise it provides the goals and objectives and the component plans provide the tasks.

Policy level: those people at various levels of organizations, but normally at the executive level, whose responsibility is to provide leadership and direction. In national government agencies this would be the minister, and chief agency executives. In national, regional, provincial and local non-government organizations, this would be the chief executives and the chair of a governing board. The defining feature of a policy level position is the nature of the leadership and management role in the agency, which in some highly decentralized organizations, can include local supervisors, who may have considerable latitude and responsibility in fulfilling the agency's mission.

Proprietary interests: relating to ownership interests, such as intellectual property, patents, copyrights and trade or business secrets or confidences such as business models and costs.

Real time: the passage of time as it is experienced in reality, without simulating an artificial shortening of time to advance the storyline in a scenario**.**

Scenario: a description of a series of hypothetical, but plausible events that tell a story designed to stimulate players in an exercise to respond to the events using the prescribed actions in their event management plans.

Scope: the size of an exercise as determined by the extent of the plans being validated and the number of agencies and organizations who will participate.

Simulation: an imitation of the conditions of reality.

Table-top (exercise): a form of exercise involving informal discussion among participants, of the events in a scenario, without artificial time pressures. Sometimes referred to as a desk-top, which is somewhat misleading, since the convention with a table-top is to pull people away from their desks and assemble them around a common table.

Teams: in planning and executing larger and more complex exercises, much of the work is assigned to groups of people who work in functional units (teams) to develop and action the component plans (see 'plans' above).

Design team: a functional group whose purpose is to create the overall framework for the exercise, incorporating the efforts of other component teams.

Development team: a functional grouping that includes all of the component teams plus the design team, steering committee and sponsor from the host or coordinating agency.

Evaluation team: a functional group whose purpose is to develop the evaluation plan with the necessary tools, conduct the evaluation and prepare the final evaluation report.

Exercise team: a functional grouping that includes all of the component teams but does not include the steering committee and sponsor.

Facilitation / control / simulation team: a functional group whose purpose is to develop a plan for facilitation and control of the exercise, arrange for simulation of events where required and actually conduct the exercise according to the plan.

Participant support team: a work group whose purpose is to prepare and coordinate the necessary exercise materials, administrative support, briefings, resource lists and player handbook if required. In exercises where participant travel is required the support team will also oversee the travel and accommodation requirements.

Threat: an event or hazard that has demonstrable potential or probability of harm (see 'hazard'). A threat is usually relative and dependent on the situation. Freezing to death, outdoors in a tropical climate, poses little threat, but in an arctic climate, is a high probability threat. Threats are commonly associated with human-generated or controllable dangers—terrorism, nuclear power plant failures, communicable disease outbreaks, urban fires etc.

Validate: a process to confirm that a plan accomplishes what it is intended or needs to achieve.

Sample Agenda

This sample agenda, which is suitable for a larger table-top exercise, can be tailored to suit the requirements of any size and type of exercise.

Time	Activity
08:00 – 08:30	Participant registration *(Identify where this occurs)*
08:30 – 08:40	Opening address *(Identify speaker and title/role)*
08:40 – 09:00	Exercise Administration *(Participant Safety, facility amenities, Organization of exercise, Introduction of facilitator(s) Special Instructions)*
9:00 – 09:30	Review of influenza pandemic concept and planning *(Tailor to needs of participants)*
09:30 – 10:30	Introduction of scenario *(see sample scenario, Annex C)* Session 1: Outbreak of novel virus in other country or region.
10:30 – 10:45	Break *(15 minutes may not be enough for large groups)*
10:45 – 11:45	Session 2: New virus isolated in your country *(see sample scenario,Annex C.)*
11:45 – 13:00	Lunch *(note the extra time for crowd movement and net-working among participants)*
13:00 – 13:15	Brief review of the scenario to this point
13:15 – 14:15	Session 3: Viral outbreaks in your country *(see sample scenario, Annex C)*
14:15 – 14:30	Break
14:30 – 15:30	Session 4: Widespread viral outbreaks in your country *(see sample scenario, Annex C)*
15:30 – 16:15	Exercise debrief and evaluation
16:15 – 16:30	Closing address

ANNEX B

Exercise Plan Template

EXERCISE PLAN

General

The purpose of the Exercise Plan is to identify policies, procedures, administrative requirements, exercise roles and responsibilities that will support exercise-planning initiatives.

The Plan provides exercise developers with guidance concerning procedures and responsibilities for exercise design and support. It explains the exercise concept, establishes the basis for exercise, and establishes and defines the communications, logistics, and administration structure needed to support the exercise, before, during and after. Note that this template may be used for almost any size of exercise.

