NATIONAL INVENTORY OF CORE CAPABILITIES FOR PANDEMIC INFLUENZA PREPAREDNESS AND RESPONSE

February 2010

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Table of Contents

CAPABILITY 1: COUNTRY PLANNING		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) STATUS OF PLAN**	No complete plan	Draft plan includes essential minimum elements of preparedness as identified in the WHO checklist	Plan has been reviewed by all relevant sectors of the government	Plan has been adopted nationally and is updated routinely based on exercises or other emerging information
	(B) DISSEMINATION	Plan is not widely disseminated or available to the public	Plan is known, but not widely available	Plan is published and widely disseminated at national level	Plan published and widely available to multiple sectors, partners, sub-national levels, and public
	(C) EXERCISES	No testing of plan or preparation for testing the plan	Preparation for testing the plan	Parts of plan tested through tabletop exercises	Plan tested through tabletop exercises with follow up actions to address deficiencies or enhance quality
	(D) COORDINATION AND RESOURCES FOR IMPLEMENTATION OF COUNTRY PLAN	No clearly defined decision-making structure in place	Clearly defined decision-making structure in place at national level	National-level decision-making structure is multisectoral; standard operational procedures for essential functions developed	National decision-making structure engages other countries in region and World Health Organization (WHO)
		No allocation of resources for work of country plan	Financial resources for work of country plan included in budget	Financial resources prioritized based on needs and pandemic phase	Mechanism for sustainability of financial resources for work of country plan

CAPABILITY 1: COUNTRY PLANNING		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) STATUS OF PLAN**	No complete plan	Draft plan includes essential minimum elements of preparedness as identified in the WHO checklist	Plan has been reviewed by all relevant sectors of the government	Plan has been adopted nationally and is updated routinely based on exercises or other emerging information

What is the status of the national plan for pandemic influenza preparedness and response?

Measurement Notes

- The indicator refers to a national plan for pandemic influenza preparedness and response. The national plan may be a stand-alone document, or one component of an all-hazards preparedness plan.
- The plan should include well-defined triggers for outbreak investigation and response:
    - An excess number of cases of severe acute respiratory infection (SARI) in a health care facility or community
    - Clusters of SARI
    - Atypical cases of influenza like illness (ILI) or SARI, including disease related to animal exposure
    - Any rumors of clusters of SARI or atypical respiratory infections, including disease related to animal exposure
    - Other triggers may include clusters of animal deaths or excessive absenteeism from schools, institutions, or workplaces
- The plan should be multi-sectoral and reviewed by all relevant sectors of the government.
- The plan should be a dynamic document, updated routinely as new information becomes available.
- The plan could be updated based on new research findings, revised guidance documents or international recommendations, lessons learned from exercises or simulations, or additional experience in outbreak investigation.
- The plan should be reviewed at least once per year.

Example Documentation or Evidence for Level of Capability

- Dated version of plan(s) or similar document
- Revised or updated version of plan(s)
- Documentation of review process, including participating agencies or sectors
- Documentation of formal or informal adoption of the plan

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. Responding to the avian influenza pandemic threat: recommended strategic actions. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

Pan American Health Organization. PAHO-CDC generic protocol for influenza surveillance. 2006 [cited 2008 Apr 4]; Available from: http://www.ops-oms.org/English/AD/DPC/CD/flu-snl-gpis.htm

CAPABILITY 1: COUNTRY PLANNING		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) DISSEMINATION	Plan is not widely disseminated or available to the public	Plan is known, but not widely available	Plan is published and widely disseminated at national level	Plan published and widely available to multiple sectors, partners, sub-national levels, and public

Has the national plan for pandemic influenza preparedness and response been disseminated?

Measurement Notes

- The plan should be disseminated to all sectors involved in preparedness and response.
- The plan should be made available to the public through a public access website, or disseminated by other means.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.

Example Documentation or Evidence for Level of Capability

- Electronic or hard copy of the plan
- Publication or availability of the plan to the public

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. Responding to the avian influenza pandemic threat: recommended strategic actions. 2005 [cited 2008 Apr 4]; Available from: <http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

CAPABILITY 1: COUNTRY PLANNING		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(C) EXERCISES	No testing of plan or preparation for testing the plan	Preparation for testing the plan	Parts of plan tested through tabletop exercises	Plan tested through tabletop exercises with follow up actions to address deficiencies or enhance quality

What is the status of testing the national plan for pandemic influenza preparedness and response?

Measurement Notes

- Testing refers to use of tabletop exercises, at a minimum.
- Preparation for testing the plan may include stakeholder dialogue, identification of needs or priorities, identification of participants, or preparing the agenda and materials.
- Tabletop exercises include group discussion and response to a hypothetical scenario. The purpose of the tabletop exercise is to assess the adequacy or clarity of plans, policies, and procedures. The tabletop exercise should include a final meeting to debrief or review events to identify opportunities to learn from the exercise or improve specific plans, policies, or procedures.

Example Documentation or Evidence for Level of Capability

- Documentation of planning for tabletop exercises (e.g., agenda, materials, list of participants)
- Documentation of implementation of tabletop exercises or follow-up report
- Documentation of changes to plan based on results of tabletop exercises

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

Osaki C. Using tabletop exercises. 2005 [cited 2008 Apr 4]; Available from: http://www.nwcphp.org/training/hot-topics/2005-hot-topics/using-tabletop-exercises

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

World Health Organization. Responding to the avian influenza pandemic threat: recommended strategic actions. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

CAPABILITY 1: COUNTRY PLANNING		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(D) COORDINATION AND RESOURCES FOR IMPLEMENTATION OF COUNTRY PLAN	No clearly defined decision-making structure in place	Clearly defined decision-making structure in place at national level	National-level decision-making structure is multisectoral; standard operational procedures for essential functions developed	National decision-making structure engages other countries in region and World Health Organization (WHO)
		No allocation of resources for work of country plan	Financial resources for work of country plan included in budget	Financial resources prioritized based on needs and pandemic phase	Mechanism for sustainability of financial resources for work of country plan

What is the status of coordination and resources to support implementation of the country plan?

Measurement Notes

- (Top Row) *Decision-making structure* refers to a group or process to make decisions in the event of a pandemic.
- (Top Row) The World Health Organization (WHO) defined essential functions for the purposes of preparedness.
- (Top Row) The national decision-making structure may engage other countries in the region and/or WHO for the purposes of planning.
- (Bottom Row) *Work* refers to activities or efforts to operationalize or implement elements of the plan.
- (Bottom Row) A *mechanism for sustainability* of funding refers to ongoing commitment of resources for pandemic influenza preparedness and response, or elements of preparedness or response defined in the country plan.

Example Documentation or Evidence for Level of Capability

- Documentation of decision making structure
- Evidence of standard operating procedures or protocols
- Budget or other documentation of resources for ongoing planning, operationalization or implementation of plan

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 2: RESEARCH AND USE OF FINDINGS FOR PANDEMIC INFLUENZA PREPAREDNESS		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) COLLABORATION BETWEEN HUMAN AND ANIMAL HEALTH**	No or limited collaboration between human and animal health domains	Sessions on animal health at meetings on human health and vice-versa	Cross-discipline national scientific group(s) established; group has met at least once in past 12 months	Cross-discipline national scientific group produces recommendations, policies, shared research agenda, or similar written product
	(B) RESEARCH PRIORITIES	No or limited research priorities identified	Research priorities identified	Plan to address priority research activities	At least partial funding to address priority research activities
	(C) ENVIRONMENT OF SUPPORT FOR RESEARCH AND USE OF FINDINGS	No or limited scientific exchange	Scientists engage in domestic and international exchange	Government participates actively in national influenza research agenda or research and development strategy	Government allocates financial resources for priority research and development activities
	(D) USE OF DATA TO INFORM DECISIONS FOR PANDEMIC INFLUENZA PREPAREDNESS	No or limited evidence of use of data or research findings	Mechanism established for communicating important findings to decision or policy makers	≥1 decision in past 12 months based on data or research findings	≥3 decisions in past 12 months, including ≥1 based on regional data or research findings

CAPABILITY 2: RESEARCH AND USE OF FINDINGS FOR PANDEMIC INFLUENZA PREPAREDNESS		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A)** **COLLABORATION BETWEEN HUMAN AND ANIMAL HEALTH**	No or limited collaboration between human and animal health domains	Sessions on animal health at meetings on human health and vice-versa	Cross-discipline national scientific group(s) established; group has met at least once in past 12 months	Cross-discipline national scientific group produces recommendations, policies, shared research agenda, or similar written product

With regard to research and use of findings, what is the status of collaboration between human and animal health domains?

Measurement Notes

- The capability refers to a wide range of research activities (e.g., applied, clinical, operational, translational).
- Cross-discipline scientific groups include scientists and/or medical or public health practitioners from human and animal health domains; the scientific group is distinct from a national planning committee.
- Although established to address pandemic influenza preparedness and response, the group's focus may also include seasonal influenza and broader health threats, both infectious and non-infectious.
- The research agenda and priorities will likely vary by pandemic phase.

Example Documentation or Evidence for Level of Capability

- Documentation of recommendations, policies, shared research agendas, or similar written products

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. Responding to the avian influenza pandemic threat: recommended strategic actions. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 2: RESEARCH AND USE OF FINDINGS FOR PANDEMIC INFLUENZA PREPAREDNESS		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(B) RESEARCH PRIORITIES	No or limited research priorities identified	Research priorities identified	Plan to address priority research activities	At least partial funding to address priority research activities

What is the status of identifying and addressing research priorities?

Measurement Notes

- Funding to address research priorities may come from sources outside the government (e.g., foundations, non-governmental organizations, cooperative agreements or grants).
- The World Health Organization (WHO) provides suggestions and protocols for research activities; these materials include guidance on prioritization of activities in low resource settings.

Example Documentation or Evidence for Level of Capability

- Documentation of research priorities or research plan
- Documentation of funding for research activities

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

CAPABILITY 2: RESEARCH AND USE OF FINDINGS FOR PANDEMIC INFLUENZA PREPAREDNESS		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(C) ENVIRONMENT OF SUPPORT FOR RESEARCH AND USE OF FINDINGS	No or limited scientific exchange	Scientists engage in domestic and international exchange	Government participates actively in national influenza research agenda or research and development strategy	Government allocates financial resources for priority research and development activities

Is there an environment of support for research and use of findings?

