European FMD Expertise and Technical Capacity

(i) Situation overview

Responses to the Questionnaire on FMD Experience and Interest in In-post Expertise Development for State Veterinary Services in EUFMD Member Countries

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1. INTRODUCTION

In March 2005 a questionnaire was circulated by the Secretariat of the European Commission for the Control of Foot-and-Mouth Disease (EUFMD) to all member countries as a first step in assessing the current situation regarding education and training in the area of emergency preparedness and the requirement and demand for the development of a specific programme of this nature for this most communicable of animal diseases.

This paper reports on the collated results of the questionnaire and draws conclusions from them on the demand for such training; on the topics which might be included; and on some of the means by which the training could be delivered.

2. BACKGROUND AND ANTECEDENTS

2.1. Lessons from the recent epidemics of FMD in Europe

A major lesson learned from the devastating outbreaks of foot-and-mouth disease (FMD) in Europe in 2001 is the vital importance of disease preparedness. This is achieved in part through the provision of contingency plans for both the field and the laboratory. Contingency plans must be routinely practised in simulation exercises and also routinely reviewed to ensure their currency against changes in resource availability, in the emerging global epidemiology of the disease and in the development of new technology.

A second particularly vital part of this preparedness is the availability of experts, specifically trained and experienced in the management of particular diseases such as FMD. It is most important for the expert to have not only relevant and up-to-date theoretical knowledge, but also, wherever possible, practical, first hand experience of the disease and its management.
2.2. Relevant Legislation

Within the European Union the aspect of contingency planning is laid down in the recently revised legislation on the control of FMD (“Community Measures for the control of foot-and-mouth disease”. Council Directive 2003/85/EC of 29th September 2003) and specifically addressed in Chapter III [Preventive Measures], Section 12 [Contingency Plans and Real Time Alert Exercises] and Section 13 [Control Centres and Expert Groups] and also in Annex XVII [Criteria and Requirements for Contingency Plans].

Under Item 78 of Section 13 the Directive specifies the establishment of an Expert Group. The full text of this section is given as Appendix 1 to this paper. In summary however the Directive requires that:

“A permanently operational expert group shall be created, where necessary in collaboration with other Member States, to maintain expertise and assist the relevant authority in qualitative disease preparedness”.

Thus there is a specific legal obligation for the creation of an expert group for EU member countries. However, there is also an obvious advantage of having such a group for members of the EUFMD which are not currently members of the EU.

2.3. Historical perspectives on FMD in Europe

At the present time only one of the thirty three EUFMD member countries has active, endemic FMD, namely Turkey. Aside from this, all other countries have been free of the disease for at least four years, the United Kingdom, Ireland, France and the Netherlands having suffered their last incursions in 2001. Outbreaks occurred five years ago in Greece (in 2000) and six years ago in Israel (in 1999). However, of the other 26 member countries, 25 have been free of FMD for between 9 and 51 years while Iceland has never recorded the disease. The status of individual countries in this respect is shown in tabular form in Appendix 2.

On the one hand, the long term FMD freedom of the majority of EUFMD countries is highly advantageous for the livestock industries, but on the other hand this freedom has meant that in most member countries the farming community and both private and state veterinarians have had virtually no direct, first hand experience of clinical FMD or of having to deal with an outbreak of the disease for several decades.

3. RESPONSES TO THE QUESTIONNAIRE

Questionnaires were distributed to all 33 members of the commission in March 2005. Replies were received by the deadline from 20 members (61%). By prior agreement, countries are not individually identified within this report of the collected results.

Q 1. State the approximate size of the State Veterinary Service?

Fifteen countries have a complement of more than 200 veterinarians in the State Veterinary Service, three have between 51 and 200, one between 21 and 50 and one less than 20.

Q 2. How many Veterinarians with experience of FMD are there within the State Veterinary Service?