Users of this guide should take from the template only as much as they need to adequately describe and plan an exercise of a scale suitable to meet their needs. Novice exercise planners should attempt to start with as small an exercise as practical.

Exercise type and purpose

(State what type of exercise is going to be conducted)

1. Orientation, 2. Drill, 3. Tabletop, 4. Functional, 5. Full Scale

(Describe the purpose of the exercise)
(Describe the purpose of the plan being validated, the mission and goals of the exercise and provide specific information to exercise developers on the exercise objectives, points of review, administrative procedures, methods of facilitation/control and evaluation. Most importantly, lay out in either full or summary form, the exercise methodology including facilitation/control and evaluation team structure, team member responsibilities, locations, and procedures.)

Scope

Scope relates to size, as determined by the number of different agencies, organizations and sectors participating, actual dates and duration of the exercise with location(s) and description of briefing/narrative summary that will start the exercise. See example below.
The table-top exercise will involve *(summarize the range of participants*) will be held to practice and validate influenza pandemic management plans.
Exercise play will begin on *(insert time, day of week, date)* and end at approximately *(insert time)* as determined by the exercise director. *(Leave open the possibility that the exercise director may have to cancel, postpone or shorten an exercise due to real live events and emergencies).* The exercise will be initiated by a *(Describe whether briefing, incident, or video and provide a general description of the information. Example: The briefing will begin with a description of the situation, as it currently exists).* This background briefing will be based on the information in Scenario Narrative. There will be a post-exercise meeting at *(location if planned)* on *(insert date if planned)*

Scenario Narrative

The purpose of the narrative is to set the stage for the scenario. It is the introduction to the larger scenario.

[Briefly describe the hazard, (e.g.: influenza pandemic) and related events and conditions setting the stage for the exercise. Provide the background information for the emergency to enhance the realism of the situation.]

References

For larger table-top, functional and full-scale exercises, reference materials may be supplied by the exercise organizers or the participants may be required to bring their own.

- (Examples of reference materials that may be required:
- Organizational plans for influenza pandemic
- Agency plans for activation of an emergency operations or coordination centre.
- Functional descriptions for emergency management personnel.
- Exercise Control/Simulation Plan.
- Exercise Evaluation Plan.
- Exercise Scenarios.)

Assumptions, Artificialities and Simulations

(The following assumptions, artificialities and simulations are generic; you will need to modify and/or add specifics for each exercise.)

Exercise Assumptions

The following assumptions are made in order to ensure that the exercise is as realistic as possible. It is intended that exercise events progress in a logical and realistic manner and that all exercise objectives be achieved during exercise play.

- Exercise participants are well versed in their own department and agency response plans and procedures, even where these may not be formalized in a plan.
- The term "participants" includes planners, facilitators/controllers, evaluators, and players.
- Players and controllers will use real-world data and information support sources. This means that to the extent possible, the scenario will be realistic and players are expected to base their responses on known, actual and available resources.
- Players will respond in accordance with existing plans, policies, and procedures. In the absence of appropriate written instructions, players will be expected to apply individual initiative to satisfy management, response and recovery requirements.
- Implementation of response and management plans, policies, and procedures during the exercise will depict actions that would be expected to occur under actual conditions and, therefore, will provide a sound basis for evaluation.

Actions to direct units, personnel, or resource deployments will result in simulated movement during the exercise unless live deployment in real time is stipulated to achieve an exercise objective. *(Example: If a fire suppression unit is required or an official is required to attend a particular location, the assignment and movements of that unit and person will be simulated. Generally, this only applies to complex functional exercises).*

- A real emergency will result in postponement or cancellation of the exercise.

Exercise Artificialities and Constraints

[All exercises contain elements of fiction (artificialities) and limitations (constraints) that exist because the situations are not real and not necessarily played in real time.]. It is recognized that the following artificialities and constraints will detract from realism; however, exercise planners should accept these artificialities as a means of facilitating accomplishment of exercise objectives.