Measurement Notes

- Examples of scientific engagement and exchange include existence of active professional organizations, attendance and participation in domestic and international conferences on influenza, and publication of findings.

Example Documentation or Evidence for Level of Capability

- Documentation of formal discussion or exchange regarding research or use of findings
- Documentation of government participation in developing a research agenda
- Documentation of financial resources allocated for research activities

CAPABILITY 2: RESEARCH AND USE OF FINDINGS FOR PANDEMIC INFLUENZA PREPAREDNESS		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(D) USE OF DATA TO INFORM DECISIONS FOR PANDEMIC INFLUENZA PREPAREDNESS	No or limited evidence of use of data or research findings	Mechanism established for communicating important findings to decision or policy makers	≥1 decision in past 12 months based on data or research findings	≥3 decisions in past 12 months, including ≥1 based on regional data or research findings

Are data used to inform decisions regarding pandemic influenza preparedness and response?

Measurement Notes

- Decisions may be based on research conducted within or outside the country.
- Mechanisms for communicating findings include established communication channels including, but not limited to, regularly scheduled briefings, briefing or summary documents, email, reports to the World Health Organization (WHO), or scientific publications.
- Decisions based on research findings could include revisions to existing policies, changes to the national plan, or prioritization of activities or resources.
- *Regional data or research findings* refer to findings generated outside the country, but within the country's geographic region.

Example Documentation or Evidence for Level of Capability

- Documentation of communication of data or findings to policy makers
- Documentation of decisions based on data or research findings

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

CAPABILITY 3: COMMUNICATIONS		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS	(A) STATUS OF COMMUNICATIONS PLAN	No or limited operational communications plan	Operational communications plan covers some, but not all phases of influenza pandemic	Operational communications plan covers all phases of influenza pandemic	Pre-pandemic phases of operational communications plan tested or implemented
	(B) MESSAGING	No or limited content developed; no identification of target audiences	Communications materials tailored to target audiences and translated into country's major languages	Templates for communications materials developed by phases of influenza pandemic	Communications materials tested
	(C) DISSEMINATION	No or limited identification or use of formal and informal communication channels	Formal and informal communication channels identified and in use or tested at the national level	Formal and informal communication channels identified and in use or tested at sub-national level	Formal and informal communication channels functional; improved based on information from testing or use
	(D) STAFFING	No spokespersons or communications staff identified; Spokespersons and communications staff at the national level identified but not trained	Spokespersons and communications staff at the national level identified and trained	Spokespersons and communications staff at the sub-national level identified and trained	Spokespersons and communications staff participate in exercises or outbreak response

CAPABILITY 3: COMMUNICATIONS		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	(A) **STATUS OF COMMUNICATIONS PLAN**	No or limited operational communications plan	Operational communications plan covers some, but not all phases of influenza pandemic	Operational communications plan covers all phases of influenza pandemic	Pre-pandemic phases of operational communications plan tested or implemented

What is the current status of the communications plan?

Measurement Notes

- The communications plan may be one piece of a preparedness plan or emergency response plan, but should include content or scenario specific to pandemic influenza.
- The World Health Organization (WHO) defines 6 phases of an influenza pandemic.
- Operational testing refers to simulation exercises. This level of capability also includes actual implementation of the plan.

Example Documentation or Evidence for Level of Capability

- A copy of the communications plan
- Documentation of testing the plan or pieces of the plan

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. Outbreak Communications Guidelines. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/infectious-disease-news/IDdocs/whocds200528/whocds200528en.pdf

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 3: COMMUNICATIONS		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) MESSAGING	No or limited content developed; no identification of target audiences	Communications materials tailored to target audiences and translated into country's major languages	Templates for communications materials developed by phases of influenza pandemic	Communications materials tested

What is the status of messaging for pandemic influenza-related communications?

Measurement Notes

- Communications materials include websites, web-based materials, pamphlets, television or radio announcements, posters, cellular text messages, etc.
- The World Health Organization (WHO) defines 6 phases of an influenza pandemic.
- Target audiences might include the general public, news media, healthcare workers, specific population or risk groups.
- Testing communications materials often includes focus groups, or similar methods.

Example Documentation or Evidence for Level of Capability

- Sample templates for communication materials
- Documentation of identification of target audiences
- Sample materials (e.g., posters, promotional items, educational materials or pamphlets)
- Documentation of testing specific materials

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

World Health Organization. Responding to the avian influenza pandemic threat: recommended strategic actions. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

CAPABILITY 3: COMMUNICATIONS		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(C) DISSEMINATION	No or limited identification or use of formal and informal communication channels	Formal and informal communication channels identified and in use or tested at the national level	Formal and informal communication channels identified and in use or tested at sub-national level	Formal and informal communication channels functional; improved based on information from testing or use

How are communications materials distributed or disseminated?

Measurement Notes

- Communication channels, modes, or pathways should be appropriate to each target audience.
- Formal communications channels may include television and radio broadcasts, village volunteers, health educators, etc.
- Informal communications channels may include community meetings or similar.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.

Example Documentation or Evidence for Level of Capability

- Documentation of testing or use of communications channels
- Documentation of improvements made in communications channels based on testing or use

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

CAPABILITY 3: COMMUNICATIONS		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(D) STAFFING	No spokespersons or communications staff identified; spokespersons and communications staff at the national level identified but not trained	Spokespersons and communications staff at the national level identified and trained	Spokespersons and communications staff at the sub-national level identified and trained	Spokespersons and communications staff participate in exercises or outbreak response

What is the status of staffing for pandemic influenza communications efforts?

Measurement Notes

- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.
- Typically, communications staff develop materials or messages, and assure that the content is appropriate and accurate. In most cases, we identify spokespersons to deliver prepared messages or information.
- Participation in outbreak response is not limited to influenza or other respiratory disease outbreaks.

Example Documentation or Evidence for Level of Capability

- Roster of communications staff or spokespersons
- Documentation of training completed or planned (e.g., agenda, materials, participants)
- Documentation of participation in exercises or simulations

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

CAPABILITY 4: EPIDEMIOLOGIC CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) OPERATIONAL STATUS**	No or limited planning or preparation	Adequate staffing and resources for timely monitoring and making recommendations on population health status, disparities, and acute incidents at the national level	Adequate staffing and resources for timely monitoring and making of recommendations on population health status, disparities, and acute incidents at the sub-national level	Adequate staffing and resources for timely monitoring and making recommendations on population health status, disparities, and acute incidents at the local level
	(B) EPIDEMIOLOGISTS AND FIELD EPIDEMIOLOGISTS	≤1 practicing public health epidemiologist per million population	>1 practicing public health epidemiologists per million population	≥3 practicing public health epidemiologists per million population; ≥1 practicing public health epidemiologist per sub-national level in 75% of sub-national levels	>10 practicing public health epidemiologists per million population, plus epidemiologist vacancies <25%
	(C) QUALITY OF PUBLIC HEALTH EPIDEMIOLOGISTS	No or limited discussion of competencies for public health epidemiologists	Critical competencies and/or standards of performance identified for public health epidemiologists	Explicit process exists for quality assurance and quality improvement among practicing epidemiologists	Roster of public health epidemiologists and observable process for strengthening the profession
	(D) TRAINING	No or limited training in applied epidemiology	Utilizes training program in other country, preparing for program in country, or informal training embedded in another program; current situation not meeting national needs	Some form of epidemiology training program established in country; duration of training less than one year; meets some national needs	Established, ongoing training program with dedicated resources; accredited; annual cohorts or graduates; production adequate to meet national needs

CAPABILITY 4: EPIDEMIOLOGIC CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) OPERATIONAL STATUS**	No or limited planning or preparation	Adequate staffing and resources for timely monitoring and making recommendations on population health status, disparities, and acute incidents at the national level	Adequate staffing and resources for timely monitoring and making of recommendations on population health status, disparities, and acute incidents at the sub-national level	Adequate staffing and resources for timely monitoring and making recommendations on population health status, disparities, and acute incidents at the local level

What is the operational status of epidemiologists in country?

Measurement Notes

- Example resources include leadership and staff, money, and equipment.
- Health disparities are differences in health status across racial, ethnic, or socio-demographic groups.
- Acute incidents refer to outbreaks or other acute health emergencies.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.

Example Documentation or Evidence for Level of Capability

- Documentation of staff available for response
- Documentation of financial resources or equipment available
- Documentation of timely monitoring of population health

References

Breiman R, Nasidi A, Katz M, Njenga M, Vertefeuille J. Preparedness for highly pathogenic avian influenza pandemic in Africa. Emerg Infect Dis. 2007;13(10):1453-8; Available from: http://www.cdc.gov/EID/content/13/10/1453.htm

World Health Organization. Responding to the avian influenza pandemic threat: recommended strategic actions. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

CAPABILITY 4: EPIDEMIOLOGIC CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) EPIDEMIOLOGISTS AND FIELD EPIDEMIOLOGISTS	≤1 practicing public health epidemiologist per million population	>1 practicing public health epidemiologists per million population	≥3 practicing public health epidemiologists per million population; ≥1 practicing public health epidemiologist per sub-national level in 75% of sub-national levels	>10 practicing public health epidemiologists per million population, plus epidemiologist vacancies <25%

What is the current status of practicing public health epidemiologists?

Measurement Notes

- For the purposes of this activity, a “practicing public health epidemiologist” is a masters-level epidemiologist or trained epidemiologist employed for acute disease or emergency response, or generalist duties that include those responsibilities.
- The definition above refers to someone who currently works as an epidemiologist, not retired epidemiologists or academics.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.

Example Documentation or Evidence for Level of Capability

- Documentation of epidemiologists working in the country
- Documentation of vacancies or positions to be filled
- Documentation of participants in relevant training programs

CAPABILITY 4: EPIDEMIOLOGIC CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(C) QUALITY OF PUBLIC HEALTH EPIDEMIOLOGISTS	No or limited discussion of competencies for public health epidemiologists	Critical competencies and/or standards of performance identified for public health epidemiologists	Explicit process exists for quality assurance and quality improvement among practicing epidemiologists	Roster of public health epidemiologists and observable process for strengthening the profession

What is the quality of practicing public health epidemiologists?

Measurement Notes

- Critical competencies refer to the minimum knowledge, skills, and abilities essential to the work of epidemiologists.
- Quality assurance or improvement processes could include performance reviews, professional licensing, certification, or accreditation.
- Processes for strengthening the profession could include mentoring programs or formal opportunities for continuing education.