Two State Veterinary Services have more than 50 veterinarians experienced with FMD, four with between 10 and 50, three with between 6-10, six between 1-5 and five with none.
These figures relate to the size of particular veterinary services, the size of the livestock component of their economies and also to the European epidemiology of FMD in recent years. Significantly, eleven countries have very few veterinary personnel experienced with this disease.

**Q 3. What is the potential for the rapid mobilisation of other veterinarians with FMD experience within 24-72 hours notice?**

Seven countries were able to call up other experienced personnel at short notice, 8 could not do so while 5 were unsure on this point.

The fact that 13 countries either could not readily mobilise reserves, or were unsure as to whether they could, points to a potential weakness in current arrangements.

**Q 4. State the willingness to send veterinary staff on short (up to 2 weeks) training courses in countries where practical experience could be gained in clinical diagnosis and surveillance activities.**

There was a 100% positive response to this question in that all 20 countries stated that they would be willing to send staff on such courses.

**Q 5. What would be the desired number of persons to be sent on short practical training courses in the next three years?**

Four countries would wish to send 10 – 50 persons on short practical training courses over the next three years, ten would wish to send 6 -10 persons and six between 1-5 persons.

There is clearly strong support for short, practical training courses although there is also wide variation between the numbers which individual countries would want to have trained in this way. Logistical difficulties may be envisaged in accommodating the attendance of the larger numbers (i.e. up to 50 persons in three years).

**Q6. Give the priorities in your country for the development of expertise and competence in managing emergencies such as outbreaks of FMD**

Five categories were provisionally offered in the questionnaire as potential groups for training at different levels in respect of qualifications, expertise, competence and responsibility (job type). These were:-

- Level 1: Farmers, non-veterinary operators
- Level 2: Private veterinarians and temporary veterinary inspectors
- Level 3: Area Veterinary Managers (Divisional/ Departmental/ Provincial/ Regional Veterinary Officers)
- Level 4: Chief Veterinary Officers and Key Staff at Headquarters
- Level 5: National Experts. Members of European Expert Groups

Members were asked to comment on the suitability of the proposed levels.

Seventeen of the 20 countries considered that the five proposed levels were acceptable in principle, one thought that they were not, while two countries were not sure of their position on this point.
Q 7. Give suggestions for alternative groupings for training to those proposed in Q6 above

Fifteen countries offered no comments on the levels proposed in Question 6. Suggestions from the four countries which did offer comments included the following points for consideration:-

(i) Level 1 should be split into two to accommodate (a) farmers and non-veterinary operators and (b) State Veterinary Department technical and administrative staff.
(ii) Doubt was expressed about the need to include farmers in the scheme since “they would not be involved in the management of an outbreak”.
(iii) There should be a separation drawn between veterinarians and technical staff who are either working in the field or the laboratory and appropriate training should be arranged for the distinctive requirements of these additional categories
(iv) Level 3 should rather encompass “Regional and District Veterinary Officers and non-veterinary head office staff and management”.
(v) Categorisation was suggested according to “experience and engagement rather than by the suggested levels”.

The five levels tentatively advanced initially in the questionnaire can readily be modified to accommodate some of these proposals. Indeed, it is likely that considerable refinement would be undertaken as the programme developed. Elements of the programme developed for veterinarians would form the basis of training for non-veterinary technicians and appropriate modification could readily be effected.

There may well have been a misunderstanding due to phraseology concerning the inclusion of the farmer in Level 1. It is not envisaged that the farmer would be directing operations in the management of an outbreak, but there can be no doubt whatsoever that the trained farmer is a key component in the earliest possible identification of FMD and that the cooperation of the farmer is critical for optimal success in the control of the disease. For these reasons the education and training of the farmer to an appropriate level would seem to be an essential component of any national training programme, whether or not it is effected under the auspices of the programme considered in this questionnaire or via other means.

Q 8. Is the training currently provided for Chief Veterinary Officers and Key Staff at Headquarters (Level 4) and National Experts (Level 5) in your country considered to be adequate for those expected to advise at national level?

This type of training was considered adequate by 9 of the 20 countries, inadequate by 3 countries and about to be introduced by 1 country. Seven countries expressed themselves unsure on these matters.

