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WORLD HEALTH ORGANIZATION
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MEETING OF THE PARTIES TO THE CONVENTION ON THE PROTECTION AND USE OF TRANSBOUNDARY WATERCOURSES AND INTERNATIONAL LAKES
and
MEETING OF THE SIGNATORIES TO THE PROTOCOL ON WATER AND HEALTH TO THE CONVENTION

Working Group on Water and Health
Fifth meeting
Geneva, 5 – 7 December 2005
Item 8 of the provisional agenda

SURVEILLANCE OF WATER RELATED DISEASES

Prepared by the Secretariat

1. The Protocol on Water and Health includes a number of obligations regarding the surveillance of water related diseases. Following article 8, the Parties shall each, as appropriate, ensure that comprehensive national and/or local surveillance and early-warning systems are established, improved or maintained which will have to respond to very specific requirements set out further in this article as well as in articles 10, 12, 13 and 14. In particular, it should be borne in mind that, within three years of becoming a Party, each Party should have established the required surveillance and early-warning systems, contingency plans and response capacities (article 8, para.3). The national and/or local surveillance and early-warning systems should not only deal with water-related disease surveillance; they should also address the causal factors, such as water-pollution incidents or extreme weather events (article 8, para. 1 (a) (i)).[1]

[1] Issues related to water supply are addressed in MP.WAT/WG.4/2005/4- EUR/05/5047554/4.

2. The present paper summarizes guidance available from the World Health Organization (WHO) with regard to the surveillance of drinking-water systems and formulates a proposal for joint international action on the evaluation of current surveillance mechanisms as a basis for joint action under the Protocol for consideration by the Working Group.

3. The Working Group may wish to:

(a) Examine the present paper, including the reference documents;

(b) Decide on the applicability of the existing guidance material prepared by WHO for the purpose of the Protocol;

(c) Agree on the proposed assessment programmes of national surveillance systems (see table I in the annex) as part of the draft work plan under the Protocol;

(d) Invite donors and other partner organizations to support such assessment surveillance programmes through in kind assistance and/or voluntary financial contributions.

Annex

EXPERIENCE OF THE WORLD HEALTH ORGANIZATION AND ITS PARTNERS

The World Health Organization Department on Communicable Disease Surveillance and Response (WHO/CSD) answers the concerns related to disease surveillance addressed in the Protocol. This department aims, inter alia, to improve preparedness by supporting the strengthening of national capacity for alert and response. It provides tools, expert assistance and carefully tailored training to enhance skills in laboratory diagnosis and field epidemiology. The WHO Office in Lyon, France, is dedicated to further improving laboratory infrastructure, including biosafety and epidemiological capacity in developing countries, and to strengthen national preparedness.

I. DISEASE SURVEILLANCE

Technical clusters of WHO, together with the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the support of the Department of International Development of the United Kingdom, have jointly published the document "WHO Recommended Surveillance Standards, 2nd Edition" (WHO/CDS/CSR/ISR/99.2) under the aegis of the Department of Communicable Disease Surveillance and Response. The document is available at http://www.who.int/csr/resources/publications/surveillance/WHO_CDS_CSR_ISR_99_2_EN/en/

The document discusses national coordination of communicable disease surveillance, detailing tasks at the peripheral, intermediate and central levels, offers sample formats to be used in disease surveillance, informs on the role of the WHO offices, and includes surveillance guidance sheets for priority water-related diseases, such as cholera, dracunculiasis, acute viral hepatitis, legionellosis, malaria, acute (watery) diarrhoea, acute (bloody) diarrhoea and foodborne disease.

The document includes annexes on definition of surveillance terminology, the use of geographic information systems and the possible use of software for epidemiological surveillance. Further information on the latter topic may also be found at the following URL: http://www.cdc.gov/epiinfo/

Although many countries have surveillance systems, these are likely to be of varying capacity and may be more or less adapted to the specific needs of the Protocol. An assessment of their capacity for the needs of the Protocol is required.

II. ASSESSMENT OF NATIONAL COMMUNICABLE DISEASE SURVEILLANCE AND RESPONSE SYSTEMS

In WHO's experience, many country's surveillance systems have developed in an uneven way, with various surveillance activities funded and managed by different control programmes, sometimes based in different institutions. For medical surveillance, the host organization may be the Ministry of Health, an academic or research institute, or even an NGO. Some vertical programmes have kept the surveillance function close to the control

function, which is essentially good for the control of a specific disease. On the other hand, overall surveillance functions in a country can become badly disjointed and inefficient. In such cases, field workers participate in multiple systems, use different surveillance methods, terminology, reporting forms and frequencies. The approach may result in extra costs and often lead to work overload and de-motivation of the health workers.

In some cases, surveillance is far removed from the control efforts; data are collected on a large number of health events, many of which do not constitute priorities for the country. Detection and reporting of cases and epidemics are rarely carried out on time, and analysis, interpretation and use of available data at all levels for decision-making and action is poor.

