PROTOCOL FOR THE INVESTIGATIVE APPROACH TO SERIOUS ANIMAL/HUMAN HEALTH PROBLEMS

SPECIFIC PROCEDURE FOR DEALING WITH ANIMAL HEALTH PROBLEMS

1. Notification of Problem

The primary responsibility for bringing any animal health problem which is not readily explainable or treatable to the attention of the Regional Veterinary Laboratory (RVL) will rest with the private veterinary practitioner (PVP) or herdowner. The assistance of the professional and farming bodies will be sought in ensuring that the RVLs are made aware of potentially serious problems as early as possible. When significant animal health problems are identified, the Senior Research Officer (SRO) at the RVL will initiate a laboratory investigation and seek a full report from the PVP. The SRO will also inform the Department of Agriculture and Food's (DAF) local Superintending Veterinary Inspector of the nature of the problem.

2. Involvement of Other Agencies

The following steps will be taken:

(a) If, on the basis of the report from the PVP, the SRO considers that the issue requires a wider investigation, e.g., into farm management practices, land fertility, or other matter, he will consult the Teagasc CAO for the area to consider whether a joint DAF/Teagasc investigation (with the added involvement, where appropriate, of the PVP) is warranted. If environmental factors are considered to be involved, the local authority and, where appropriate, the EPA will be invited to join in these consultations. In addition, the local Health Board will be notified of the matter and may join the discussions if the Board considers this relevant to its responsibilities.

(b) Alternatively, where the problem first comes to the notice of Teagasc, the CAO will initiate contact with the SRO of the appropriate RVL as at (a).

3. Undertaking of Investigations

(a) Where a joint DAF/Teagasc approach has been initiated at 2(a), it will encompass a full range of investigative procedures as considered appropriate by each body. The SRO will be responsible for the co-ordination of the investigation at this stage.

(b) Where it has been decided that a joint DAF/Teagasc investigation is warranted, the Director of the Veterinary Laboratory Service and the Head of the Animal Health and Welfare Division of DAF will be so advised by the SRO and will be apprised of the nature of the problem.

4. Further Action

(a) When above actions fail to find a resolution a report will be sent to the Animal Health and Welfare Division of DAF and to Teagasc for consideration by a joint Ad Hoc Committee comprising the following:

DAF - Head of the Animal Health and Welfare Division
- SSRO from Abbotstown, SSVI and SAI from HQ

Teagasc - Representatives to be nominated.

The committee will recommend appropriate further action.

(b) If, following the investigations carried out at 3(a), the possible involvement of environmental factors is still not ruled out, the relevant local authority and the EPA will participate in the Ad Hoc Committee's deliberations. The local Health Board will be notified of the convening of the Committee and may join the discussions if the Board considers this relevant to its responsibilities.

5. Epidemiological Investigations

In cases where the reported animal health problems involve a number of farms in an area, the investigations to be undertaken at 2 (a) or following the considerations at 4 (a) may include application of appropriate epidemiological sampling and monitoring techniques.

6. Assignment of Costs

The herdowner will be responsible for fees due to the PVP. DAF will waive laboratory fees for tests arising form the investigation at 3(a) and 4, but will continue to charge laboratory fees that arise in the normal way. Teagasc will waive fees on grounds of hardship.

7. Co-ordination of an Investigation

It is important that a co-ordinator be identified for any investigation deemed necessary. In the case of the Askeaton investigation, the EPA was assigned the role through a Ministerial request; however, this reflected the particular circumstances in the Askeaton case where the relatively late intervention of the State agencies led to public opinion focusing strongly on an environmental factor as the causative factor. The current proposals are intended to avoid such situations by ensuring early involvement of the appropriate bodies.

In the case of future animal health problems, the co-ordination of the initial assessment will be the responsibility of the SRO of the relevant RVL. Co-ordination of any further investigations required following the considerations of the Ad Hoc Committee will be decided by the Committee having regard to the main emphasis of those investigations.

SPECIFIC PROCEDURE FOR DEALING WITH HUMAN HEALTH PROBLEMS

In cases where the prime concern is human health, the responsibility for an initial enquiry and any follow-up study deemed necessary will be a matter for the public health agencies, e.g. the appropriate Regional Health Board.

Arising from the Askeaton investigation, the Mid Western Health Board has consulted with the other Health Boards as to the approach to be adopted in cases where there are apparent clusters of human ailments. The appended document sets out, *inter alia*, a procedure to deal with such situations (see Reactive Cluster Investigation - Short Term, p. 6). This procedure may also be implemented in cases where the public health agencies are drawn into an investigation of animal health because of subsequent expressions of concern for human health.

ENVIRONMENTAL INVESTIGATIONS

Where the initial assessment of an animal and/or human health problem has concluded that a detailed investigation is needed and that, additionally, there is a possibility that an environmental pollutant is involved, the following procedure will be implemented by the local authority and/or the EPA, as appropriate, as part of the general investigation:

- An assessment will be carried out of the pollutant emission potential of all local industry and any other relevant activity

- A risk analysis will be undertaken for any pollutant likely to be emitted to the local environment in relation, particularly, to the animal or human health problem observed, including, where necessary, modelling of the dispersion of emissions

- The available environmental monitoring data and any other relevant measurements for the area affected by the problem will be collated

- Any measurements or additional monitoring deemed necessary to fill gaps in the database on local environmental quality will be undertaken

NATIONAL DATA BASES

The establishment of a database to record the national incidence of disease in livestock will be undertaken by DAF as a matter of priority. This will allow the definition of norms for animal health problems, thus facilitating comparative assessment of the significance of problems on individual farms or groups of farms.

