WHO MEDITERRANEAN ZOONOSES CONTROL CENTRE

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NOTES OF THE EDITOR

A variety of, certainly interesting subjects (most of which are original articles) is included in this issue.

There are two Letters to the Editor (a) by Prof. A. Mantovani, WHO-FAO-Collaborating Centre on Veterinary Public Health, Istituto Superiore di Sanità, Rome, Italy, proposing the modification of the definition of a zoonosis in order to include present developments and situations, and (b) by Prof I. Vodopija, Institute of Public Health, Zaghreb, Croatia, proposing to WHO the permanent education of physicians from rabies-free countries in order for them to be prepared for correct diagnosis and treatment of suspected rabies cases in humans.

Zoonotic and other animal infectious diseases can easily spread in a country through international trade of animals and of their products. Importing countries through efficient state infrastructures, should be vigilant to impede such events. On the other side, international rules (such as these included in the Animal Health Code, published by the International Office of Epizootics, as well as these provided by the World Trade Organization) should be respected by exporting countries in order to safeguard spreading such diseases and even create public health problems in the case of zoonoses. Prof. V. Kouba, former Chief Animal Health Service, FAO, deals with this crucial subject in an original article.

The importance and serious impact of cystic echinococcosis in the Mediterranean Region and world-wide is very well known. However, most countries, especially developing, do not implement prevention and control activities in the context of adequately designed programmes. Such activities are fragmentary, in most cases, the disease is not notifiable, therefore health authorities do not possess global and reliable information essential for planning efficient prevention and control activities, not either the socio-economical impact of this disease can be assessed. Prof. G. Battelli, University of Bologna, Italy, in a concise article discusses important aspects of the epidemiological surveillance for this serious parasitic zoonosis.

The Veterinary Public Health section of this issue includes the description, by Drs B. Bussi and R. Marabelli, of such activities implemented in Bulgaria; by Dr B. Sotira in Kossovo and Albania for tularaemia and a short note by Dr A. Peccio, University of Bologna, Italy, on food hygiene in emergencies.

The News from the MZCP in a brief report present the activities implemented by the Programme during the last year and the forthcoming ones scheduled for 2001. Our readers know that the Plan of Work of the present biennium provides training activities for public health and animal health staff of the Member countries. Training as permanent activity is a new experience for the MZCP reflecting its new orientation towards better preparation of the Mediterranean countries to prevent and control zoonoses. The trainees, evaluating the courses they attended, expressed complete satisfaction on the teaching methods and subjects discussed. This is for the MZCC and its collaborating institutions an encouraging incentive to further strengthen this kind of MZCP activities and their continuous improvement.

Among the goals of the above-mentioned training courses is to deal, with particular emphasis, on the importance of intersectoral collaboration (IC) and horizontal co-ordination. It is, however, known that although IC is a highly praised matter, there is no real will to become a daily practice. Decision makers and staff in key-posts in the State infrastructures should realize that in all matters relevant to prevention, surveillance and control of zoonotic and related foodborne diseases, intersectoral collaboration and co-ordination are the “milestones” to succeed.

A. M. Seimenis

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LETTERS TO THE EDITOR

A. NOTES ON THE DEVELOPMENT OF THE CONCEPT OF ZOONOSES

*by Prof. A. Mantovani**

Ever since a millennium BC (corresponding to about 120 human generations) it had been recognised that some diseases can affect man and animals at the same time. In ancient Rome, the concept was developed that diseases of animals were able to affect persons, mainly those occupationally connected with them. In the late Middle Ages and Renaissance the concept was extended to products of animal origin.

In 1855, Virchow used the term zoonosis for infections due to contagious animal poisons (*"Infectionen durch contagiösen Thiergifte"*). As the concept of contagion (by arthropods, helminths, protozoa, mycetes, bacteria, viruses, prions) was developed, the number of infections transmissible from animals to man increased gradually. Every type of environment, nearly every species of vertebrate animals and most human activities were connected with zoonoses, even if the role of man in the lifecycles of their agents is limited.