Example Documentation or Evidence for Level of Capability

- Documentation of competencies or standards of practice
- Documentation of quality assurance or quality improvement process
- Documentation of continuing education opportunities or curricula
- Roster of public health epidemiologists
- Documentation of efforts to strengthen the profession in this country or region

References

Varela C, Coulombier D. Defining core competencies for epidemiologists working in communicable disease surveillance and response in the public health administrations of the European Union. 2007 [cited 2008 Apr 4]; Available from: http://www.eurosurveillance.org/ew/2007/070802.asp#2

Centers for Disease Control and Prevention, Council of State and Territorial Epidemiologists. Competencies for Applied Epidemiologists in Governmental Public Health Agencies. 2007 [cited 2008 Apr 4]; Available from: http://www.cste.org/competencies.asp

CAPABILITY 4: EPIDEMIOLOGIC CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(D) TRAINING	No or limited training in applied epidemiology	Utilizes training program in other country, preparing for program in country, or informal training embedded in another program; current situation not meeting national needs	Some form of epidemiology training program established in country; duration of training less than one year; meets some national needs	Established, ongoing training program with dedicated resources; accredited; annual cohorts of graduates; meets national needs

What is the status of epidemiology training in the country?

Measurement Notes

- Epidemiology training may include programs within the Ministry of Health, universities, or field-based training programs.
- *Meets national needs* means that the training program is able to consistently produce an adequate number of appropriately trained epidemiologists without having to utilize training programs in other countries.

Example Documentation or Evidence for Level of Capability

- Documentation of established program (e.g., curriculum, participants, instructors)
- Documentation of participation in training programs in other countries
- Documentation of resources allocated to training of epidemiologists

References

Centers for Disease Control and Prevention. Field Epidemiology Training Program. [cited 2008 Apr 4]; Available from: http://www.cdc.gov/cogh/dgphcd/fetp.htm

Traicoff D, Walke H, Jones D, Gogstad E, Imtiaz R, White M. Replicating success: Developing a standard FETP curriculum. Public Health Reports. 2008;123(S1):28-34; Available from: http://www.publichealthreports.org/archives/issueopen.cfm?articleid=2014

CAPABILITY 5: LABORATORY CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) NATIONAL INFLUENZA LABORATORY NETWORK**	No or limited planning for laboratory for testing of influenza	National laboratory for testing of influenza	National laboratory with one or more sub-national laboratories sending specimens for testing or confirmation	National laboratory that routinely returns results of testing to referring labs
	(B) BIO-SAFTEY LEVEL (BSL) AND ROUTINE TESTING OF SPECIMENS	No or limited planning for laboratory for testing of influenza	National laboratory with bio-safety level 2; does not routinely test influenza specimens	National laboratory with bio-safety level 2; routinely tests influenza specimens; participates in WHO External Quality Assurance Project (EQAP)	National laboratory with bio-safety of at least level 3; able to isolate avian influenza in humans
	(C) METHODS	No testing or identify influenza virus using rapid tests	Identify seasonal influenza virus, type and sub-type; identify novel influenza viruses using molecular techniques	Isolate seasonal influenza virus, type and subtype using Hemagglutination Inhibition test	Full antigenic and genetic characterization of influenza viruses; isolate novel influenza viruses under bio-safety level 3+
	(D) PARTICIPATION IN WHO SYSTEM	No or limited reporting to WHO; planning or preparation to comply with International Health Regulations (IHR)	Working towards fulfilling terms of reference for a National Influenza Center; regularly reports to WHO; shares specimens and/or isolates with WHO	Established National Influenza Center; actively reports through FluNet; routinely shares specimens and/or isolates for seasonal and avian influenza	Actively reports and shares results with WHO within 48 hours of laboratory confirmation of a potential Public Health Emergency of International Concern (PHEIC)

CAPABILITY 5: LABORATORY CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) NATIONAL INFLUENZA LABORATORY NETWORK**	No or limited planning for laboratory for testing of influenza	National laboratory for testing of influenza	National laboratory with one or more sub-national laboratories sending specimens for testing or confirmation	National laboratory that routinely returns results of testing to referring labs

What is the status of a national influenza laboratory network?

Measurement Notes

- This indicator is based on the assumption that ability to address novel, suspect, or avian influenza in humans is built upon ability to address seasonal influenza.
- Laboratories at sub-national level may or may not be sentinel surveillance sites.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.

Example Documentation or Evidence for Level of Capability

- Documentation of laboratories that can complete testing or diagnosis of influenza
- Documentation of specimens sent to national laboratory for testing or diagnosis
- Documentation of routine communication of results back to referring labs

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. Recommendations and laboratory procedures for detection of avian influenza A(H5N1) virus in specimens from suspected human cases. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/labtests/en/index.html

CAPABILITY 5: LABORATORY CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) BIO-SAFTEY LEVEL (BSL) AND ROUTINE TESTING OF SPECIMENS	No or limited planning for laboratory for testing of influenza	National laboratory with bio-safety level 2; does not routinely test influenza specimens	National laboratory with bio-safety level 2; routinely tests influenza specimens; participates in WHO External Quality Assurance Project (EQAP)	National laboratory with bio-safety of at least level 3; able to isolate avian influenza in humans

Does the country have a national laboratory and ability to handle influenza?

Measurement Notes

- Even with the appropriate bio-safety level (BSL), the laboratory may not be routinely testing specimens due to lack of equipment or supplies, appropriate set up, or other challenges to be addressed.
- The indicator refers to bio-safety guidelines set forth by the World Health Organization (WHO).
    - Bio-safety level 1 – Basic bio-safety – Basic teaching and research *(adapted from WHO Laboratory Biosafety manual)*
    - Bio-safety level 2 – Basic bio-safety – Primary health services; diagnostic services, research
    - Bio-safety level 3 – Containment bio-safety – Special diagnostic services, research
    - Bio-safety level 4 – Maximum containment bio-safety – Dangerous pathogen units
- Participants in the WHO External Quality Assurance Project (EQAP) include National Influenza Centers (NIC) and national laboratories in countries without a NIC.

Example Documentation or Evidence for Level of Capability

- Documentation of existing laboratories, bio-safety levels, and through put of specimens for testing
- Documentation of participation in EQAP

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. Laboratory biosafety guidelines for handling specimens suspected of containing avian influenza A virus. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/handlingspecimens/en/index.html

World Health Organization. Laboratory Biosafety manual. 2004 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/biosafety/Biosafety7.pdf

World Health Organization. Recommendations and laboratory procedures for detection of avian influenza A(H5N1) virus in specimens from suspected human cases. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/labtests/en/index.html

World Health Organization. WHO external quality assessment project for the detection of subtype influenza A viruses by PCR. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/eqa20070706.pdf

CAPABILITY 5: LABORATORY CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(C) METHODS	No testing or identify influenza virus using rapid tests	Identify seasonal influenza virus, type and sub-type; identify novel influenza viruses using molecular techniques	Isolate seasonal influenza virus, type and subtype using Hemagglutination Inhibition test	Full antigenic and genetic characterization of influenza viruses; isolate novel influenza viruses under bio-safety level 3+

What methods are used to identify influenza virus?

Measurement Notes

- Any laboratory in the country may be used to address this indicator.
- Rapid tests include antigen detection tests that produce results within thirty minutes.
- Molecular techniques include RT-PCR and conventional PCR.
- Hemagglutination Inhibition test is a serological method to identify type and sub-type.
- Bio-safety standards should meet or exceed guidelines set forth by the World Health Organization (WHO).

Example Documentation or Evidence for Level of Capability

- Documentation of methods used to identify influenza virus

References

World Health Organization. WHO recommendations on the use of rapid testing for influenza diagnosis. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/RapidTestInfluenza_web.pdf

World Health Organization. Recommendations and laboratory procedures for detection of avian influenza A(H5N1) virus in specimens from suspected human cases. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/labtests/en/index.html

World Health Organization. Laboratory Biosafety manual. 2004 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/biosafety/Biosafety7.pdf

CAPABILITY 5: LABORATORY CAPABILITY		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDCIATORS					
	(D) PARTICIPATION IN WHO SYSTEM	No or limited reporting to WHO; planning or preparation to comply with International Health Regulations (IHR)	Working towards fulfilling terms of reference for a National Influenza Center; regularly reports to WHO; shares specimens and/or isolates with WHO	Established National Influenza Center; actively reports through FluNet; routinely shares specimens and/or isolates for seasonal and avian influenza	Actively reports and shares results with WHO within 48 hours of laboratory confirmation of a potential Public Health Emergency of International Concern (PHEIC)

What is the status of participation in the World Health Organization (WHO) system?

Measurement Notes

- Unusual outbreaks, routine weekly surveillance information, human cases of avian influenza, and potential Public Health Emergencies of International Concern (PHEIC) should be reported to the World Health Organization (WHO).
- Terms of reference for National Influenza Centers (NIC) require sharing of information and samples with the World Health Organization.
- A Public Health Emergency of International Concern (PHEIC) is defined by WHO as "an extraordinary event which is determined, as provided in these [International Health] Regulations: (i) to constitute a public health risk to other States through the international spread of disease and (ii) to potentially require a coordinated international response."