It is important to note that 10 responses indicated that such training was either inadequate or that the respondents were unsure about its adequacy. This result would appear to give a clear endorsement of the need for further investigation in this area and probably also for improved training at these levels.

Q 9. Would your country be willing to allow its national training programme to be used in other countries?

Nine of the 20 countries were willing to allow their training programme to be used in other countries, although in one instance the programme was only available in the national language (i.e. in a language other than English or French). One country would not be willing
to allow their training programme to be used elsewhere and one was unsure in this respect.
Nine countries did not reply to this question.

**Q 10. What enhancements in training would be of value in your country?**

Nine countries identified enhancements in their training, seven did not identify enhancements and in four cases the question was not answered.

Several countries identified common areas for enhancement, these included:

- Training in the identification of the clinical signs of FMD
- Management of outbreaks of FMD
- Practical field work
- Mass culling of susceptible animals and safe disposal of carcasses
- Public relations and communication with mass media

**Q 11. Are there any gaps in the expertise relating to the control of FMD available in your country at national level?**

Twelve countries identified gaps in expertise at the national level, three countries reported no gaps and five were unsure as to whether there were or were not gaps in expertise. These latter responses indicate a requirement for deeper investigation.

**Q 12. Which areas of expertise are seen as priorities for strengthening at national level?**

Nineteen countries specified priority areas of expertise for strengthening at the national level as follows:

- Clinical diagnosis
- Improved active and passive surveillance
- Routine use of tests for antibodies to non structural proteins
- Supply and application of Geographic Information Systems
- Crisis management at Departmental, Divisional and National levels
- Collection and analysis of epidemiological data
- Application of mathematical models as decision aids
- Centralisation of authority in widespread epidemics
- Modelling of emergency vaccination scenarios
- Field experience in disease control
- Simulation exercises, both at the desk and in the field
- Risk Analysis and Risk Management techniques
- Outcomes analysis for different control strategies
- Disease awareness for farmers and veterinarians
- Communication with mass media
- Workshops, particularly with international participation
- Budgetary provision for disease emergencies

These elements were not themselves ranked for priority. However, a number of key areas were identified for inclusion in any training programme.

One principal mode of training for laboratory technicians would be by organising inter-laboratory secondments.
There were many commonalities in these responses, but special emphasis was evident in the need for experience in the clinical diagnosis of FMD.

Some countries simply stated that ALL areas of expertise needed to be strengthened.

**Q 13. At the level of Divisional/Departmental/ Provincial Veterinary Officers having responsibilities in the control of FMD in your country: do you provide training in areas relevant to FMD management?**

Fifteen countries regularly provide training courses relevant to the management of FMD at the level of Divisional, Departmental and Provincial Veterinary Officer. Five countries sometimes provide such training.

**Q 14. Do you consider that there are gaps in the expertise relating to FMD control available to your service at Regional/Provincial/Divisional levels?**

Ten countries considered that gaps do exist in their expertise relating to FMD control at Regional/Provincial/Divisional levels. Five countries considered that gaps sometimes occurred at these levels while five were unsure in this respect.

**Q 15. If there are gaps (under Q 14 above) please specify their nature**

The gaps identified relating to expertise in FMD control at Regional/Provincial/Divisional levels included the following areas:-

- Lack of clinical experience in the recognition of FMD
- Lack of standardisation of procedures at the different management levels
- Lack of field experience in outbreak control
- Lack of planned cooperation with official organisations outside the State Veterinary Service
- Lack of control of animal movements
- Lack of experience in mass culling and safe disposal of carcasses
- Lack of simulation exercises
- Lack of themed workshops

These elements were not themselves ranked for priority. However, the responses identified important components for inclusion in any training scheme.