- The exercise events will be played in very compressed time, reflecting the reality that an influenza pandemic will develop over an extended period of time, *(other kinds of events may play in real time or near real time)* however, to meet exercise objectives, some events may be accomplished by participants prior to the exercise, and other events may be accelerated in time to ensure their consideration during play. *(a slow moving event like an influenza pandemic would unfold in real time over many months to years, but in an exercise some or many of those months would be compressed into a few hours).*
- Many alert, notification, initial activation, and some early response actions, will not be a part of the exercise *(often because the actions have already been taken).*
- Responses obtained from players from simulations may not be of the quality or detail available from the real organization or individual *(because the individual player usually does not have the organizational supports that are normally available to them).*
- During the exercise, actions indicating direction to units, personnel, or resource deployments, and subsequent movement of resources will be played; however, these actions will be simulated with no live movement occurring in the exercise *(this primarily pertains to functional and full-scale exercises, except in the case of a full-scale exercise where live deployment of resources will be expected to occur . See comment under 'assumptions' above.).*
- Some personnel and equipment may be pre-positioned at exercise locations prior to the exercise rather than move in real-time during the exercise, and they will enter play at predetermined times from their pre-positioned location. When this exercise artificiality occurs, it will be referred to in exercise documentation as exercise pre-positioning to differentiate it from the live deployments that will be evaluated *(this only applies to functional and full-scale exercises and is an important risk and cost management tool).*

Exercise simulations

Simulation during exercises is required to compensate for nonparticipating individuals or organizations. Although simulations necessarily detract from realism, they provide the means to facilitate exercise play.
(This would not normally apply to an influenza pandemic table-top exercise, but is an important component of exercises for a broad range of other hazards. Describe in general, conditions and events that will be simulated. Examples include weather information, dispersion plumes for aerial contaminants, simulation of nonparticipating organizations, media, victims, evacuees, etc.)

Exercise objectives

Objectives provide the foundation and guidance for exercise development. The following are examples of exercise objectives (these are provided for illustrative purposes and most pertain to an influenza pandemic or similar exercise. In all cases, the objectives should be developed from a consideration of the strategic and tactical elements of the plan that is being validated).

- Clarify the authorities, responsibilities and roles of participating agencies in an integrated, comprehensive response to influenza pandemic.
- Demonstrate and clarify the procedures for passage of time-sensitive information to policy and decision makers.
- Demonstrate the capability of local authorities to coordinate comprehensive response activities.
- Demonstrate the capability of local authorities and agencies to identify shelters and mass care facilities, associated human and material resources and the distribution systems to support immediate use.
- Demonstrate the preparation and dissemination of timely information to the various publics during emergency operations.
- Demonstrate the capability to conduct rapid situational assessment.
- Demonstrate the ability to identify immediate supplemental medical assistance to meet the health and medical needs of affected populations.
- Demonstrate logistical processes for identifying and tracking assets and resources committed to response operations.
- Demonstrate the ability to prioritize and use available and accessible resources and assets for maximum effectiveness.
- Determine the procedures for requesting assistance from higher levels of government.

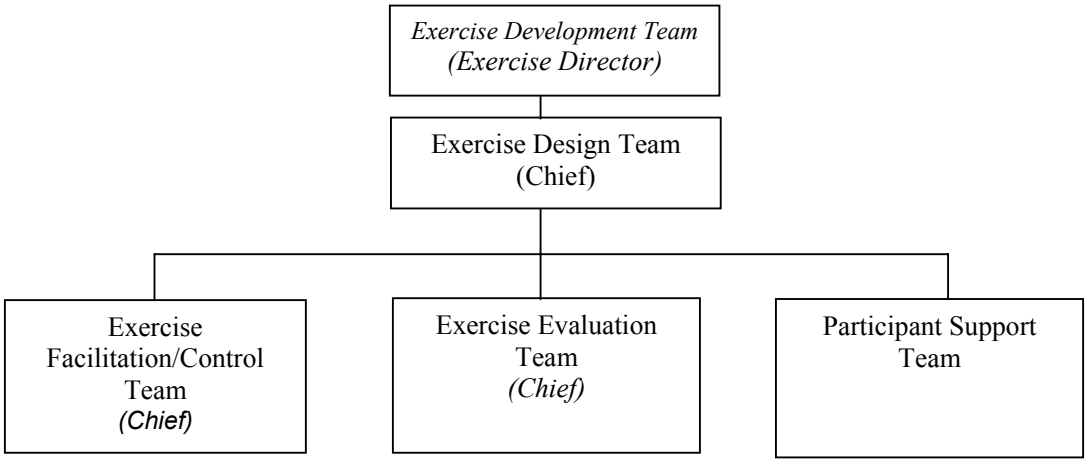
Exercise Concept

This section provides an overview of the exercise process and any post-exercise activity or development that is expected. In complex exercises it explains how team members (development team, facilitation team and evaluation team) will interact with participants.

Management Structure
(Describe the exercise development team organizational structure.)