Example Documentation or Evidence for Level of Capability

- Documentation of reports to WHO
- Documentation of sharing isolates with WHO
- Documentation of timeliness of sharing isolates with WHO
- Documentation of National Influenza Center (NIC)
- Documentation of reporting via FluNet

References

World Health Organization. Terms of reference for National Influenza Centres. [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/TORNICs.pdf

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

World Health Organization. FluNet. [cited 2008 Apr 4]; Available from: http://gamapserver.who.int/GlobalAtlas/home.asp

World Health Organization. Resolution WHA 58.3: Revision of International Health Regulations. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/ihr/IHRWHA58_3-en.pdf

Perry H, McDonnell S, Wondimagegnehu A, Nsubuga P, Chungong S, Otten M, et al. Planning an integrated disease surveillance and response system: a matrix of skills and activities. BMC Medicine. 2007;5(24); Available from: http://www.biomedcentral.com/1741-7015/5/24

CAPABILITY 6: ROUTINE INFLUENZA SURVEILLANCE		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) INTEGRATION OF VIROLOGIC AND EPIDEMIOLOGIC SURVEILLANCE**	No surveillance for severe, acute hospitalized respiratory infections or less severe outpatient managed respiratory disease	≥1 site collecting virologic data on respiratory disease, either in the outpatient or inpatient setting	≥1 sentinel site collecting virologic ***and*** epidemiologic data on both hospitalized ***and*** non-hospitalized respiratory disease	Multiple sentinel sites with sufficient geographic distribution to produce nationally representative epidemiologic and virologic data on both severe and mild respiratory disease
	(B) DATA PUBLICATION	Data published or distributed <2 times per year	Data published or distributed ≥2 times per year	Data published or distributed >2 times per year but less than weekly during influenza season	Data published or distributed weekly during influenza season
	(C) TIMELINESS	Data received, analyzed and distributed to relevant parties on time <20% of the time	Data received, analyzed and distributed to relevant parties on time 20 - 50% of the time	Data received, analyzed and distributed to relevant parties on time 51 - 80% of the time	Data received, analyzed and distributed to relevant parties on time >80% of the time
	(D) CASE DEFINITIONS	No or limited preparation of case definitions	Draft case definitions prepared	Case definitions adopted, but not WHO case definitions	Standard WHO case definitions used

CAPABILITY 6: ROUTINE INFLUENZA SURVEILLANCE		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) INTEGRATION OF VIROLOGIC AND EPIDEMIOLOGIC SURVEILLANCE**	No surveillance for severe, acute hospitalized respiratory infections or less severe outpatient managed respiratory disease	≥1 site collecting virologic data on respiratory disease, either in the outpatient or inpatient setting	≥1 sentinel site collecting virologic ***and*** epidemiologic data on both hospitalized ***and*** non-hospitalized respiratory disease	Multiple sentinel sites with sufficient geographic distribution to produce nationally representative epidemiologic and virologic data on both severe and mild respiratory disease

What is the status of integration of virologic and epidemiologic surveillance?

Measurement Notes

- Clinical case definition for severe, acute hospital respiratory infection (SARI):
  - For persons ≥5 years old *(WHO guidelines for global surveillance of influenza A/H5)*:
    - Sudden onset of fever over 38°C; cough or sore throat; shortness of breath or difficulty breathing; AND requiring hospital admission.
  - For persons <5 years old *(Handbook on Integrated Management of Childhood Illness)*:
    - Pneumonia
      - A child with cough or difficult breathing who has fast breathing and no general danger signs, no chest indrawing and no stridor when calm, AND requiring hospital admission.
    - Severe Pneumonia or Very Severe Disease
      - A child with cough or difficult breathing and with any of the following signs – any general danger signs, chest indrawing or stridor in a calm child, AND requiring hospital admission.
- Clinical case definition for influenza-like illness (ILI) *(WHO recommended surveillance standards)*:
  - Sudden onset of a fever over 38°C; cough or sore throat; AND an absence of other diagnoses.
- Although the case definitions above are used by the World Health Organization (WHO), any surveillance system that systematically collects data for syndromes similar to but not identical to those described above should be included in this capability.
- Sentinel surveillance is defined here as "respiratory infection surveillance based in select surveillance hospitals and clinics (public or private) that uses a clinical case definition and systematic sampling of a subset of cases for laboratory confirmation" *(PAHO-CDC generic protocol for influenza surveillance).*
- Sufficient distribution is required of virologic and epidemiologic data to adequately represent the various geographic, climatic regions, and population groups present in the country.

Example Documentation or Evidence for Level of Capability

- Inventory of sites collecting virologic or epidemiologic data on severe acute respiratory infection

References

World Health Organization. WHO guidelines for global surveillance of influenza A/H5. 2004 [cited 2006 Nov 27]. Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/globalsurveillance.pdf

World Health Organization. Chapter 7: Cough or difficult breathing. Handbook on Integrated Management of Childhood Illness. Geneva: World Health Organization. 2005 [cited 2008 Apr 4]; Available from: http://whqlibdoc.who.int/publications/2005/9241546441.pdf`

World Health Organization. WHO recommended surveillance standards. Second Edition. 2006 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/surveillance/WHO_CDS_CSR_ISR_99_2_EN/en/

Pan American Health Organization. PAHO-CDC generic protocol for influenza surveillance. 2006 [cited 2008 Apr 4]; Available from: http://www.ops-oms.org/English/AD/DPC/CD/flu-snl-gpis.htm

CAPABILITY 6: ROUTINE INFLUENZA SURVEILLANCE		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(B) DATA PUBLICATION	Data published or distributed <2 times per year	Data published or distributed ≥2 times per year	Data published or distributed >2 times per year, but less than weekly during influenza season	Data published or distributed weekly during influenza season

What is the status of publication or distribution of influenza data?

Measurement Notes

- The intent of publication or distribution is release of information for use.
- Data published or distributed include analyzed data collected from sentinel sites.
- Data may be only virologic data, only epidemiologic data, or integrated virologic and epidemiologic data.
- Example modes of publication or distribution include regular or weekly bulletins, newsletters, email correspondence or lists, website, or professional journals.

Example Documentation or Evidence for Level of Capability

- Sample reports or publications of data
- Documentation of distribution lists or users

References

Pan American Health Organization. PAHO-CDC generic protocol for influenza surveillance. 2006 [cited 2008 Apr 4]; Available from: http://www.ops-oms.org/English/AD/DPC/CD/flu-snl-gpis.htm

CAPABILITY 6: ROUTINE INFLUENZA SURVEILLANCE		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(C) TIMELINESS	Data received, analyzed and distributed to relevant parties on time <20% of the time	Data received, analyzed and distributed to relevant parties on time 20 - 50% of the time	Data received, analyzed and distributed to relevant parties on time 51 - 80% of the time	Data received, analyzed and distributed to relevant parties on time >80% of the time

What is the timeliness of reporting data?

Measurement Notes

- This indicator refers to data already discussed on pages 52 - 55.
- “On-time” distribution of data is determined by the host country (e.g., tracked and reported weekly).
- Example modes of publication or distribution include regular or weekly bulletins, newsletters, email correspondence or lists, website, or professional journals.
- Relevant parties may include laboratories, sentinel sites, public health workers, decision or policy-makers, hospital administrators, clinicians, health systems managers, the World Health Organization (WHO), or those who report the data.
- As an example, the PAHO-CDC Generic Protocol for Influenza Surveillance outlines the following process:
    - Sentinel sites register cases daily and send report to epidemiology coordinator once a week.
    - Local epidemiology office disseminates information weekly to sentinel sites, labs, and offices.
    - Intermediate level epidemiology office disseminates select information weekly to sentinel sites within state or province.
    - Periodically, national epidemiology office disseminates weekly report of national surveillance data to each level of surveillance system via fax, email, internet, bulletins, etc.

Example Documentation or Evidence for Level of Capability

- Documentation of timely distribution of data to relevant parties

References

Pan American Health Organization. PAHO-CDC generic protocol for influenza surveillance. 2006 [cited 2008 Apr 4]; Available from: http://www.ops-oms.org/English/AD/DPC/CD/flu-snl-gpis.htm

CAPABILITY 6: ROUTINE INFLUENZA SURVEILLANCE		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(D) CASE DEFINITIONS	No or limited preparation of case definitions	Draft case definitions prepared	Case definitions adopted, but not WHO case definitions	Standard WHO case definitions used

What is the status of case definitions?

Measurement Notes

- Clinical case definition for severe, acute hospital respiratory infection (SARI):
  - For persons ≥5 years old *(WHO guidelines for global surveillance of influenza A/H5)*:
    - Sudden onset of fever over 38°C; cough or sore throat; shortness of breath or difficulty breathing; AND requiring hospital admission.
  - For persons <5 years old *(Handbook on Integrated Management of Childhood Illness)*:
    - Pneumonia
      - A child with cough or difficult breathing who has fast breathing and no general danger signs, no chest indrawing and no stridor when calm, AND requiring hospital admission.
    - Severe Pneumonia or Very Severe Disease
      - A child with cough or difficult breathing and with any of the following signs – any general danger signs, chest indrawing or stridor in a calm child, AND requiring hospital admission.
- Clinical case definition for influenza-like illness (ILI) *(WHO recommended surveillance standards)*:
  - Sudden onset of a fever over 38°C; cough or sore throat; AND an absence of other diagnoses.

Example Documentation or Evidence for Level of Capability

- Documentation of case definitions or draft materials

References

World Health Organization. WHO guidelines for global surveillance of influenza A/H5. 2004 [cited 2006 Nov 27]. Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/globalsurveillance.pdf

World Health Organization. Chapter 7: Cough or difficult breathing. Handbook on Integrated Management of Childhood Illness. Geneva: World Health Organization; 2005. [cited 2008 Apr 4]; Available from: http://whqlibdoc.who.int/publications/2005/9241546441.pdf

World Health Organization. WHO recommended surveillance standards. Second Edition. 2006 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/surveillance/WHO_CDS_CSR_ISR_99_2_EN/en/

CAPABILITY 7: NATIONAL RESPIRATORY DISEASE SURVEILLANCE AND REPORTING		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) AWARENESS OF NEED TO REPORT**	No or limited efforts to educate health care workers and public	Education campaign for health care workers implemented, but not comprehensive; awareness campaign for public implemented with some public health messages delivered to targeted audiences on broadcast media	Both education campaign for health care workers and awareness campaign for public expanded to wider audiences	Public awareness campaign expanded to national audience and multiple media forms; reporting mechanism for general public and health care workers functional; mechanism for sustainability exists
	(B) RUMOR REPORTING AND MEDIA SCANNING	No or sporadic monitoring of media and other informal data sources	Program for monitoring media and other informal data sources implemented at national level; records maintained	Program for monitoring media and other informal data sources implemented at sub-national level; records maintained; regular communication among levels; ≥1 potential alert investigated per month	Complete records of response at national and sub-national level; ≥2 potential alerts investigated per month
	(C) CROSS-NOTIFICATION	No or limited cross-notification between ministries of health and agriculture	Cross-notification between ministries of health and agriculture, but sometimes delayed; communication mechanism not systematized	Timely, systematic cross-notification between ministries of health and agriculture at national level	Joint investigations of events
	(D) TIMELINESS	Few recognized respiratory outbreaks of significance or clusters of severe disease reported within 48 hours of recognition	Some recognized respiratory outbreaks of significance or clusters of severe disease reported within 48 hours of recognition	Many of recognized respiratory outbreaks of significance or clusters of severe disease reported within 48 hours of recognition	Most of recognized respiratory outbreaks of significance or clusters of severe disease reported within 48 hours of recognition

CAPABILITY 7: NATIONAL RESPIRATORY DISEASE SURVEILLANCE AND REPORTING		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A)** **AWARENESS OF NEED TO REPORT**	No or limited efforts to educate health care workers and public	Education campaign for health care workers implemented, but not comprehensive; awareness campaign for public implemented with some public health messages delivered to targeted audiences on broadcast media	Both education campaign for health care workers and awareness campaign for public expanded to wider audiences	Public awareness campaign expanded to national audience and multiple media forms; reporting mechanism for general public and health care workers functional; mechanism for sustainability exists

What is the awareness of need to report suspect events?