In relation to human health, the Mid Western Health Board has consulted with the other Health Boards on the development of a national database on health events and environmental agents. The attached document sets out the mechanics of this development (see Long-term Surveillance Systems, p. 3)

ENVIRONMENTAL MONITORING

The EPA is presently developing national environmental monitoring programmes, including the monitoring of air quality and deposition. As part of these programmes, the Agency will be assessing the local environmental monitoring needs in relation to the potential impacts of activities controlled by IPC Licensing. Where there is the possibility of a local impact, appropriate monitoring systems will be established to clarify the situation. In keeping with its responsibility to oversee the environmental pollution control activities of the local authorities, the monitoring arrangements instituted by the authorities to measure the environmental impact of potentially polluting activities under their control will be assessed by the Agency.

Disease Cluster Investigation Protocol

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INTRODUCTION

We have outlined a short-term and long-term response to clusters. The short-term reactive response is labour intensive and expensive. A proper long-term strategy depends on geographical coding and adequate surveillance systems being developed and would remove a significant proportion of the labour and expense whilst bring vital health information to the attention of the boards. We have outlined the main issues involved in developing these.

REACTIVE CLUSTER INVESTIGATION

Short-term

The steps that are laid out below represent a series of stages through which the investigation of a reported perceived cluster of adverse health events should be taken. They should act as a set of guidelines that could be implemented immediately in each health board area. A number of milestones are highlighted at which an explicit decision should be made whether the investigation should be continued.

Step 1. Communicate with and meet person making allegation

The person(s) who is dealing with the allegation should meet face to face with the person who is making the allegation in order to explore their initial ideas, concerns and expectations**.** Where it is deemed to be appropriate, communication with the community should take place. The community perception of the risk must be clearly understood.

DECISION TO CONTINUE?

Step 2. Written allegation where possible

The person making the allegation should be asked to convey their questions and concerns, together with all available details about the cluster in writing.

Step 3. Response team

When it is appropriate to the requirements of a given cluster notification, a response team should be set to conduct the investigation. It should consist of a public health specialist and an AMO from the area concerned, other staff may have to be involved (esp. clerical staff) depending on the scale and complexity of the problem.

Step 4. Produce map of area

A map of the area from which the cluster is derived should be drawn up showing the DEDs of concern

Step 5. Clarify initial time, space and causal concerns

The investigator should ask the person(s) who is making the allegation to identify the time period and geographical area which is giving rise to concern. He/she should also be asked to offer an initial suggestions as to the likely cause(s)

Step 6. Establish case details

The person making the allegation will have to supply some information about each of the cases in the perceived cluster so that further details may be sought directly. It is important that the individuals concerned have given their consent for their details to be passed on to the investigator. It must be stressed to the person ,making the allegation that without such case details, no investigation can be carried out.

DECISION TO CONTINUE?

Step 7. Explore for other cases

Following the collection of information on reported cases it will be necessary that other cases be sought out from local GPs so that potentially involved cases are not inadvertently excluded.

Step 8. Calculate basic statistics (SMR, SIR)

Following the collection of this basic data, some simple statistics about mortality and disease incidence should be calculated and compared to baseline data.

DECISION TO CONTINUE?

Step 9. Case verification

If these initial statistics suggest that a true increase in disease may be occurring, it will be necessary to explore the details about each of the cases in order to establish exact diagnoses. This will include the examination of laboratory, radiological and pathological reports.

Step 10. If verified, and no hypothesis, consider case study

If the verification reveals that the cases are real, but no likely cause is evident, a detailed case study may have top be set up.

DECISION TO CONTINUE?

Step 11. If verified, and plausible hypothesis, consider case-control study

If the verification reveals that the cases are real and a certain cause(s) is evident, a case-control study may have to be set up.

Step 12. Written report

The person who is making the initial allegation should be told at the outset that he/she will be furnished with a report of the investigation regardless of what stage the investigation is carried to.

Long-term

Surveillance Systems

Surveillance systems that provide baseline and ongoing data on both health events and environmental agents would be necessary for the effective and efficient investigation of clusters of adverse health events.

A. Health

Mortality data is useful for monitoring the incidence of diseases with high case fatality rates. In most cases, however, it will be necessary to supplement mortality data with morbidity data and behavioural risk factor data. The latter will be necessary because of the association between many diseases that are reported in clusters and the lifestyles that people lead.

The data sources should be person based and geographically coded. They should also be easily accessible. The sources of data and the categories in which it should be collected are laid out below.

1. **Mortality**
   - Death certificates
   - Cancer Registry
   - HIPE

2. **Morbidity**
   - Registers e.g.
     - EUROCAT
     - National Cancer Registry
   - HIPE
   - GP data
   - Drug usage
   - Laboratory data e.g. genotyping

3. **Ad hoc surveys e.g. lifestyle risk factors**

B *Environment*

The sources of data on environmental data are equally diverse and include the following:

- Census data (socio-economic factors)
- EPA database
  industrial chemicals
- Local authorities
  Air, water and land quality monitoring
- Radiological Protection institute of Ireland
  Radon
  Other radiation

Technical Developments Required

Geo-coding
In order for a cluster to be adequately investigated, it is necessary to be link the health events that are part of the alleged cluster to the geographical area that is potentially affected. There are two ways of achieving this:

DED coding
This involves the inclusion of the DED code in which an individual resides as part of the routine data that is collected in all health information systems as well as in the census of population
Grid co-ordinates
This serves the same purpose as DED coding but involves the linking of geographical co-ordinates to each case in the potential cluster and provides for more accurate spatial analysis.

Unique identifier
This is an identification number that runs right through all information systems which contain information on human health events. It allows for "Record Linkage" whereby the record of one individual can be followed through lots of other information systems.

GIS Systems

Statistical Expertise
The expertise of a statistician who was trained in the techniques required for the investigation of clusters as well as small area statistics would be necessary