Overall exercise planning, conduct, and evaluation for the exercise is the responsibility of the (*insert title*). (*Title*) is responsible for coordinating all exercise planning activities between (*Insert country, provincial and local departments, agencies, partners, stakeholders and sectors. Identify others in charge at each level of government/jurisdiction. Include those responsible for facilitation and evaluation.*

For a large exercise, there may be an exercise director with assistants and other functional areas besides evaluation and control and simulation, such as support and coordination. Adapt the following chart to reflect your exercise management structure.



Sample Exercise Development Structure

Exercise Team Staffing, Rules and Procedures
(Modify as necessary)

The people selected as exercise team members must be knowledgeable about emergency management and response functions. (Insert other qualifications, such as knowledgeable about influenza pandemic response plans, or other, as identified by the exercise director or management team leader.) They need this knowledge to understand ongoing exercise activities and to be able to track them. In order to meet this need, individuals may be recruited from non participating (or participating) emergency response organizations. (Identify recruiting options to match qualifications identified previously or else a training plan to ensure team members have adequate knowledge).

Personnel assigned to assist with exercise development will *(Identify rules or guidelines for conduct during the exercise)* and will *(Identify procedures of the exercise, before, during and after.)*.

- **Exercise Development Team** – Responsible for coordinating all exercise planning activities. The Exercise Development Section consists of a coordinator, commonly the Exercise Director who will assign exercise tasks and responsibilities, provide guidance, establish timelines and monitor the development process.
- **Exercise Design Team** – The Exercise Design Team, headed by a Chief, is responsible for developing the exercise objectives, concepts, scenarios, master scenario events list, exercise messages, administrative support requirements and communication methods.
- **Facilitation/Control/Simulation Team**
  (Note that simulation is infrequently used in table-top exercises, but is a feature of functional and full-scale exercises)
  The facilitation/control/simulation team, headed by a Chief is responsible for the development of the facilitation/control/simulation plan. The plan includes, but is not limited to:
  - Exercise facilitation, control and simulation activity management.
  - Provisions for facilitator/controller/simulator training and briefing.
  - Procedures for monitoring and reporting of exercise activities to include the flow and pace of the exercise.

- Procedures to record the responses of players
- Procedures for message injection to include the development of ad hoc messages to support exercise objectives.
- A list of required exercise forms to include instructions for use and preparation.

➢ **Evaluation Team –** The Evaluation Section Team, headed by a Chief is responsible for the development of the Evaluation Plan. The plan should include those evaluation activities that should occur before, during and after the exercise. Evaluation activities include are not limited to:

- Provisions for evaluator training and briefing.
- Procedures for monitoring and evaluating exercise activities.
- Procedures to track the accomplishment of exercise objectives.
- Preparation of exercise checklists and evaluation forms, including instructions for use.
- Preparation for the immediate post-exercise debrief and evaluation
- Preparation of the Evaluation Report.

➢ **Participant Support Team** – Responsible for coordinating exercise support activities, the participant support team works the other teams to develop consistent staff briefings for the facilitators/controllers, evaluators and participants and for more complex exercises, develops the exercise player handbook. The handbook contains instructions for players, information regarding player responsibilities and functions to be performed during the exercise. The player handbook is a primary resource for participants in large exercises (particularly functional and full-scale exercises) and will commonly contain:

- A schedule of player exercise briefings.
- Provisions to review community/agency/organization plans, policies and procedures.
- Scenario overview.
- The exercise objectives.
- Procedures for preparation of exercise generated messages, logs and reports.
- List of real or simulated resources available to players
- Expected player actions.
- Administrative requirements of the exercise.
- Recommended pre-exercise training events.

Safety and Security

(Describe any safety procedures including cancellation of the exercise if an actual emergency occurs. Detail any special security issues involved with the exercise, location or equipment)

Administrative and Logistical Support Requirements

Administrative and logistical support will be required to support all phases of the exercise. The level of support required will depend upon the complexity and length of the exercise, number of players involved and the number of objectives being demonstrated. Administrative and logistical support consists of personnel, equipment, supplies and facilities.

(Describe the logistical and administrative support that will be provided.)

Areas to consider when developing logistical/administrative support for the exercise:

- Administrative support at exercise location(s).
- Personnel to assist with pre-exercise registration, training, and packaging of training materials.
- Secure and provide information on facilities (rooms etc.) for the exercise.
- Provide recording services to support the evaluation team and creation of a record of proceedings in larger exercises.