In 1959, the World Health Organisation defined zoonoses as *those diseases and infections (the agents of) which are naturally transmitted between (other) vertebrate animals and man*. The proposals to introduce classifications (such as anthropozoonoses, zooanthroponoses, amphixenoses) were scarcely successful. Over the last fifty years the importance of zoonoses and resources (research, public investments, etc.) associated with them was gaining ground. Public Health, and its branch Veterinary Public Health, have recognised that zoonoses are one, but not the sole problem connected with the "couple" man-animals. The concept of zoonosis in the usual sense (i.e. referred to infections alone) appears to be rather limiting. On the other hand, with few exceptions, zoonotic agents, once they have infected man, cannot be transmitted to other persons or animals. Conversely, there are many agents not capable of reproducing which can be transferred from animals to man and provoke disease; for example, dioxins, hormones, antibiotics, environmental poisons, etc. may be transmitted via foods of animal origin. Contacts with animals may cause sensitisation. Also traumas, such as bites might be included in this category.

In the light of these developments, it has been proposed to modify the definition of a zoonosis as follows: *"any detriment to the health and/or quality of human life deriving from direct or indirect relationships with (other) vertebrate or edible or toxic invertebrate animals"*.

A list of zoonoses according to the extended concept which may be found in the domestic environment is reported in Table A. The development of the definition is summarised in Table B.

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Table A.
Zoonoses in the domestic environment (extended concept)

INFECTIONS AND INFESTATIONS

- cat-scratch disease
- colibacillosis
- cryptosporidiosis
- dermatomycosis
- fleas
- larva migrans
- leptospirosis
- mange
- mite dermatosis
- pasteurellosis
- rickettsiosis
- salmonellosis
- tetanus
- ticks
- toxoplasmosis
- tuberculosis

ALLERGENS

- from animals (hairs, feathers, etc.)
- mites and fungi from "animalisation" of the environment
- in food of animal origin

TRAUMAS

- bites
- scratches
- pecks
- .....

POLLUTION

- from animals
  - dirt
  - noise
  - overcrowding
  - .....
- from "animalisation" of the environment
- from chemicals used for animals

ASSOCIATED WITH FOOD OF ANIMAL ORIGIN

- foodborne infections
- allergens
- chemicals
  - antibiotics
  - dioxins
  - hormones
  - toxins
  - poisons of environmental origin
  - .....

Table B.
Development of the definition of zoonoses

"…hydrophobia and diseases that are not less contagious than it" *(Alessandrini, 1824)*

"Zoonosen: Infectionen durch contagiösen Thriergifte" (Zoonoses: infections by contagious animal poisons *(Virchow, 1855)*

"Diseases arisen from animal contagion - Zoonoses" *(Reder and Koranyi, 1875)*

"Zoonosi: malattie transmissibili dall'animale all'uomo" (Zoonoses: diseases communicable from animals to man) *(Galli-Valerio, 1894)*

"Diseases common to man and animals" *(Mosny et al., 1907)*

"Zoonoses: animal diseases communicable to man" *(WHO, 1951 and 1954)*

"Those diseases and infections (the agents of) which are naturally transmitted between (other) vertebrate animals and man" *(WHO, 1959)*

"Infections of man shared in nature by other vertebrate animals" *(Acha and Szyfres, 1980; Steele, 1982; Schwabe, 1985)*

"A disease or infection which is naturally transmitted from vertebrate animals to Man and vice versa" *(Toma et al., 1991)*

"Any detriment to the health and/or quality of human life deriving from direct or indirect relationships with (other) vertebrate or edible or toxic invertebrate animals" *(Mantovani, 2000)**

"Any detriment to the health and/or quality of human life deriving from relationships with (other) animals" *(Blancou, 2000)*

** Present final proposal.*

The proposed version has been submitted to discussion and review for comments and suggestions. No adverse criticism has been recorded to date. The following proposals were lately received:

Dr Pavlos Economides (Veterinary Services, Cyprus) has stressed the following comments which strengthen the motivations of the proposal:

- *Detriment to human health or quality of life* includes *disease, poisoning, allergy, trauma, pollution of the environment and noise*.
- *The definition of animals* includes both *vertebrates* and *invertebrates*.
- It may be advisable to stress the importance of *allergies from food of animal origin (meat, milk, eggs, fish and honey), as well as allergies from residue penicillin*.