Each country needs to periodically assess its overall surveillance system so that this continues to reflect national disease control priorities and remains efficient, notably by taking full advantage of appropriate new methods and techniques that can improve efficiency.

With the support of the United States Agency for International Development, the United Nations Foundation for International Partnerships, the Department for International Development of the United Kingdom and the Government of Ireland, WHO published a "Protocol for the Assessment of National Communicable Disease Surveillance and Response Systems – Guidelines for Assessment Teams" (document WHO/CDS/CSD/ISR/2001.2).

The aim of this publication is to assist groups of national experts, supported as appropriate through international cooperation, with the assessment of the overall structure and performance of surveillance activities in a member State.

The objectives of the assessment of a national surveillance system would be to:

(a) Obtain baseline information for implementing a coordinated, multi-disease approach to disease surveillance that allows measurement of progress made in surveillance strengthening efforts;

(b) Determine country needs as regards strengthening the surveillance system for disease prevention and control;

(c) Identify gaps and opportunities for performing the core and support functions of surveillance, and assessing the resources available for these;

(d) Enable the development of a prioritized action plan, based on the assessment findings.

A detailed programme for the assessment of national disease surveillance systems has been developed by WHO. It has found to be of use under different national conditions. The main elements of the surveillance system assessment scheme are summarized in table 1 below.

A complete copy of the document is available from URL: http://www.who.int/csr/resources/publications/surveillance/whocdscsrisr20012.pdf and will be made available to the Working Group.

Table 1 Assessment scheme for national surveillance systems

Phase	Steps	Time period	Goal	Participants/Venue	Activity	Products
PHASE I Planning		Before assessment	Planning the mission	Home based, by correspondence		
PHASE II Implementation	***Step 1 Pre-assessment***	***Days 1-3***	*Pre-assessment facilitated workshop* to examine surveillance priorities and objectives. Further sensitize on the multi-disease approach to surveillance, agree on the list of national priority diseases, adapt the assessment protocol, plan fieldwork.	***Participants:*** WHO[2] UNECE National Protocol Focal Point (health) National Protocol focal point (Environment) National coordinator (health) National coordinator (environment) ***Venue***: Protocol Secretariat Copenhagen or Geneva	Plenary session on multi-disease approach and objectives of the assessment.	MOH decision-makers sensitized on the multi-disease approach and on assessment objectives
					Exercise: setting priorities for communicable diseases	Adoption of list of priority communicable diseases
					Inventory of current surveillance activities	Table summarizing all current surveillance activities
					Surveillance objectives and indicators	Table summarizing surveillance objectives and indicators for each priority disease under surveillance
					Surveillance process and task description, by health sector	Flow diagrams to illustrate surveillance process and table for each priority disease showing the tasks that are carried out at each level of the system
					Adaptation of tools for field assessment	Indicators to test system performance and checklists/questionnaires for data collection

[2] For discussion purpose, the term "WHO" will be understood to mean two staff members of the organization, one from PHE and one from CSD, plus one or two experts drawn from WHO collaborating centres, as required.

Phase	Steps	Time period	Goal	Participants/Venue	Activity	Products
					Selection of assessment sites, finalization of teams, organization, and scheduling of visits	Sample size and map showing districts and facilities to be visited; table showing organization of each team, sites to be visited, and timing
					Logistics for field visits	Table showing transport, security, accommodation, financial and administrative arrangements for the team
	Step 2 Training	Days 4 – 6	Training of assessment team members and data managers. Pre-test and adapt assessment tools; finalise logistical requirements, travel to assessment sites	***Participants*** WHO technical expert National coordinator (health) Team of one health and one data manager per national administrative unit WHO LO staff ***Venue*** Capital city	Briefing on expectations on arrivals and contacts with local authorities on site	Conduct and administrative arrangements known
					Information meeting with local teams	Content and conduct of meeting mastered
					Detailed organization (role of team members, number and types of sites for assessment, tracking questionnaires, identification of interviewees, appointments, transport, security, accommodation etc.)	Detailed organization of assessment known
					Data collection process: checklist/questionnaire use (filling, quality control)	Questions understood Data collection mastered
					Data entry, cleaning and draft analysis	Capacity built for data entry and cleaning Draft analysis programme adopted
					Field testing, feedback and adaptation of the assessment tools	Assessment tools field-tested Assessment tools adapted
	Step 3 Field assessment	Days 7 – 12	Field assessment and travel	***Participants*** WHO expert (international travel)	Initial meeting to introduce the objectives of the assessment and ask clarifying questions	