Site Preparation/ Support

(Describe site preparations that may be necessary to meet exercise objectives. This may include provision of audio-visual aids and communications devices, tables, chairs and seating arrangements)

ANNEX C

SAMPLE SCENARIOS

Introductory Narrative:

The H5N1 avian influenza virus that has been circulating in Asia for some time continues to infect a few humans, some of whom have had quite limited contact with wild fowl or infected domestic poultry. Recent unconfirmed media reports indicate slightly higher human infection levels in some locations where there are no reports of significant increases in observed levels of H5N1 in local bird populations. Ministries of Health are reported to be increasing their surveillance in the target communities to try to verify the reports.

Sample Scenario 1

Section 1: Novel viral outbreak in other country/region

In early May 200X, ProMed reports an outbreak of respiratory illness, which is identified in a Southeast Asian country. At least 159 cases in one town are reported, affecting all age groups; 46 have been hospitalized, 16 of whom died from severe pneumonia and acute respiratory failure.

The WHO Representative in the country has reported to the World Health Organization Western Pacific Regional Office (Regional Office) that the government confirmed the outbreak and the national reference laboratory is following up.

Surveillance in surrounding areas is strengthened, and additional cases begin to be identified throughout the country.

The Regional Office, at the request of the government, dispatches a team of epidemiologists and laboratory personnel to further study the disease. A case definition is being developed. Epidemiological studies determine that the index case occurred three weeks earlier and human-to-human transmission is occurring (the base reproduction number is greater than 1).

Viral cultures collected from several of the initial patients test positive for type A influenza virus. The isolates are sent to the WHO Collaborating Centre for Influenza in Japan for further characterization. The WHO Collaborating Centre determines that the isolates are A(H5N1). Influenza A(H5N1) outbreaks have continued to occur in the poultry since last year in the country. Gene sequencing studies further indicate that hemagglutinin and neuraminidase genes are avian in origin, with the remaining genes derived from a human H3N2 virus. Antigenic and sequence analysis reveal the virus is different from one previously circulating in poultry that caused human infections.

WHO declares establishment of Pandemic Phase 6.

In mid-May, neighboring countries begin to report outbreaks of respiratory illness.
WHO advises that it will update its public health guidelines as soon as more information about the virus and its epidemiology become available. The novel influenza virus begins to make headlines in every major newspaper, and becomes the lead story on major news networks.

Suggested questions for discussion (note: select questions sufficient for only 45 minutes to one hour of discussion)

- What is the structure for leadership, management and coordination (command and control structure) in place to respond to pandemic? How are responsibilities for decision-making roles determined?

- Which surveillance systems are in place to detect a cluster of respiratory illness or imported cases of H5N1 or similar virus with pandemic potential? How can your country enhance its surveillance system to detect cases? How to confirm human infection if unusual clusters are detected?

- What measures should be put in place at borders for international travelers coming from, or going to, affected areas?

- What issues or actions are most important to better prepare your country for a potentially imminent pandemic at this stage?

- What are hospitals and other health care service providers doing at this stage?

- What communications plan should be put in place to inform the public and professionals? How will cultural diversity issues be addressed? What kind of communications plan should be put in place within government, between national authorities and international organizations?

- What are the procedures or mechanisms for collaborating among different agencies, ministries/departments and sectors both in your country and with adjacent countries in order to respond to pandemic? For example, are there mechanisms to collaborate with national immigration and emigration offices for border screening and possible control, or joint investigations in case of suspicion of avian influenza infection in poultry related to pandemic emergence?

Sample Scenario 2

Section 2: New virus isolated in your country

By early June, outbreaks begin to appear in Hong Kong (China), Singapore, the Republic of Korea and Japan. Although cases are reported in all age groups, young adults appear to be the most severely affected. Case fatality rates approach 10%. WHO continues to distribute updates on the status of international investigations on the pandemic strain, its spread and the development of responses to it. There is evidence of increasing public anxiety and some panic because a vaccine is not yet available, and supplies of antiviral drugs are severely limited or absent in many countries. International travel is rapidly decreasing.

By late June a local health officer has reported to the Department of Health, a cluster of influenza-like illnesses in a province: nine cases are reported, mostly in young adults; all have been hospitalized, two of them died. Epidemiological investigation reveals that 26-year-old female patient who travelled to an affected country is the index case. After returning home, she became sick and was admitted to hospital two days after symptom onset. She died within days from pneumonia and acute respiratory failure. Through investigation, 10 additional cases including mild respiratory illness in the neighbors and family are detected. Based on the investigation result, almost all cases are family members or persons who have contact history with her at her place of worship. All the cases and contacts are being treated with antiviral medication and are under isolation or self-confinement at home. Local government has enhanced its surveillance for respiratory illness. The laboratory tests done by the national influenza centre shows positive for influenza A, however the subtype is not H1 or H3 by Hemagglutinin Inhibition test. Consequently, it is suspected to be a novel strain, and the isolates are referred urgently to a WHO collaborating centre. The further analysis done by WHO collaborating centre confirms the causative agent for outbreak is a pandemic strain. Signs of public concern are growing, fuelled by media assertions of government inaction.