Dr Jean Blancou (Office International des Epizooties) has suggested that the proposed definition of zoonoses may be simplified as: *Any detriment to the health and/or quality of human life deriving from relationships with (other) animals*. This definition has the advantage of a maximum simplification. For the moment it seems preferable to maintain the original proposal because the details ["direct or indirect relationships", "vertebrate or edible or toxic invertebrate (animals)"] offer specifications which may be useful to the understanding and acceptance of the concept here proposed.

Further discussion would be needed as the proposed definition is susceptible to improvement. Therefore, any suggestions and comments are welcome.

Note of the editor

On the occasion of the 31st International Congress of the History of Veterinary Medicine held in Brno, Czech Republic, the 6th-10th September 2000, a paper with the above-mentioned views was presented by Prof. Mantovani. It also contains an historical overview of the development of the concept of zoonoses (intended as communicable diseases which may be transmitted from animals to humans). The complete text of the paper may be requested from the author.

B. MANAGING THE RABIES RISK IN RABIES-FREE COUNTRIES

*by Prof. I. Vadopija**

A recent issue of the MZCC Information Circular lists all the currently rabies-free Mediterranean countries. Some of them have achieved the rabies-free status by means of active measures, such as oral immunization of wildlife, which is commendable. However, the existence of rabies disease on the planet must not be entirely forgotten by the medical profession even in these countries. The reason is simple –the volume of intercontinental travel is huge and increasing, and virtually all Mediterranean countries are highly frequented tourist destinations. Italy, Germany and Croatia (to my knowledge only, the list may be longer) have experienced imported cases of human rabies in the 1990's. In Italy, for instance, even the clinical picture of human rabies remained unrecognized (Italy is a rabies-free country). To uphold the *dictum* that prevention is better than cure –and there is still no cure for rabies– there must be at least one fully equipped rabies treatment facility even in rabies-free Mediterranean countries. Potentially exposed persons could receive there a competent assessment of the rabies risk, and, if necessary, commence regular post-exposure treatment according to the WHO Treatment Guidelines. Prerequisite to the above is the education of physicians from rabies-free countries to deal with potential rabies patients and dispense treatment. I would strongly suggest that such an activity be undertaken –and maintained– by the WHO, including appropriate certification of physicians.

As long as there is rabies on the planet, the notion of a rabies-free country is a relative one. The risk group includes incoming travellers from overseas, particularly those on package tours. Admittedly, it is difficult to keep up the awareness of a disease which is essentially "foreign" and not "domestic" any more, as is the case in rabies-free countries. But, as professionals, we should do all that is in our might not to lose even a single human life to this most hideous and unforgiving killer.

Therefore I would suggest that a workshop for physicians from rabies-free Mediterranean countries to be organized to the above effect. The certification I have in mind should be a WHO approved document, which I believe it is within your mandate, to define and specify the responsibilities proceeding from such a document. If an educational workshop would be organized, I believe that physicians from both rabies-free and rabies-endemic countries of the region would profit. After all, this is, ultimately, what the WHO is here for.

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EPIDEMIOLOGICAL SURVEILLANCE

RISK OF ZOONOSES SPREAD THROUGH INTERNATIONAL TRADE

*Vaclav Kouba**

Rapidly increasing international trade in animals and raw animal products increases risk of zoonoses spreading among countries and continents. Many recent cases of zoonoses introduction by trade have proved that current veterinary import conditions, certifications and measures do not correspond with the new situation. Import of these commodities represents a potential risk not only of zoonoses introduction but also of their after-import spreading with multiplying negative, often long-term or permanent consequences.

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The detection, control and eradication of introduced and spread zoonoses are usually very difficult and costly. Not all of them can be blocked within the quarantine to avoid secondary outbreaks. Moreover, not all introduced zoonoses can be eliminated (e.g. diseases with natural nidality), some of them only after long periods requiring a lot of economic and other inputs.

Due to biological complexity, it is not easy and often impossible to identify how and when an infectious disease was introduced if discovered after quarantine period. The risk grade is directly correlated with import size and frequency, as well as with the number of origin and destination places and distances between them.

The post-import losses as well as additional measures are paid by tax-payers and not by profiting traders. All these facts represent the main difference in comparison with the risk when importing any other commodities.