Measurement Notes

- The indicator refers to awareness of the need to report rumors, signal, or trigger events (e.g., clusters, unusual age distribution, or other changes in epidemiology).
- Campaigns in level 1 are targeted to limited audiences (e.g., high-risk groups, small geographical area); campaigns in level 2 have been expanded but are not yet nation-wide; campaigns in level 3 are nation-wide.
- Reporting mechanisms for rumors and suspect events and cases may include, but are not limited to, a telephone hotline or website.
- A mechanism for sustainability refers to both the education and awareness campaigns, and the maintenance and staffing of the reporting mechanisms. Example mechanisms for sustainability include ongoing or regular funding, well-established or maintained infrastructure, and designated staff.

Example Documentation or Evidence for Level of Capability

- Documentation of education or awareness campaigns
- Documentation of functional reporting mechanism
- Documentation of investigations of suspect events

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

Samaan G, Patel M, Olowokure B, Roces M, Oshitani H, World Health Organization Outbreak Response Team. Rumor surveillance and avian influenza H5N1. Emerg Infect Dis. 2005 Mar;11(3):463-6; Available from: http://www.cdc.gov/ncidod/EID/vol11no03/04-0657.htm

CAPABILITY 7: NATIONAL RESPIRATORY DISEASE SURVEILLANCE AND REPORTING		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) RUMOR REPORTING AND MEDIA SCANNING	No or sporadic monitoring of media and other informal data sources	Program for monitoring media and other informal data sources implemented at national level; records maintained	Program for monitoring media and other informal data sources implemented at sub-national level; records maintained; regular communication among levels; ≥1 potential alert investigated per month	Complete records of response at national and sub-national levels; ≥2 potential alerts investigated per month

What is the status of a program for monitoring informal data sources and rumor reporting?

Measurement Notes

- Examples of informal data sources include media reports or information submitted by the public.
- A program for monitoring informal data sources may include a formal mechanism for reporting unusual events (e.g., telephone hotline) and systematic surveillance of informal data sources.
- The maintenance of records should be organized and systematic (e.g., electronic database).
- Alerts to be investigated identified via pre-determined criteria or case definition.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.

Example Documentation or Evidence for Level of Capability

- Documentation of program for monitoring informal data sources at national or sub-national levels
- Documentation of records prepared and maintained
- Documentation of investigation of alerts or unusual events

References

Samaan G, Patel M, Olowokure B, Roces M, Oshitani H, World Health Organization Outbreak Response Team. Rumor surveillance and avian influenza H5N1. Emerg Infect Dis. 2005 Mar;11(3):463-6; Available from: http://www.cdc.gov/ncidod/EID/vol11no03/04-0657.htm

CAPABILITY 7: NATIONAL RESPIRATORY DISEASE SURVEILLANCE AND REPORTING		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(C) CROSS-NOTIFICATION	No or limited cross-notification between ministries of health and agriculture	Cross-notification between ministries of health and agriculture, but sometimes delayed; communication mechanism not systematized	Timely, systematic cross-notification between ministries of health and agriculture at national level	Joint investigation of events

What is the status of cross-notification between ministries of health and agriculture?

Measurement Notes

- The indicator refers to cross-notification regarding alerts or unusual events between ministries of health and agriculture. If no influenza outbreaks have occurred, can consider other respiratory outbreaks or events.
- Example methods of cross-notification include email, telephone, videoconference, or face-to-face meetings.
- At level 1, cross-notification occurs, but there is no systematic method for timely communication.

Example Documentation or Evidence for Level of Capability

- Documentation of cross-notification, including the timeliness of communications
- Documentation of methods of communication
- Documentation of joint investigations

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. Responding to the avian influenza pandemic threat: recommended strategic actions. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

CAPABILITY 7: NATIONAL RESPIRATORY DISEASE SURVEILLANCE AND REPORTING		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(D) **TIMELINESS**	Few recognized respiratory outbreaks of significance or clusters of severe disease reported within 48 hours of recognition	Some recognized respiratory outbreaks of significance or clusters of severe disease reported within 48 hours of recognition	Many of recognized respiratory outbreaks of significance or clusters of severe disease reported within 48 hours of recognition	Most of recognized respiratory outbreaks of significance or clusters of severe disease reported within 48 hours of recognition

How timely is reporting of severe cases or clusters of unexplained respiratory diseases?

Measurement Notes

- The indicator refers to the time it takes to report severe cases or clusters of unexplained respiratory diseases, once they are detected, to the appropriate level of the public health system, as defined by the host country (e.g., national, sub-national).
- Level 0: Few = <20%
- Level 1: Some = 20 - 50%
- Level 2: Many = 51 - 80%
- Level 3: Most = >80%
- In cases where there are no recognized respiratory outbreaks, other non-respiratory outbreaks may be considered.

Example Documentation or Evidence for Level of Capability

- Documentation of timeliness of reporting

References

World Health Organization. Resolution WHA 58.3: Revision of International Health Regulations. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/ihr/IHRWHA58_3-en.pdf

CAPABILITY 8: OUTBREAK RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) HUMAN RESOURCES FOR OUTBREAK RESPONSE**	Ad hoc response	People for ≥1 team at national level who are trained in WHO rapid response protocol	People for ≥1 team at sub-national level who are trained in WHO rapid response protocol	People for ≥1 team at each sub-national level who are trained in WHO rapid response protocol; mechanism exists for sustainability
	(B) LOGISTICAL RESOURCES FOR OUTBREAK RESPONSE	No or limited availability of equipment for investigation or initial response to novel influenza	Equipment is accessible and organized for response for ≥1 team at national level	Equipment is accessible and organized for response for ≥1 team at sub-national level	Equipment is accessible and organized for response for ≥1 team at each sub-national level
	(C) EXERCISES OR RESPONSE	Ad hoc or irregular response to outbreaks or exercises	≥1 team at national level responds or practices at least once per year	≥1 team at sub-national level responds or practices at least once per year	≥1 team at each sub-national level responds or practices at least once per year; central organization or authority coordinates response or exercises
	(D) ACTIVATION OF TEAM	Response not fully organized, equipped, or delivered within 4 days of notification of potential Public Health Emergency of International Concern (PHEIC)	Trained, equipped team begins response to potential Public Health Emergency of International Concern (PHEIC) on site within 3 days	Trained, equipped team begins response to potential Public Health Emergency of International Concern (PHEIC) on site within 2 days	Trained, equipped team begins response to potential Public Health Emergency of International Concern (PHEIC) on site within 1 day and submits laboratory specimens within 24 hours, or results within 72 hours of investigation

CAPABILITY 8: OUTBREAK RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS	(A) HUMAN RESOURCES FOR OUTBREAK RESPONSE	Ad hoc response	People for ≥1 team at national level who are trained in WHO rapid response protocol	People for ≥1 team at sub-national level who are trained in WHO rapid response protocol	People for ≥1 team at each sub-national level who are trained in WHO rapid response protocol; mechanism exists for sustainability

What is the status of human resources for outbreak response?

Measurement Notes

- For countries with no response to outbreaks of influenza, outbreaks of other respiratory illnesses may be considered.
- Process of forming the teams and composition of teams may vary by situation and country.
- Teams should be multidisciplinary and include expertise in the areas of field epidemiology, clinical assessment, specimen collection, infection control, and social mobilization. Other functional areas that might be considered include logistics, veterinary science, and environmental health sciences.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.
- Mechanisms for sustainability include dedicated or ongoing funding, well-established or existing infrastructure, designated staff, or a central decision-making authority.

Example Documentation or Evidence for Level of Capability

- Documentation of outbreak response teams (e.g., rosters of members)
- Documentation of training in WHO rapid response protocol

References

World Health Organization. Guidelines for investigation of human cases of avian influenza A (H5N1). 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_EPR_GIP_2006_4/en/index.html

World Health Organization. Collecting, preserving and shipping specimens for the diagnosis of avian influenza A(H5N1) virus infection. 2006 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/surveillance/WHO_CDS_EPR_ARO_2006_1/en/

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 8: OUTBREAK RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) LOGISTICAL RESOURCES FOR OUTBREAK RESPONSE	No or limited availability of equipment for investigation or initial response to novel influenza	Equipment is accessible and organized for response for ≥1 team at national level	Equipment is accessible and organized for response for ≥1 team at sub-national level	Equipment is accessible and organized for response for ≥1 team at each sub-national level

What is the status of logistical resources for teams responding to potential novel influenza outbreaks?

Measurement Notes

- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.
- Complete materials and equipment for response includes personal protective equipment (PPE), oseltamivir, specimen collection materials, and materials for shipping specimens. All materials and equipment should be in adequate condition for use in response.
- Limited availability of equipment means that equipment is not complete, accessible, and organized for response.

Example Documentation or Evidence for Level of Capability

- Inventory of equipment available for outbreak response
- Evidence of appropriate storage or management of equipment

References

World Health Organization. Guidelines for investigation of human cases of avian influenza A (H5N1). 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_EPR_GIP_2006_4/en/index.html

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World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 8: OUTBREAK RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(C) EXERCISES OR RESPONSE	Ad hoc or irregular response to outbreaks or exercises	≥1 team at national level responds or practices at least once per year	≥1 team at sub-national level responds or practices at least once per year	≥1 team at each sub-national level responds or practices at least once per year; central organization or authority coordinates response or exercises

What is the status of outbreak response exercises or response to actual outbreaks?

Measurement Notes

- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Participants should insert language appropriate to the country.
- For countries with no history of response to influenza outbreaks, outbreaks of other respiratory illnesses may be considered.
- Ad hoc or irregular response or exercises refers to informal, unplanned, or not regularly scheduled or conducted events.
- Exercise or practice refers to simulation or drills; tabletop exercises are not included here. Both exercises and actual response should include debriefs, follow-up conversation, or after-action reviews.
- Central organization or authority refers to a central decision-making body in place to make clear and timely decisions related to pandemic influenza preparedness and response.