Suggested questions for discussion (note: select questions sufficient for only 45 minutes to one hour of discussion)

- What is your plan for management of a large-scale outbreak of communicable disease such as pandemic influenza and what would be the main goal of response to the outbreak at this stage?
- What actions would be the most important to control the outbreak and prevent or limit the spread of the infection to the population?
- What would be the priorities for investigation and surveillance at this stage?
- What is the capacity of your national reference laboratory to test specimens from the cases infected with potential influenza pandemic strain? If no or limited capacity, what are the alternative arrangements? What is the procedure to support rapid sharing of new influenza viruses with the WHO collaborating centres network? At what point is your laboratory capacity exceeded?
- What do hospitals and other health care services need to do to prepare for an influx of patients with acute respiratory symptoms? What mechanisms are in place to provide advice and direction for the clinical management of patients?
- What procedures are in place to identify additional human cases occurring in other locations? Are there systems in place to be informed of what is happening in other hospitals, residential care facilities, medical offices, clinics?

- What procedures would be needed to deal with suspect cases and contacts of confirmed cases?
- Are there stockpiles of antiviral medication in hospitals, pharmaceutical distribution centres, or nationally? How could they most effectively be used at this stage and what is the policy about utilization?
- What would be the communication strategy regarding the outbreak? What should be the aim of the key messages aimed at the general population, and to health care workers in the affected area? What questions would the public raise and how would these questions be addressed? Who would be the primary spokesperson?
- What measures would be contemplated to restrain the movement of people and encourage social distancing?
- What kind of technical advice would be required for senior government officials and how would it be communicated?

Section 3: Beginning of viral outbreaks in your country

It is now the middle of July, a few weeks later there are focal outbreaks occurring in several provinces. The media reports exaggerated accounts of illness. There are reports that previously moderate levels of public anxiety are escalating to panic. Phones at physician offices and health departments ring constantly, with people asking frantically about possible control measures. Rates of absenteeism in schools and businesses begin to rise in some cities. Panic buying occurs in pharmacies and grocery stores as worried people start to hoard remedies for influenza and food.
Some countries have closed their airports to flights from the affected areas. It is expected that other countries will follow.

Suggested questions for discussion (note: select questions sufficient for only 45 minutes to one hour of discussion)

- What public health issues would need to be addressed at this time? Which other agencies need to be involved?
- How do hospitals and other health care services intend to manage the increase in cases and/or prepare for further cases? How will they deal with infection control issues?
- Do laboratories have an appropriate testing protocol? What would it be at this stage?
- How would your surveillance systems monitor admissions or deaths from suspected or confirmed pandemic influenza?
- How would the issues of risk be communicated to the public at this time? How would the media be engaged to support appropriate risk communications? Is there a telephone hotline, or similar communications option, to provide public information on pandemic?
- Should any events or public gatherings be suspended? Do you consider the closure of school or businesses? How will this be achieved?
- What is your plan to deal with suspect or confirmed cases and those people who have had contact with confirmed cases?
- What are the possible legal or ethical conflicts that could occur in to responding to pandemic? How will your country deal with such conflict?
- What are the priorities for who may receive antivirals? What are your contingency plans for storage, distribution, administration and security of antivirals? How will you monitor antiviral adverse events or antiviral resistance?

Section 4: Widespread viral outbreaks in your country

It is now August and country X is overwhelmed by the number of influenza cases. Rough estimates show the attack rate is 30 % to 40% of the population.

Hospitals and outpatient clinics are extremely short staffed when 20% to 30% of health care workers (physicians, nurses, and administrative staff) are absent due to illness, caring for family members, or fear for their own health.

Intensive care units at hospitals are overwhelmed and there is a shortage of ventilators for treatment of patients with severe respiratory symptoms.

Essential services - police, fire, ambulance and power and water - are also experiencing personnel shortages ranging 20% to 30%, resulting in some cutbacks in routine services. Some refuse to work. Water and electricity supplies are being reduced in major centres because of shortages of essential staff. Government assemblies are in recess and government provided services are operating at significantly reduced levels, if at all. Supply chains are experiencing failures due to reduced transportation capacity.

