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Outbreak Management and Investigation: Systems' Overview Workshop

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**Abstract**

A memorandum of understanding with the Sudanese Federal Ministry of Health aims to facilitate Sudan Health Consultancy's contribution to advancing PH training in Sudan and working on joint projects with Sudan-based PH professionals. This workshop on systems in outbreak investigation and management was carried out jointly by the Sudan Health Consultancy group and the Communicable Disease Division of the Federal Ministry of Health. It was attended by epidemiologists from states.

Aim

To review current systems in outbreak management (using SWOT analysis) and to make recommendations

Methods

An evolving scenario based on a recent outbreak of Rift Valley Fever (September – November 2007) was used to discuss systems in outbreak investigation & management

- Q1: suspicion of outbreak (alert & notification systems)
- Q2: suspicion of viral haemorrhagic fever (approach / roles & responsibilities)
- Q3: Probable diagnosis Rift Valley Fever (control measures)
- Q4: escalating public anxiety (handling panic)
- Q5: resolution stage (reflecting on experience)

Key Results (SWOT Analysis)

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- **Strengths:** Sentinel surveillance
- **Weaknesses:** Staff retention
- **PH law enforcement:** Opportunities
- **Comprehensive peace agreement:** Support from SHC
- **Threats:** Inequitable resource allocation

Recommendations focused on:

- Training
- Planning
- Notification & Alert
- Joint working

Background

Sudan Health Consultancy group - founded in April 2003 – by Public Health professionals practising in the United Kingdom – aims to:

1. Contribute to advancing PH training in Sudan
2. Support Sudanese Public Health professionals in the UK
3. Engage in joint projects with Sudan-based PH professionals on priority PH issues
4. Seek resources for PH projects in Sudan through establishing partnerships with Sudanese, UK based and international organizations

In 2005, the group signed a Memorandum of Understanding (MOU) with the Federal Ministry of Health (FMoH) outlining the relationship with the Ministry on assisting with the Public Health agenda in Sudan. This is in line with aim 3 above.

This workshop is the first element in the developing work programme, prepared and facilitated by Dr. Ishraga Awad, Public Health specialist (Health Protection Agency, England) in collaboration with Dr. Elfatih M. Malik and Dr. Magdi S. Osman from the FMoH.

Rationale

Disease Outbreaks

- Cause sharp increases in morbidity/ mortality/ disability
- Disrupt living and working conditions
- Disrupt the economy
- Are predictable outcomes of poverty, poor environmental health, and flooding events
- Pose higher risk in the poor, the malnourished, the very young and the old
- Provoke considerable public anxiety
- Are always unwelcome occurrences

Aims

- To revise essential steps in outbreak management
- To review current systems used in outbreak management & investigation using a SWOT analysis framework
- To make recommendations for useful changes

Methods:

The workshop started with a presentation introducing Sudan Health Consultancy group followed by an introduction to the day – rationale, aims and methods. This was followed by a presentation on the general principles of outbreak management and investigation to set the context and ensure consistency of approach.

The main part of the workshop consisted of a facilitated discussion on a case scenario with 5 sub-questions. 5 groups representing the participating States discussed each question and fed back in turn.

The discussion focused on systems analysis and was channeled into a SWOT analysis framework.

Subsequently, the Strengths, Weaknesses, Opportunities & Threats identified by the group were presented back to them to check accuracy. Recommendations were drawn from the discussion and presented back.

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- Participants: 25 participants representing CDC leadership from Khartoum, Gezira, Kassala, Gedarif and River Nile States.
- Scenario: the recent outbreak of Rift Valley Fever was used to construct the scenario.
- Discussion: the group engaged in a rich and informative discussion. A useful outcome was to highlight variations in systems and practice between different States. A participant acted as a scribe to capture the different experiences of the groups and add the SWOT analysis elements and recommendations.

Outcomes

The main outcomes were to identify the SWOT elements and agree a way forward through making appropriate recommendations.

Strengths

- Familiarity with technical aspects
- Notification system is generally ok.
- Sentinel surveillance
- Health education during outbreak at household level and state

Weaknesses

- Lack of training modules
- Rapid staff turnover and loss of trained staff
- Lack of private sector engagement particularly at the notification stage
- Lack of clinicians understanding, cooperation and engagement with the public health function
- Lack of enforcement of PH laws
- Poor documentation of clinical records
- Lack of comprehensive surveillance
- Lack of robust alert mechanisms
- Poor, disjointed media engagement (sometimes counterproductive)
- Lack of coordination
- Allocation of resources without clear evidence

Opportunities

- IHR / PH law
- Comprehensive peace agreement
- External funds
- Sudan Public Health Consultancy Group (UK)

Threats

- Instability of administrative systems/ constant change of administrative boundaries
- Poor retention of trained staff
- Inequitable staff and other resources distribution between the States
- Huge gap between Federal and state level in some aspects
- Local restriction limits the utilization of external support

Recommendations

13 recommendations were articulated by the group (list below) in various areas. Most of them were relevant to both the Federal and State levels of directorate but the scope and emphasis will differ by level and location. A positive byproduct was that they generally fit well with a new epidemiology decision tool for effective surveillance at Federal level to identify, clarify and communicate a process for the CDC function.