**Q 16. Which areas of expertise do you recommend as priorities for strengthening at Regional/Provincial/Divisional level?**

The areas to which priority was ascribed for the strengthening of expertise at Regional/Provincial/Divisional levels were as follows:-

- Clinical experience of FMD
- Improved disease awareness
- Improved active and passive disease surveillance
- Experience in field control of disease
- Regular field training
- Crisis management at Central and Local Disease Control Centres
- Management and coordination of disease control at central and regional levels
- Control of animal movement
- Culling and disposal of carcasses
- Coordination between veterinary and non-veterinary organisations and participants
- Introduction and use of Information Technology for epidemiology and disease control
- Enhanced rapidity of emergency response
- Risk analysis techniques
- Biosecurity

These elements were not themselves ranked for priority. Once again there were many laboratories advocating items in common for priority treatment, including the need for clinical FMD experience.

**Q 17. Please rate the suitability and cost-effectiveness of the following 6 training modes in respect of their usefulness for staff at Levels 3 and 4 (See Q 6 above) on a scale of 1 to 10, where 10 is the most useful**

Countries were asked to ascribe scores for their perceived usefulness of six modes of training as follows:-

<table>
<thead>
<tr>
<th>Training Mode</th>
<th>Average score out of a possible maximum of 10</th>
<th>Range of scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Computer based training</td>
<td>5.15</td>
<td>1 - 8</td>
</tr>
<tr>
<td>2. Workshop based training</td>
<td>8.05</td>
<td>2 - 10</td>
</tr>
<tr>
<td>3. Correspondence with National Experts</td>
<td>6.35</td>
<td>0 - 10</td>
</tr>
<tr>
<td>4. Simulation exercises</td>
<td>9.45</td>
<td>6 - 10</td>
</tr>
<tr>
<td>5. Post graduate courses leading to a qualification (e.g. MSc, PhD)</td>
<td>5.90</td>
<td>0 - 10</td>
</tr>
<tr>
<td>6. Combinations of the above</td>
<td>7.9</td>
<td>0 - 10</td>
</tr>
</tbody>
</table>

The average scores indicate a ranking preference of :-

First: Simulation Exercises (9.45 / 10),
Second: Workshop Based Training (8.05 / 10)
Third: Correspondence with National Experts (6.35 / 10)
Fourth: Post Graduate Courses (5.90 / 10)
Fifth: Computer Based Courses (5.15 / 10)

However, the spread of responses for all categories was so wide that it is difficult to place too much credence in the simple arithmetic mean values. Further work would be required to define the optimal training mode, including the consideration of comparative cost effectiveness. In this regard one country specifically mentioned the possibility of external co-financing of this type of training.
It is to be noted that combinations of the above modes also scored well at 7.9 / 10, but with the same proviso regarding the width of the spread of scores. The preferred combinations were quite diverse, but some indication of preference may be gleaned form the number of times that a particular mode was included in a combination as follows:-

First: Simulation Exercises (included on 15 occasions)
Second: Workshop Based Training (14)
Third: Correspondence with National Experts (8)
Fourth: Computer Based Courses (6)
Fifth: Post Graduate Courses (1)

It should be noted that computer based training can fulfil very useful applications within a workshop setting.

Q 18. How valuable would it be if the training of officers at level 3 or 4 led to an internationally recognised “Certificate of Competence” in the management of FMD or a similar qualification in the management of FMD or epizootic disease in your country?

<table>
<thead>
<tr>
<th>RATING OF THE IMPORTANCE OF A POTENTIAL FORMAL QUALIFICATION</th>
<th>SCORE OUT OF A POSSIBLE MAXIMUM OF 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential</td>
<td>2</td>
</tr>
<tr>
<td>High</td>
<td>11</td>
</tr>
<tr>
<td>Moderate</td>
<td>1</td>
</tr>
<tr>
<td>Low</td>
<td>3</td>
</tr>
<tr>
<td>Useless</td>
<td>0</td>
</tr>
</tbody>
</table>

On this basis a formal qualification is generally ranked as being of high value, but not essential.

Q 19. If you are interested to progress to the next stage of this exercise, please nominate a contact person in your service

Nineteen of the twenty countries supplied contact details.