Phase	Steps	Time period	Goal	Participants/Venue	Activity	Products
				National coordinator (health) Local staff assigned to national administrative unit. One day meeting ***Venue*** Local offices of the national MOH or other of other organizations mandated for local surveillance	Obtain informal feedback on problems and issues that workers have identified regarding surveillance	
					Identify examples of good and bad practice	
					Consult reports of outbreaks or other investigations	
					Make sure that checklists/questionnaires are filled clearly and ligibly	
					Record and if possible resolve ambiguity in the tools	
					Clean data	
					Enter data into prepared database	
	Step 4 Analysis and report	Days 13 – 16	Write a preliminary report using a standard format on the assessment findings	Home based – by correspondence.	Analysis of the products of the pre-assessment workshop	
					Analysis of the data from field visits, both qualitative and quantitative	
					Identification of strengths, weaknesses, opportunities and threats in the national surveillance and response system	
					Identification of solutions, opportunities, and threats to improvements	
					Recommendations to strengthen the capacity, improve co-ordination, build synergies, and take advantage of the driving force for the national surveillance and response system	

Phase	Steps	Time period	Goal	Participants/Venue	Activity	Products
	Step 5 Findings and follow-up schedule	Days 17	Post-assessment workshop to present preliminary findings; discuss follow-up schedule and agree	***Participants:*** - MOH - WHO - Donor representatives - Other UN agencies - Other partners - Laboratory institutes outside MOH ***Venue:*** Protocol Secretariat Copenhagen or Geneva	Presentation of the draft report by the assessment team	Political commitment to the process
					Discussion of the assessment findings	Commitment of national resources
					Agreement on future activities (i.e. timeline for the final assessment report and the Plan of Action Workshop)	Identification of critical activities for which outside support is required
					Consensus of all stakeholders to consider the implications of the assessment findings and recommendations in the execution of their duties and in their surveillance strengthening efforts.	Development of a systematic and coordinated implementation process.
PHASE III National Plan of Action		After assessment; 4 – 8 weeks	Workshop to elaborate National Plan of Action and implementation framework	***Participants:*** - MOH - WHO - Donor representatives - Other UN agencies - Other partner Laboratory institutes outside MOH - National experts ***Venue*** National capital or Protocol Secretariat Copenhagen or Geneva	Prepare a draft implementation plan, and agree on activities and budget	
					Agree on a final implementation plan, with a prioritized list of activities and proposed timetable and allocation of responsibilities	
					Agree on follow-up method and schedule	
PHASE IV Follow-up			Follow-up implementation of the Plan of Action	Regular reporting to the Meeting of the Parties		

III. SUPPORT STRUCTURE

The global consultation on the strengthening of national capacities for surveillance and control of communicable diseases[3] called for WHO to develop regional and subregional centers and networks for continuing support in national capacity building.

Besides the divisions at WHO introduced in the opening paragraphs, the Organizations benefits from the guidance and technical expertise of a number of collaborating centers.

A. Collaborating centre on communicable disease surveillance and response (CSR)

The main objective of the WHO/CSR Office in Lyon, France is to:

(a) Develop the core competencies for national public health laboratories and epidemiological units in order to detect and respond to epidemics and emerging infections; and

(b) Bring together global and national partners to strengthen disease surveillance, biosafety and preparedness to deliberate epidemics.

The WHO Programme for Health Security Capacity Development produces strategies, norms, tools, models and advocacy resources that can be applied nationally or globally to develop preparedness and response capacity to communicable diseases.

At present, products have been developed in the following areas of work that are relevant to the needs of the Parties to the Protocol:

(a) Assessment of disease surveillance capabilities;

(b) Design of surveillance models;

(c) Epidemiological data management, analysis and decision-making;

(d) Diagnostic methods and materials;

(e) Quality assurance/quality control;

(f) Laboratory data management;

(g) Evaluation.

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[3] Anon. Global consultation on strengthening national capacities for surveillance and control of communicable diseases (Geneva, Switzerland, 22 – 24 November 2003) ref. WHO/CDS/CSD/CSR/LYO/2005.18 available from http://www.who.int/csr/resources/publications/surveillance/WHO_CDS_CSR_LYO_2005_18.pdf accessed on 28 July 2005

B. Expertise funds

In addition to the network of collaborating centres, it must be recalled that certain countries (Italy, Sweden) also make experts available on the basis of competitive requests for short-term missions. Resource allocations under this arrangement are however highly competitive and timing is not assured.

IV. VARIABILITY IN THE REGION

The region covered by the Parties of the Protocol shows a significant variability in burden of priority diseases.

Table 2 Burden of disease

	SDR DD <5		Vir Hep A incidence	
	per 100,000		per 100,000	
Year	**1999**	**2003**	**1999**	**2003**
MINIMUM	0.00	0.00	0.93	0.35
MEAN	6.62	2.58	26.97	12.67
Eur A[4]	0.46	0.39	6.51	4.21
Eur B[5]**+C**[6]	21.32	14.12	41.90	28.55
EU[7]	0.53	0.39	5.87	3.88
MAXIMUM	43.98	9.49	93.74	66.59

Countries with the highest burden of disease, or countries with recurrent outbreaks, would be most likely to benefit from international cooperation in the field of surveillance capacity assessment.

[4] Andorra, Austria, Belgium, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

[5] Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Georgia, Kyrgyzstan, Poland, Romania, Serbia and Montenegro, Slovakia, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, and Uzbekistan.

[6] Belarus, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Ukraine.

[7] The 25 Member States of the European Union.