Rates of absenteeism in schools and among teachers are reaching the point where schools are providing daycare not education. Post-secondary institutions are experiencing high absenteeism and dropouts as the novel virus affects young adults more than any other age group.

Many residents are not leaving their homes for fear of contracting influenza. These residents are running out of essential supplies such as food.

Families are distressed as other family members pass away quickly. Mortuaries and funeral homes are becoming overwhelmed by the numbers of dead, unable to keep up with the need for services.

Accounts of widespread illness are reported in the media. Public anxiety and panic are turning into anger because a vaccine is not yet available and antiviral drugs are not widely available. It's becoming difficult to find antipyretics and antibiotics in pharmacies. More people seek medical care than require it, due to fear of the novel virus.

Suggested questions for discussion (note: select questions sufficient for only 45 minutes to one hour of discussion)

- What are your estimates of the effects of influenza pandemic on general practice or community clinics, hospitals and morgues?

- How are you managing the additional resources (financial, human, logistical and hospital beds, ICU beds, basic medical supplies such as syringes and needles) that you may have to mobilize to respond to a pandemic?

- How do hospitals and other health care services intend to manage the overload in cases? What are the criteria for patient triage to decide admission or treatment protocols? How will they deal with infection control issues? How will the excess need for ventilators and PPE be dealt with?

- What will be done to address absenteeism in essential services such as police, fire, ambulance, health care and utilities like electricity and water? What contingency plans are in place to deal with routine work and emergencies?
- How will the excess of bodies at mortuaries, funeral homes and hospitals be dealt with? Will there be special infection control procedures in terms of handling the dead? How will religious customs be addressed?
- What is the role for police and military in a public health emergency such as this?
- How will employees who are prepared to work but have childcare or sick family member issues be accommodated?
- How will the issue of limited food supplies of residents staying at home be addressed?
- What are the plans for provision of psychosocial supports to the affected populations?
- What are the priorities for those who may first receive pandemic influenza vaccine? What are your contingency plans for licensing, storage, distribution, administration and security of vaccines? What is the plan to keep vaccine records and monitor vaccine adverse events?
- To what extent can your existing emergency plan, such as natural disaster management plan, be used in such situation?
- What consideration been given to the special needs of rural areas?
- What would be the strategy for communication to minimize social disruption?

ANNEX D

EVALUATION PLAN

Purpose

The evaluation plan provides guidance to exercise evaluators and facilitators/controllers concerning procedures and responsibilities for exercise evaluation. The objectives identified in the Exercise Plan are a vital component of the evaluation. Consequently the Exercise Plan is the first piece of the exercise evaluation documentation.
(The purpose statement of the Evaluation Plan summarizes the mission and goals of the exercise and lays out the Exercise Evaluation Methodology including the evaluation team structure, team member responsibilities, locations, and procedures.)

Concept of Play

This section provides an overview of the intended exercise activities, a general description of the scenario, an overview of the players, guidelines for emergency call-off of the exercise, and exercise assumptions, artificialities, and simulations.
(All this material is contained in the Exercise Plan and may be copied directly from there.)

Scenario

[Provide a copy of the full exercise scenario and any lists of key events, master events list, points of review and instructions to the facilitator(s)/controller(s). Describe participation of national, provincial and local governments, non-government organizations and agencies and private organizations.]

Pre-exercise play by any participants

Sometimes, in preparation for a larger exercise, a participating organization will conduct their own exercise to practise aspects of their response plan, or to bring them to critical decision points. Generally this only applies to larger functional and full-scale exercises.
(Describe if any play concerning national, provincial, and local organizations will occur prior to the actual start of the exercise. For functional and full-scale exercises, describe any pre-positioning of players and equipment.)

Assumptions, Artificialities and Simulations

(These may be copied directly from the Exercise plan)

Concept for evaluation management

This section addresses the exercise evaluation team organizational structure and process.
Evaluation team structure:
(Identify those responsible for the evaluation, their relationship to the chief of the evaluation team and any assistants or ancillary personnel attached. For a large exercise, the evaluation team chief may have assistants providing support and coordination. In a small exercise, the evaluator may consist of one person, who will work with the exercise director to produce the evaluation report)

Evaluation team staffing guidelines and procedures
The evaluation team chief and personnel selected as exercise evaluation team members should be knowledgeable about emergency management and response functions *(in the event that there are few or no people who satisfy this requirement, then they must be trained sufficiently that they can reasonably fulfil the evaluation function. See evaluation team training below)*
(Insert other qualifications as identified by the exercise director/facilitator.) They need this knowledge to understand exercise activities and to be able to track them as the exercise proceeds. In order to meet this need, individuals may be recruited as evaluators from nonparticipating (or participating) emergency response organizations *(identify recruiting requirements to match the qualifications required).*
Evaluators will *(explain how the evaluators will fulfil the function)* and will participate the initial evaluation and in the preparation of an evaluation report.