There have been a lot of cases of zoonoses "import", some of them discovered and reported to international organizations (international information system covers about 1/10 of known zoonotic species), some discovered and not reported (e.g., majority of zoonoses are not obligatorily notifiable and not controlled) and much more cases not discovered at all (lack of active investigations to detect subclinical carriers, etc.). Emerging diseases represent a new insidious threat.

There have been many cases when a specific disease was introduced into a "free-country" in spite of favorable risk assessment, risk reducing measures and veterinary certification according to international standards.

There are many factors facilitating directly or indirectly zoonoses spread through international trade such as:

a) Mono-etiological instead of poly-etiological risk assessment based only on theoretical mathematical calculations without considering: real diseases occurrence and dynamics (reported absolute data on zoonoses occurrence are usually incomplete), biological complexity (e.g., carriers, ways of transmission, etc.); ability of diagnostic methods to discover all affected herds and animals (false negative results due to low test sensitivity); veterinary services abilities; possible post-introduction consequences; human factors; etc.
b) Lack of legal codes requiring effective protection of animal populations and declaring conscious man-made zoonoses' spread as criminal act; benevolent international regulations not respecting that the trade in animals and their raw products is much more risky than in all other commodities; missing legal duties of traders to cover losses caused by zoonoses introduction; etc.
c) Not applying normal fair trade practice, e.g., when importing country veterinary services are not free to decide if or not and where to purchase the given animal commodity and to define health quality conditions; reduced national animal production (low self-sufficiency) requiring larger import; unstable trade partnerships, too many and too distant origin and destination places; international agreements unfavourable to importing countries' disease protection, i.e. without sufficient guarantee of disease-free quality and without fair reclamation procedure; illegal import, black market, reexport, dumping prices; etc.
   For exporting countries it is easier and cheaper to manage importing countries to reduce protection barriers than to implement demanding zoonoses reduction or elimination programmes at home.
d) Lack of or deficiencies in protective veterinary measures; lack of ability to apply effective preventive, control and eradication measures; insufficient import quarantine and post-import surveillance; weak public veterinary services being unable to monitor animal population health situation at field level, to inspect export/import on the spot and to issue certificates without being dependent upon not fully reliable non-government services; reporting specific "disease-free" status without adequate investigations; benevolent import conditions (unjustified concessions) reducing barriers against zoonoses introduction instead of strengthening them.
e) Human factors: exporting country not reporting true situation, mistrust, risk underestimation, not taking lesson from previous disease introduction, inexperience, errors, irresponsibility, cheating, corruption, lobbying, blackmailing, outside "pressure", identity / health certificates falsification, abusing "disease regionalization", low discipline when applying laws, regulations, norms and veterinary measures, low authority of veterinary service, etc.

Controlling only few selected zoonoses and confirming "free status" of exporting animals and products means omitting not notifiable and not controlled diseases transmissible to man. Imported animals and their raw animal products can be also carriers of etiological agents which in the importing country are considered as exotic species, types, subtypes or strains. Not all can be controlled. Absolute "filter" does not exist. In spite of the best possible protective measures, zoonoses introduction cannot be always avoided when importing the above-mentioned commodities. Every import of these commodities is a risk.

The situation is getting worse as never before in spite of having much better scientific knowledge as in the past. General tendency in international trade is to increase the quality requirements. Trade in animals and their products must not be the exception. Improvement of animal health quality in exporting countries, through diseases reduction and elimination is the best way to facilitate fair trade in animals and raw animal products.

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EPIDEMIOLOGICAL SURVEILLANCE OF CYSTIC ECHINOCOCCOSIS*

*Giorgio Battelli***

Epidemiological surveillance (ES) has proved essential in the investigation and control of cystic echinococcosis (CE) as well as other communicable diseases. The main function of ES is to establish the interventions which should be made to face the prevalence/incidence of a disease through an analysis of data which makes it possible to determine operational alternatives and their costs and benefits. Adequate ES should permit adequate decisions and, accordingly, efficacious and efficient control of the health status of a population. As a consequence, its fundamental prerequisites include continuing action and provision of relevant and accurate information in order to plan mead- and long-term interventions or to enforce timely action to face particular or sudden events (e.g. epidemics, natural disasters, etc.).

In order to activate an ES system, three main steps should be followed: (i) systematic collection of relevant (sanitary and non-sanitary) data; (ii) analysis and synthesis of data, and (iii) transmission of results and information to all people interested in their knowledge.