List of Recommendations

Training

1. Federal/ State/ directorates should develop training modules and implement them at all levels including graduate and postgraduate institutions.
2. States should address the staff turnover problem by developing appropriate induction/ training programs. The experiences of Khartoum State CDC and the national malaria control program may be used as examples of good practice.

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3. Federal/ State directorates should replicate this workshop in all States adding more details to the scenario

Notification & Alert Mechanisms

4. Federal/ State directorates to strengthen surveillance systems
5. Federal/ State directorates should develop alert systems for use by all healthcare providers including the private sector
6. Federal/ State directorates should develop ways to enforce the public health Act/ Law relevant to disease notification in collaboration with clinicians in healthcare facilities to raise their awareness

Planning

7. Federal/ State directorates should involve clinicians and infectious disease experts in joint planning/ taskforces to promote ownership and commitment
8. Federal/ State directorates should explore the introduction of a public health contact system to cover evenings, week ends and holiday periods

Control Actions

9. Federal/ State directorates should consider the use of analytical epidemiology using collected data at the earliest possible stage of epidemics in order to adjust control measures
10. Federal/ State directorates should prepare and disseminate regular feedback, update or situation report as a way of sharing information
11. Federal/ State directorates should include the orientation and engagement of clinical and lab staff as an essential part of outbreak control plans

Partnerships for Health

12. Federal/ State directorates should develop partnerships with appropriate organizations (e.g. community, media,

MOARF, etc.) to facilitate joint working on outbreak management both at strategic and operational levels. Partnership working with the Ministry of Education may be used as a model of good practice

13. Federal/ State directorates should put considerable efforts to develop good relationships with the media and develop outbreak media strategies (consider public education and empowerment, transparency, no mixed messages).
14. Federal/ State directorates should explore weaknesses in coordination and joint planning among health sector organizations and outside the health sector

Workshop Evaluation

The workshop was very well received and stimulated a rich discussion touching not only on outbreaks but on the wider structure of Communicable Disease Control in Sudan including surveillance, training, communications, the role of the media and other agencies in health/ partnership working.

Engagement with SHC group was perceived as a positive opportunity both for Sudan as a whole but also for professional support to individuals.

Other suggested topics:

1. How to write a paper proposal
2. Research methodology
3. Analytical epidemiology and its applications
4. Advanced training in epidemiology
5. Environmental indicators in predicting disease outbreaks
6. Surveillance systems
7. Health information systems
8. How to fill gaps (dealing with threats) and use opportunities
9. Resource management - coordination/ integration

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- 10. Planning and management in resource poor countries
- 11. Crisis/ disaster management
- 12. Other public health topics e.g. health promotion
- 13. Planning, monitoring and evaluation
- 14. Early warning systems/ forecasting

In conclusion

Planning and conducting this workshop was a valuable opportunity for engagement with the wider public health force in Sudan that was concluded with great success.

	Strongly agree	Agree	Don't know	Disagree	Strongly disagree
The event was good use of time	17 (85%)	3 (15%)	0	0	0
The event satisfied its aims	12 (60%)	8 (40%)	0	0	0
The material presented was relevant	12 (60%)	8 (40%)	0	0	0
The pace was appropriate	10 (50%)	7 (35%)	1 (5%)	1 (5%)	0
The venue was good	13 (65%)	5 (25%)	0	0	0

- 15. Reflection/ sharing of experiences from England

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Other comments/ suggestions

- 1. Regular workshops on a series of topics
- 2. Repeating workshops in the States looking at more detail
- 3. Excellent, well prepared workshop should be repeated on a regular basis
- 4. Scenario approach is a good training technique
- 5. Pre test/ post test for participants to assess knowledge and understanding
- 6. More time for future workshops
- 7. Sharing the field experience
- 8. Continued/ added contribution of SHC group
- 9. Expand membership of SHC so that we can join
- 10. Set up e-mail contact with SHC
- 11. Create small groups and bodies + different facilities for public health work
- 12. Capacity building