Evaluation team training
Evaluator training sessions will be conducted (Insert information specific to evaluator training sessions to include dates; times; and locations, financial arrangements if any and requirements for prior preparation.
At a minimum, all evaluators should receive an orientation briefing and handout materials that covers the material in this document: the exercise plan, including scenario, objectives, procedures, and ground rules. Training may be provided by exercise design team members or by outside sources. For complex exercises, a tabletop activity could be conducted to help familiarize participants with their roles and responsibilities, as well as related plans, procedures, and policies.
In large, complex functional and full-scale exercises, evaluators should receive additional training, which may include EOC operations, the Incident Command System, and all exercise control plan elements. Training should emphasize the roles and responsibilities of both the control and evaluation teams, as well as the functional interaction between the two).

Evaluation team responsibilities
The chief of the evaluation team is considered part of the exercise design team where they will contribute by assisting with the clarification of objectives and the design of appropriate evaluation tools. The chief is responsible for the overall briefing, coordination and support of the evaluation team.

Individual evaluator responsibilities
Each evaluator is responsible to the evaluation team chief at his/her assigned location to assist in monitoring and facilitating exercise play. Specifically, individual evaluator responsibilities include: *(these are generic so use as many of these as are appropriate for the intended exercise).*

- Contribute to the design of evaluation checklists, logs and other forms to collect evaluation data. *(Evaluator logs are structured to provide the evaluator with the sequence of events in the scenario, against which they can record their observations of player responses. A checklist is structured to identify the expected responses to particular events and the evaluator indicates the extent to which the actual response met the expected response. The development of both evaluation tools requires either good familiarity with, or a detailed examination of the response plans of participating agencies. In situations where organizations have published standards for response, these become the primary benchmarks for evaluation)*

- Review evaluation plan, facilitation/control plan materials and attend evaluator training.
- Perform duties assigned by the evaluation team chief at the assigned location.
- Observe exercise play, noting progress towards exercise objectives.
- Monitor player actions and assist the evaluation team chief and exercise facilitator/control team members in tracking exercise events.
- Report to the evaluation team chief any problems or issues that may arise concerning control, including deviations from the scenario or exercise artificialities that may interfere with exercise realism or exercise progress, and record these problems in an evaluator Log.
- Monitor scenario events to ensure the exercise is progressing as planned, and if directed by the facilitator, inject messages into exercise play as assigned at the scheduled times. *(normally, evaluation staffs simply observe and note, but sometimes they will observe that the exercise players have taken the process down an unintended track, usually due to ambiguity in a scenario event. When this is brought to the facilitator's attention, the evaluator may be asked to input messages to put the exercise back on track)*
- Record observations using the evaluator log and comment form for input to the exercise evaluation *(observing, recording, note taking and summarizing are core skills for a good evaluator, but it is sometimes difficult to recruit people with such abilities. Evaluator logs and checklists minimize reliance on highly developed skills. When note taking is required, evaluators can be usefully focused on the five critical issues in Section A of the first part of this guide and on the basic considerations of what worked, what didn't and what needed improvement.)*
- Attend the end-of-exercise participant debriefings and any evaluator debriefings as instructed by evaluation team chief.
- Review simulator materials and attend training, if assigned a simulator role in addition to being an evaluator.
- Provide appropriate guidance for players regarding general exercise information or information concerning scenario events already injected into play and recording each of these inquiries on a log.
- Assist facilitators/controllers in monitoring the flow of the exercise and completion of scenario events.
- Inform evaluation team chief of possible deviations from the scenario and expected actions.
- Record observations using the evaluator checklists and points for review. Complete summary forms for input to the exercise evaluation report.

Pre-exercise procedures

Once an evaluator has been briefed/trained, he/she should continue to review the primary documents for the exercise and the evaluation report forms. This will give the evaluator better familiarity with the procedures, scenario, and evaluation checklists they will be using.

Reporting procedures

(This section contains samples and an explanation of the evaluator log, checklists, information/feedback forms and the procedures used to compete the forms and submit them after the exercise. A description of the scenario events list format and its use by evaluators is also presented here. This section also discusses the evaluator's responsibilities in the preparation of the Exercise Evaluation Report).