Example Documentation or Evidence for Level of Capability

- Documentation of outbreak responses or exercises at the national and sub-national levels
- Follow-up reports or after-action reviews following responses or exercises
- Documentation of revisions to plans or policies following an exercise or response
- Documentation of central decision-making body (e.g., composition, authorities)

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. Guidelines for investigation of human cases of avian influenza A (H5N1). 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_EPR_GIP_2006_4/en/index.html

CAPABILITY 8: OUTBREAK RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(D) ACTIVATION OF TEAM	Response not fully organized, equipped, or delivered within 4 days of notification of potential Public Health Emergency of International Concern (PHEIC)	Trained, equipped team begins response to potential Public Health Emergency of International Concern (PHEIC) on site within 3 days	Trained, equipped team begins response to potential Public Health Emergency of International Concern (PHEIC) on site within 2 days	Trained, equipped team begins response to potential Public Health Emergency of International Concern (PHEIC) on site within 1 day and submits laboratory specimens within 24 hours, or results within 72 hours of investigation

What is the timeliness of outbreak response?

Measurement Notes

- Do not score indicator if no actual response occurred within the last 12 months.
- For countries with no history of response to outbreaks of influenza, other outbreaks may be considered.
- A Public Health Event/Emergency of International Concern (PHEIC) is defined by WHO as “an extraordinary event which is determined, as provided in these [International Health] Regulations: (i) to constitute a public health risk to other States through the international spread of disease and (ii) to potentially require a coordinated international response.”
- Laboratory specimens or results should be submitted to the World Health Organization (WHO). The International Health Regulations (IHR) require any case of influenza caused by a new virus subtype be reported within 24 hours to WHO.

Example Documentation or Evidence for Level of Capability

- Documentation of response time or submission of specimens to laboratory

References

World Health Organization. Resolution WHA 58.3: Revision of International Health Regulations. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/ihr/IHRWHA58_3-en.pdf

World Health Organization. Guidelines for investigation of human cases of avian influenza A (H5N1). 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_EPR_GIP_2006_4/en/index.html

World Health Organization. Collecting, preserving and shipping specimens for the diagnosis of avian influenza A(H5N1) virus infection. 2006 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/surveillance/WHO_CDS_EPR_ARO_2006_1/en/

World Health Organization. Guidance on regulations for the transport of infectious substances. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_CSR_LYO_2005_22/en/index.html

CAPABILITY 9: RESOURCES FOR CONTAINMENT		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) AVAILABILITY OF ANTIVIRALS**	No or limited antivirals stored within country	Antivirals for 20-day containment involving 1200 persons	Antivirals for 20-day containment involving 12,000 persons	Antivirals for 20-day containment involving 100,000 persons
	(B) STORAGE FACILITIES	No government storage facilities for antivirals	Government storage facility exists, but not designed for storage of pharmaceuticals; insufficient security, temperature control, inventory tracking, rotation and refresh of stock	Government pharmaceutical storage facility exists with adequate security, temperature control, inventory tracking, and refresh of stock	Government has formal agreement with licensed pharmaceutical storage facility
	(C) EXERCISES AND PRACTICE	No activity in the past 12 months	Table top exercise (or similar) within past 12 months	Drill, simulation, or practice within past 12 months	Evidence of ongoing activity in this area
	(D) DISTRIBUTION OF MATERIALS	Materials for containment can reach <25% of country's geographic area within 24 hours	Materials for containment can reach ≥25% - 49% of country's geographic area within 24 hours	Materials for containment can reach 50% - 74% of country's geographic area within 24 hours	Materials for containment can reach ≥75% of country's geographic area within 24 hours

CAPABILITY 9: RESOURCES FOR CONTAINMENT		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) AVAILABILITY OF ANTIVIRALS**	No or limited antivirals stored within country	Antivirals for 20-day containment involving 1200 persons	Antivirals for 20-day containment involving 12,000 persons	Antivirals for 20-day containment involving 100,000 persons

What is the availability of antivirals?

Measurement Notes

- The indicator refers only to antivirals stored within country; it does not include antivirals from the global stockpile.
- For the purposes of this activity, antivirals only include oseltamivir.
- Number of persons does not include staff involved in the outbreak response or containment effort.
- Containment period of 20 days as recommended by the World Health Organization (WHO). During this containment period, recommendations indicate that "all persons within the Containment Zone who are not ill with influenza would be given 20 days of antiviral prophylaxis."
- 1,200 persons (regimens of antivirals) used to represent the approximate number of people involved in relatively small containment effort. 12,000 persons (regimens of antivirals) used to represent the approximate number of people involved in a mid-scale containment effort. 100,000 persons (regimens of antivirals) used to represent the projected minimum number of persons involved in a larger containment effort assuming Ro = 1.6.

Example Documentation or Evidence for Level of Capability

- Documentation of number of antiviral regimens available in country

References

World Health Organization. WHO interim protocol: rapid operations to contain the initial emergence of pandemic influenza. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/draftprotocol/en/index.html

Longini I, Nizam A, Xu S, Ungchusak K, Hanshaoworakul W, Cummings D, et al. Containing pandemic influenza at the source. Science 2005;309(5737):1083-7. Available at: http://www.sciencemag.org/cgi/content/abstract/309/5737/1083

World Health Organization. Responding to the avian influenza pandemic threat: recommended strategic actions. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 9: RESOURCES FOR CONTAINMENT		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) STORAGE FACILITIES	No government storage facilities for antivirals	Government storage facility exists, but not designed for storage of pharmaceuticals; insufficient security, temperature control, inventory tracking, rotation and refresh of stock	Government pharmaceutical storage facility exists with adequate security, temperature control, inventory tracking, rotation and refresh of stock	Government has formal agreement with licensed pharmaceutical storage facility

What is the status of storage facilities in country?

Measurement Notes

- For the purposes of this activity, antivirals include only oseltamivir.
- At level 1, examples of government storage facilities include non-pharmaceutical warehouse space and unused office space.
- At level 2, examples of government pharmaceutical storage facilities may be stand alone structures, or units housed within a hospital or other government facility.
- For oseltamivir capsules: store the capsules at 25°C (77°F); excursions permitted to 15° to 30°C (59° to 86°F). *(per Roche)*
- For oseltamivir oral suspension: Store dry powder at 25°C (77°F); excursions permitted to 15° to 30°C (59° to 86°F). Store constituted suspension under refrigeration at 2° to 8°C (36° to 46°F). Do not freeze. *(per Roche)*

Example Documentation or Evidence for Level of Capability

- Documentation of facility, security, temperature controls, inventory tracking, and rotation of stock
- Documentation of formal agreement with licensed pharmaceutical storage facility

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

Roche Laboratories Inc. Tamiflu production information. [cited 2008 Apr 4]; Available from: http://www.rocheusa.com/products/tamiflu/pi.pdf

CAPABILITY 9: RESOURCES FOR CONTAINMENT		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(C) EXERCISES AND PRACTICE	No activity in the past 12 months	Table top exercise (or similar) within past 12 months	Drill, simulation, or practice within past 12 months	Evidence of ongoing activity in this area

What is the status of exercising or practicing the management and distribution of resources for containment?

Measurement Notes

- The indicator refers to exercising or practicing distribution of antivirals and personal protective equipment (PPE).
- Response to other respiratory outbreaks that include distribution of antivirals may be considered here.
- Tabletop exercises include group discussion in response to specific incidents within a hypothetical scenario to test the adequacy of plans, policies, or procedures. Drills involve simulation of and response to a specific incident. Both types of exercises should include debriefs, follow-up conversation, or after-action reviews.
- The indicator reflects increasing complexity or sophistication of exercises or practice.

Example Documentation or Evidence for Level of Capability

- Documentation of exercises, practice, and follow-up activities

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

Osaki C. Using tabletop exercises. 2005 [cited 2008 Apr 4]; Available from: http://www.nwcphp.org/training/hot-topics/2005-hot-topics/using-tabletop-exercises

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 9: RESOURCES FOR CONTAINMENT		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(D) DISTRIBUTION OF MATERIALS	Materials for containment can reach <25% of country's geographic area within 24 hours	Materials for containment can reach ≥25 - 49% of country's geographic area within 24 hours	Materials for containment can reach 50 - 74% of country's geographic area within 24 hours	Materials for containment can reach ≥75% of country's geographic area within 24 hours

What is the status of distribution of materials for containment?

Measurement Notes

- Materials should reach intended destination within 24 hours of request.
- In this case, *materials for containment* refer to antivirals (oseltamivir) and personal protective equipment (PPE).
- For the purposes of this indicator, assume that all needed materials are in country; actual materials available addressed in A and C.
- Countries can identify other similar distribution efforts in which they have engaged (e.g., disaster relief, comprehensive vaccine campaigns).

Example Documentation or Evidence for Level of Capability

- Documentation of timeliness and reach of distribution

References

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 10: COMMUNITY-BASED INTERVENTIONS TO PREVENT THE SPREAD OF INFLUENZA		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) SOCIAL DISTANCING**	No or limited planning or preparation	Some plans or guidance for closing/re-opening schools and workplaces and cancellation of public gatherings	Clear written criteria for closing/re-opening schools and workplaces and cancellation of public gatherings in pandemic phases 4-6	Clear written criteria staged by phase of pandemic is publicly available and has been widely disseminated to schools, workplaces, and communities
	(B) CRITICAL INFRASTRUCTURE	No or limited planning or preparation for maintenance of essential services	Some plans or guidance for maintenance of essential services	Clear written criteria for maintenance of essential services in pandemic phases 4-6	Clear written criteria staged by severity of pandemic has been widely disseminated to and tested by essential service providers
	(C) VOLUNTARY ISOLATION AND QUARANTINE	No or limited planning or preparation	Some recommendations for voluntary isolation and quarantine	Some experience in applying voluntary isolation and quarantine combined with antiviral treatment or prophylaxis	Isolation and quarantine have been consistently applied early and are accepted by communities
	(D) PERCENT OF DISTRICTS WITH PLAN	Planning or preparation	Written community intervention/mitigation plans in <5% of levels below sub-national	Written community intervention/mitigation plans in 5-25% of levels below sub-national	Written community intervention/mitigation plans in >25% of levels below sub-national

CAPABILITY 10: COMMUNITY-BASED INTERVENTIONS TO PREVENT THE SPREAD OF INFLUENZA		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) SOCIAL DISTANCING**	No or limited planning or preparation	Some plans or guidance for closing/re-opening schools and workplaces and cancellation of public gatherings	Clear written criteria for closing/re-opening schools and workplaces and cancellation of public gatherings in pandemic phases 4-6	Clear written criteria staged by phase of pandemic is publicly available and has been widely disseminated to schools, workplaces, and communities

What is the status of planning for social distancing interventions?