Q 20. In which language should training and training materials be provided?

Two of the 20 countries considered it essential to have training and training materials to be in their national language (i.e. in a language other than English or French). Sixteen countries would accept these in English, one requested French, two requested either French or English.

4. GENERAL COMMENTS

There are a number of reasons why training in the management of disease emergencies should be considered beneficial for EUFMD members.

- Firstly: 20 of the 33 members have now indicated that such training would be desirable.

- Secondly: a number of gaps and deficiencies have been clearly identified in existing
training schemes and priority subjects specified for inclusion.

- Thirdly: the majority of EUFMD member countries have been free of FMD for decades and thus lack direct experience of the disease and its management.

- Fourthly: the current EU Directive on the control of FMD specifies that member countries must have a contingency plan for FMD and that, as an integral and compulsory part of that plan, the country must maintain an Expert Group, trained and experienced in the control of the disease.

- Fifthly: the adoption of a comprehensive training programme for all EUFMD members incorporating best practice would be of mutual benefit in an integrated, consistent and common approach to the control of FMD across international borders.

- Sixthly: The training programme for FMD could readily be extended to include emergency preparedness for other important animal diseases.

Provided that the need for a common training scheme can be endorsed in principle by the General Session, there will need to be further investigation of the precise requirements for the proposed programme and the detailed consideration of its structure, content, management and finances. One important follow-up will entail the contacting of the 13 EUFMD member countries who have not as yet replied to the questionnaire, since the training course would gain significantly in value if all member states were to be involved. Moreover, a number of the countries that have yet to reply would be expected to bring significant experience, expertise and resources to the programme.

5. ACKNOWLEDGEMENTS

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APPENDIX 1

Annex XVII. Article 78. The Expert Group:-

1. Member States shall create a permanently operational expert group, which is composed of epidemiologists, veterinary scientists and virologists in a balanced way, to maintain expertise in order to assist the competent authority in ensuring preparedness against an outbreak of foot-and-mouth disease.

By way of derogation from the first subparagraph, Member States with a limited number of animals of susceptible species may arrange a formalised agreement with other Member States on mutual assistance in regard of the expert group. These arrangements shall be detailed in the contingency plans referred to in Article 72.

2. In case of a suspicion of an outbreak of foot-and-mouth disease the expert group shall at least:

(a) evaluate the clinical picture and the epidemiological situation;

(b) give advice regarding the sampling and analyses needed for diagnosing the foot-and-mouth disease together with the additional actions and measures to be taken.

3. In case of an outbreak of foot-and-mouth the expert group shall at least:

(a) conduct at least in the index case and if necessary on the spot, an evaluation of the clinical picture and an analysis of the epidemiological inquiry in order to collect the necessary data for determining:

(i) the origin of the infection;
(ii) the date of introduction of the infectious agent;
(iii) the possible spread of the disease;

(b) report to the Chief Veterinary Officer and the national disease control centre;

(c) give advice on screening, sampling, test procedures, control and the other measures to be applied and on the strategy to be implemented, including advice on biosecurity measures on holdings or on premises referred to in Article 16, and in relation to emergency vaccination;

(d) follow up and guide the epidemiological inquiry;

(e) supplement the epidemiological data with geographical, meteorological and other necessary information;

(f) analyse the epidemiological data and perform risk assessments at regular intervals;

(g) assist in ensuring that the processing of animal carcasses and animal waste is done with a minimum of detrimental effect on the environment.
APPENDIX 2.

Table showing the history of FMD in EU member countries over the past 50 years

<table>
<thead>
<tr>
<th>EUFMD MEMBER COUNTRY</th>
<th>YEAR OF LAST FMD OUTBREAK</th>
<th>YEARS OF FREEDOM SINCE THE LAST OUTBREAK OF FMD</th>
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</thead>
<tbody>
<tr>
<td>Turkey</td>
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<td>4</td>
</tr>
<tr>
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Source: OIE Handistatus II Database. April 2005.