Measurement Notes

- Closing and reopening of schools and workplaces may include staggered shifts or alternative work schedules.
- The World Health Organization (WHO) defines 6 phases of an influenza pandemic.
- Plans may be made publically available via an open website or other appropriate methods as determined by country officials.
- Widely disseminated means that copies of the plan have been distributed to relevant parties (school, workplace, and community leadership).

Example Documentation or Evidence for Level of Capability

- Documentation of plans or criteria for implementation of social distancing interventions

References

World Health Organization Writing Group. Nonpharmaceutical interventions for pandemic influenza, international measures. Emerg Infect Dis. 2006 Jan; Available from: http://www.cdc.gov/ncidod/EID/vol12no01/05-1370.htm

European Centre for Disease Prevention and Control. Guide to public health measures to reduce the impact of influenza pandemics in Europe - "the ECDC menu". 2009 [cited 2009 Aug 17]; Available from: http://ecdc.europa.eu/en/publications/Publications/0906_TER_Public_Health_Measures_for_Influenza_Pandemics.pdf

U.S. Department of Health and Human Services. Interim pre-pandemic planning guidance: community strategy for pandemic influenza mitigation in the United States- early, targeted, layered use of non-pharmaceutical interventions. 2007 [cited 2009 Aug 17]; Available from: http://www.pandemicflu.gov/plan/community/community_mitigation.pdf

World Health Organization. Responding to the avian influenza pandemic threat: recommended strategic actions. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

CAPABILITY 10: COMMUNITY-BASED INTERVENTIONS TO PREVENT THE SPREAD OF INFLUENZA		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) CRITICAL INFRASTRUCTURE	No or limited planning or preparation for maintenance of essential services	Some plans or guidance for maintenance of essential services	Clear written criteria for maintenance of essential services in pandemic phases 4-6	Clear written criteria staged by severity of pandemic has been widely disseminated to and tested by essential service providers

What is the status of planning for maintenance of essential services?

Measurement Notes

- Critical infrastructure refers to essential services (e.g., water supply, electricity, gas, trash collection, grocery).
- The World Health Organization (WHO) defines 6 phases of an influenza pandemic.
- As determined by country officials, plans may be made available to the public via a website or other methods.
- Widely disseminated means that copies of the plan have been distributed to essential service providers.

Example Documentation or Evidence for Level of Capability

- Documentation of plans or guidance for maintenance of essential services
- Documentation of dissemination of plans or guidance
- Documentation of testing plans or guidance

References

World Health Organization Writing Group. Nonpharmaceutical interventions for pandemic influenza, international measures. Emerg Infect Dis. 2006 Jan; Available from: http://www.cdc.gov/ncidod/EID/vol12no01/05-1370.htm

European Centre for Disease Prevention and Control. Guide to public health measures to reduce the impact of influenza pandemics in Europe - "the ECDC menu". 2009 [cited 2009 Aug 17]; Available from: http://ecdc.europa.eu/en/publications/Publications/0906_TER_Public_Health_Measures_for_Influenza_Pandemics.pdf

U.S. Department of Health and Human Services. Interim pre-pandemic planning guidance: community strategy for pandemic influenza mitigation in the United States- early, targeted, layered use of non-pharmaceutical interventions. 2007 [cited 2009 Aug 17]; Available from: http://www.pandemicflu.gov/plan/community/community_mitigation.pdf

CAPABILITY 10: COMMUNITY-BASED INTERVENTIONS TO PREVENT THE SPREAD OF INFLUENZA		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS					
	(C) **VOLUNTARY ISOLATION AND QUARANTINE**	No or limited planning or preparation	Some recommendations for voluntary isolation and quarantine	Some experience in applying voluntary isolation and quarantine combined with antiviral treatment or prophylaxis	Isolation and quarantine have been consistently applied early and are accepted by communities

What is the status of planning for or experiences with voluntary isolation and quarantine?

Measurement Notes

- The indicator refers to recommendations provided by the national government for the purposes of sub-national planning.
- Past experience may include outbreaks other than influenza.

Example Documentation or Evidence for Level of Capability

- Documentation of recommendations for voluntary isolation or quarantine
- Documentation of past experiences, including timeliness of implementation and/or community response

References

World Health Organization Writing Group. Nonpharmaceutical interventions for pandemic influenza, international measures. Emerg Infect Dis. 2006 Jan; Available from: http://www.cdc.gov/ncidod/EID/vol12no01/05-1370.htm

European Centre for Disease Prevention and Control. Guide to public health measures to reduce the impact of influenza pandemics in Europe - "the ECDC menu". 2009 [cited 2009 Aug 17]; Available from: http://ecdc.europa.eu/en/publications/Publications/0906_TER_Public_Health_Measures_for_Influenza_Pandemics.pdf

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World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

CAPABILITY 10: COMMUNITY-BASED INTERVENTIONS TO PREVENT THE SPREAD OF INFLUENZA		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(D) PERCENT OF DISTRICTS WITH PLAN	Planning or preparation	Written community intervention/mitigation plans in <5% of levels below sub-national	Written community intervention/mitigation plans in 5-25% of levels below sub-national	Written community intervention/mitigation plans in >25% of levels below sub-national

What percent of districts have planned interventions to prevent the spread of influenza?

Measurement Notes

- The plan refers to community-based interventions to prevent the spread of influenza. This may be part of a larger district-level plan for pandemic influenza preparedness, or may be a stand alone plan focused solely on community non-pharmaceutical interventions.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Level below sub-national refers to two levels below national. Participants should insert language appropriate to the country.

Example Documentation or Evidence for Level of Capability

- Documentation of preliminary planning or written plans

References

World Health Organization Writing Group. Nonpharmaceutical interventions for pandemic influenza, international measures. Emerg Infect Dis. 2006 Jan; Available from: http://www.cdc.gov/ncidod/EID/vol12no01/05-1370.htm

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World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

CAPABILITY 11: INFECTION CONTROL		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS	(A) STANDARDS OF INFECTION CONTROL BY LEVEL OF HEALTH CARE SYSTEM	No or limited discussion of draft standards for infection control	Standards for infection control exist for central health facilities designated to care for suspect or confirmed cases infected with novel strains; standards meet or exceed WHO standards	Infection control standards exist for each level of health care system (national level, sub-national, and one level below sub-national); system for assessing quality assurance or compliance exists	Comprehensive participation in system for assessing quality assurance or compliance
	(B) HUMAN RESOURCES	No or limited training implemented per national infection control standards	Staff trained in standards, skills, and leadership for infection control in all national hospitals	Staff trained in standards, skills, and leadership for infection control in most (>80%) sub-national hospitals	Plus staff trained in standards, skills, and leadership for infection control in most (>80%) hospitals one level below sub-national
	(C) LOGISTICAL RESOURCES	No or limited availability of infection control materials; equipment is not available at central hospitals most of the time	Infection control materials generally available at national hospitals is sufficient to meet national infection control standards	Infection control materials generally available at sub-national hospitals is sufficient to meet WHO infection control standards	Infection control materials available in-house or at regional level with distribution capability to hospitals one level below sub-national sufficient to meet WHO infection control standards
	(D) INSTITUTIONALIZATION OF INFECTION CONTROL EFFORTS	No or limited focus on infection control in governmental or private sectors	Unit within Ministry of Health with infection control as a major area of responsibility	Infection control committee or organizing body at each regional (between national and sub-national), sub-national, and hospital levels; data collected and reported	≥1 active professional society principally committed to infection control; national plan exists to improve infection control within 3 years

CAPABILITY 11: INFECTION CONTROL		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A) STANDARDS OF INFECTION CONTROL BY LEVEL OF HEALTH CARE SYSTEM**	No or limited discussion of draft standards for infection control	Standards for infection control exist for central health facilities designated to care for suspect or confirmed cases infected with novel strains; standards meet or exceed WHO standards	Infection control standards exist for each level of health care system (national level, sub-national, and one level below sub-national); system for assessing quality assurance or compliance exists	Comprehensive participation in system for assessing quality assurance or compliance

What is the status of standards of infection control?

Measurement Notes

- Refer to WHO standards for infection control as provided in “Avian Influenza, Including A (H5N1), in Humans: WHO Interim Infection Control Guidelines for Health Care Facilities.”
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Level below sub-national refers to two levels below national. Participants should insert language appropriate to the country.
- System for quality assurance involves collection of data on adherence to standards, and includes follow-up in cases of non-adherence to standards.
- Comprehensive or full participation requires that all facilities participate in system or process for quality assurance.

Example Documentation or Evidence for Level of Capability

- Documentation of standards of infection control
- Documentation of quality assurance system or process

References

World Health Organization. Avian influenza, including A (H5N1), in humans: WHO interim infection control guidelines for health care facilities. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/infectioncontrol1/en/index.html

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World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 11: INFECTION CONTROL		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) HUMAN RESOURCES	No or limited training implemented per national infection control standards	Staff trained in standards, skills, and leadership for infection control in all national hospitals	Staff trained in standards, skills, and leadership for infection control in most (>80%) sub-national hospitals	Plus staff trained in standards, skills, and leadership for infection control in most (>80%) hospitals one level below sub-national

What is the status of human resources for infection control?

Measurement Notes

- Staff trained includes staffing at all levels of participation in infection control activities, not just leadership or management personnel.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Level below sub-national refers to two levels below national. Participants should insert language appropriate to the country.

Example Documentation or Evidence for Level of Capability

- Documentation of training across health care system (e.g., curriculum, participants)

References

World Health Organization. Avian influenza, including A (H5N1), in humans: WHO interim infection control guidelines for health care facilities. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/infectioncontrol1/en/index.html

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CAPABILITY 11: INFECTION CONTROL		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(C) LOGISTICAL RESOURCES	No or limited availability of infection control materials; equipment is not available at central hospitals most of the time	Infection control materials generally available at national hospitals is sufficient to meet national infection control standards	Infection control materials generally available at sub-national hospitals is sufficient to meet WHO infection control standards	Infection control materials available in-house or at regional level with distribution capability to hospitals one level below sub-national sufficient to meet WHO infection control standards

What is the status of logistical resources for infection control?

Measurement Notes

- In most cases, infection control materials include those identified in the World Health Organization (WHO) standards.
- For the purposes of this indicator, availability of materials means that infection control materials are available a majority of the time.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Level below sub-national refers to two levels below national. Participants should insert language appropriate to the country.
- At level 3, materials may be available on site or rapidly available via distribution from another facility (e.g., a regional or sub-national site).

Example Documentation or Evidence for Level of Capability

- Documentation of inventory and availability of infection control materials

References

World Health Organization. Avian influenza, including A (H5N1), in humans: WHO interim infection control guidelines for health care facilities. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/infectioncontrol1/en/index.html

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 11: INFECTION CONTROL		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(D) INSTITUTIONALIZATION OF INFECTION CONTROL EFFORTS	No or limited focus on infection control in governmental or private sectors	Unit within Ministry of Health with infection control as a major area of responsibility	Infection control committee or organizing body at each regional (between national and sub-national), sub-national, and hospital levels; data collected and reported	≥1 active professional society principally committed to infection control; national plan exists to improve infection control within 3 years

What is the status of institutionalization of infection control efforts in country?

Measurement Notes

- Unit responsible for infection control may be housed within the Ministry of Health, or other relevant agency or organization.
- The infection control committee may or may not be a government entity.
- Data collected refers to information on quality assurance or compliance (also discussed in Indicator A).
- Data collected in hospitals and reported to the infection control committee at the regional or sub-national level.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Level below sub-national refers to two levels below national. Participants should insert language appropriate to the country.
- Regional level is between national and sub-national levels. If country has not established regions, this item may be omitted from criteria at Level 2.
- An active professional society meets at least once per year.

Example Documentation or Evidence for Level of Capability

- Documentation of unit responsible for infection control
- Documentation of infection control committee(s)
- Documentation of data collection and reporting
- Documentation of a professional society related to infection control practices
- Documentation of standards for infection control at national and sub-national levels
- Documentation of national plan to improve infection control

References

World Health Organization. Avian influenza, including A (H5N1), in humans: WHO interim infection control guidelines for health care facilities. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/infectioncontrol1/en/index.html

World Health Organization. Checklist for influenza pandemic preparedness planning. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/

World Health Organization. WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics. 2005 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/influenza/pipguidance2009/en/index.html

CAPABILITY 12: HEALTH SECTOR PANDEMIC RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS	(A) SURGE CAPACITY – HUMAN RESOURCES	No or limited planning for increasing human resources during pandemic phases 4-6; number of staff unknown	Formal plan for increasing human resources exists, and includes current capacity and projection of needs based on data; roster of staff and identification of extra staff complete	Budget established for procurement of resources and implementation of plan; software used to project needs	Plan and resources meet ≥50% of projected surge capacity needs; plan addresses legal issues
	(B) SURGE CAPACITY – PHYSICAL FACILITIES AND EQUIPMENT	Number of beds unknown; no or limited planning to increase number of beds or home care	Formal plan to increase bed capacity or home care exists, and includes current capacity and projection of needs based on data	Budget established for procurement of resources and implementation of plan; software used to project needs	Plan and resources meet ≥50% of projected surge capacity needs
		Number of ventilators and operators unknown; no or limited planning to increase ventilator and operator capacity	Formal plan to increase ventilator and operator capacity, and includes current capacity and projection of needs based on data	Budget established for procurement of resources and implementation of plan; software used to project needs	Plan and resources meet ≥50% of projected surge capacity needs
	(C) CLINICAL MANAGEMENT GUIDELINES	No or limited clinical management guidelines for care of patients with suspect or novel strains of influenza	Clinical management guidelines exist and are widely available; guidelines meet or exceed WHO guidelines	Staff at national level trained in clinical management guidelines	Staff at sub-national levels trained in clinical management guidelines
	(D) SURGE CAPACITY – CARE OF DECEASED	No or limited planning for care of deceased	Plan for care of deceased exists, and includes current capacity and projection of needs based on data	Budget established for procurement of resources and implementation of plan; software used to project needs	Plan and resources for retrieval, identification, temporary storage, and culturally appropriate disposal of bodies meets ≥50% of projections

CAPABILITY 12: HEALTH SECTOR PANDEMIC RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	**1**	**2**	**3**
INDICATORS	**(A)** **SURGE CAPACITY – HUMAN RESOURCES**	No or limited planning for increasing human resources during pandemic phases 4-6; number of staff unknown	Formal plan for increasing human resources exists, and includes current capacity and projection of needs based on data; roster of staff and identification of extra staff complete	Budget established for procurement of resources and implementation of plan; software used to project needs	Plan and resources meet ≥50% of projected surge capacity needs; plan addresses legal issues

What is the status of human resources for health sector surge capacity?

Measurement Notes

- This indicator refers to planning and preparation across all levels of the health care system (e.g., roster of staff at all levels).
- *Human resources* refer to availability of appropriate personnel or staff.
- Additional staff may include retired professionals, volunteers with appropriate skills or training, etc.
- The World Health Organization (WHO) defines 6 phases of an influenza pandemic.
- At level 1, the projection of needs could be based on any available and relevant data or information.
- At level 2, the projection of needs is based on software programs or calculations, such as FluSurge or FluAid.
- Relevant legal issues vary by country (e.g., licensing, accreditation, benefits, compensation).

Example Documentation or Evidence for Level of Capability

- Rosters of personnel or staff available; documentation of relevant legal issues and how these were addressed
- Documentation of budget dedicated to implementation of the plan, or specific activities within the plan
- Documentation of projections based on relevant data or information

References

World Health Organization. Clinical management of human infection with avian influenza A (H5N1) virus. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/clinicalmanage07/en/index.html

Centers for Disease Control and Prevention. FluSurge 2.0. [cited 2008 Apr 4]; Available from: http://www.cdc.gov/flu/tools/flusurge/

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CAPABILITY 12: HEALTH SECTOR PANDEMIC RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(B) SURGE CAPACITY – PHYSICAL FACILITIES AND EQUIPMENT	Number of beds unknown; no or limited planning to increase number of beds or home care	Formal plan to increase bed capacity or home care exists, and includes current capacity and projection of needs based on data	Budget established for procurement of resources and implementation of plan; software used to project needs	Plan and resources meet ≥50% of projected surge capacity needs
		Number of ventilators and operators unknown; no or limited planning to increase ventilator and operator capacity	Formal plan to increase ventilator and operator capacity , and includes current capacity and projection of needs based on data	Budget established for procurement of resources and implementation of plan; software used to project needs	Plan and resources meet ≥50% of projected surge capacity needs

What is the status of physical facilities and equipment for health sector surge capacity?

Measurement Notes

- This indicator refers to planning and preparation across all levels of the health care system (e.g., number of beds known at all levels).
- (Top Row) In this case, home care refers to the treatment of patients in the home in order to make hospital beds available for severe cases of influenza. Hospitals would have a plan or strategy for providing care to people in their homes.
- (Top and Bottom Row) At level 1, the projection of needs could be based on any available and relevant data or information.
- (Top and Bottom Row) At level 2, the projection of needs is based on software programs or calculations, such as FluSurge or FluAid.
- (Bottom Row) The use of ventilators refers specifically to equipment necessary for intermittent positive pressure ventilation (IPPV).
- (Bottom Row) For the purposes of this indicator, operators should be trained in the use of ventilators for influenza.

Example Documentation or Evidence for Level of Capability

- Documentation of numbers of beds, ventilators, and ventilator operators; documentation of plans to increase number of beds, ventilators, and operators
- Documentation of budget dedicated to implementation of the plan, or specific activities within the plan
- Documentation of projections based on relevant data or information

References

World Health Organization. Clinical management of human infection with avian influenza A (H5N1) virus. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/clinicalmanage07/en/index.html

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CAPABILITY 12: HEALTH SECTOR PANDEMIC RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(C) CLINICAL MANAGEMENT GUIDELINES	No or limited clinical management guidelines for care of patients with suspect or novel strains of influenza	Clinical management guidelines exist and are widely available; guidelines meet or exceed WHO guidelines	Staff at national level trained in clinical management guidelines	Staff at sub-national levels trained in clinical management guidelines

What is the status of clinical management guidelines for care of patients with suspect or novel strains of influenza?

Measurement Notes

- The indicator refers to clinical management guidelines provided by the World Health Organization (WHO).
- Staff trained includes staffing at all levels of participation in relevant clinical management activities, not just leadership or management personnel.
- Terminology for sub-national designations or levels varies by country. For the purposes of this activity, sub-national refers to one level below national. Level below sub-national refers to two levels below national. Participants should insert language appropriate to the country.

Example Documentation or Evidence for Level of Capability

- Documentation of clinical management guidelines adopted or used
- Documentation of dissemination and training on clinical management guidelines

References

World Health Organization. Clinical management of human infection with avian influenza A (H5N1) virus. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/clinicalmanage07/en/index.html

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CAPABILITY 12: HEALTH SECTOR PANDEMIC RESPONSE		LEVEL OF CAPABILITY			
					Advanced
		0	1	2	3
INDICATORS					
	(D) SURGE CAPACITY – CARE OF DECEASED	No or limited planning for care of deceased	Plan for care of deceased exists, and includes current capacity and projection of needs based on data	Budget established for procurement of resources and implementation of plan; software used to project needs	Plan and resources for retrieval, identification, temporary storage, and culturally appropriate disposal of bodies meets ≥50% of projections

What is the status of planning for care of deceased?

Measurement Notes

- At level 1, the plan refers to a written plan or strategy for care of deceased.
- At level 1, the projection of needs could be based on any available and relevant data or information.
- At level 2, the projection of needs is based on software programs or calculations, such as FluSurge or FluAid.

Example Documentation or Evidence for Level of Capability

- Documentation of budget dedicated to implementation of the plan, or specific activities within the plan
- Documentation of projections based on relevant data or information

References

World Health Organization. Clinical management of human infection with avian influenza A (H5N1) virus. 2007 [cited 2008 Apr 4]; Available from: http://www.who.int/csr/disease/avian_influenza/guidelines/clinicalmanage07/en/index.html

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