* *Paper presented at the XIXth International Congress of Hydatidology, Bariloche, Argentina, 20-24 September 1999.*
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As to step (i), the type, quality and quantity of data should be considered in view of the success or failure of the collection. Since the collection of data is made in view of their utilisation, only those data should be collected which will actually be used.

In this paper, some considerations are made on ES of CE, with particular attention to the sources of the data and information, to the negative aspects which are often found in such an activity, and to the interventions required for their improvement.

Sources of information and data

Over the last few years there have been numerous contributions to ES of CE. In particular, those which have analysed the sources, types and use of data necessary to ES and to the monitoring of control interventions, or which have advanced proposals of epidemiological indicators[1, 2, 3, 4].

The data which can be utilised may be distinguished on the basis of their source as (i) current data; (ii) data from surveys and studies; and (iii) other data.

Current data

They are continuous and are mainly generated by the institutional activities of public health Services (medical and veterinary) and by hospitals. Those of greater interest for ES of CE and of medical competence are, for instance, data on cases notified in hospitals (surgical and medical cases), autopsies, and immunological and imaging diagnoses. Those of veterinary competence are essentially data on cases observed at slaughter in food-producing animals. From these data, information is gained which is circulated by international Institutions such as the World Health Organization, Food and Agriculture Organization, Office International des Epizooties. These data, however, when transmitted by different countries, have a prevailing statistical value if they are not analysed from the epidemiological point of view.

It should be stressed that during the implementation of control programmes, other data are currently gathered which are useful to ES and to the evaluation of the effectiveness of interventions. For example, data obtained by screening surveys in the population; data on the treatments and relapses in humans; data on prevalence in dogs by autopsies, arecoline treatment or recently by detection of coproantigens.

Data collected in surveys and studies

These data are generally obtained by sampling. In most cases, investigations are not made continuously but according to specific information requirements, and are committed to specialised teams. They are also defined as *ad hoc* investigations. Examples of surveys and studies useful to ES are the following:

(i) surveys to verify the validity of current health data, such as those obtained through the notification of the disease in man or observations of cysts at slaughter, with regard to the actual health situation of a given area;

(ii) studies on the accuracy of the diagnostic tests (sensitivity, specificity, predictive values);
(iii) case-control studies or cohort studies, to determine, for example, risk factors;
(iv) surveys on age-intensity prevalence (in animals and man);
(v) surveys on fertility of cysts in animals;
(vi) surveys on prevalence in wildlife (useful particularly when in an area the same strain of *Echinococcus* occurs in both domestic and sylvatic animals).

Other data

These represent complementary epidemiological information, but fundamental for a better knowledge of the territory where actions of surveillance and control must be or are activated. Some examples may be the following:
(i) data from diagnostic activities in surgeries or private clinics;
(ii) data from investigations (observational, experimental) by research institutions;
(iii) in general, data on factors of human ecology and factors related to animal husbandry, e.g. population size (number, density, distribution by age, sex, occupation, etc.); type of trade of animals and products of animal origin; food habits, customary or linked to particular periods or ethnic groups, and other. Such data are often obtained from statistics or analyses performed by public or private Institutions or Organizations or from research not directly related to human and animal health.

Negative aspects found in ES of CE

The ES of CE cannot be seen as a separate activity not included in a system of global surveillance of national health problems, especially those related to man-animal coexistence. The validity of such activities is therefore closely linked to the validity of the surveillance system as a whole. This is one of the reasons why, for instance, information on epidemiological situation of the disease is fragmentary and scanty in several countries or areas, in spite of the fact that CE has a significant socio-economic relevance in such zones.

Even where ES systems have been specifically implemented for CE, *negative aspects* are often found which make surveillance scarcely useful. Some examples may be given:
(i) centripetal information stream, with poor spin-off at the peripheral level;
(ii) lack of integration between parallel information streams;
(iii) data collected and processed to obtain prevailingly statistical information;
(iv) discordance between collected and utilised data;
(v) virtual absence of any attempts to perform epidemiological analysis of the data collected;
(vi) scarce use of new computerised information methods for a better use of data;

and also an aspect which we regard as exceedingly important:
(vii) poor integration between information and activity of medical and veterinary services.

The *major consequences* of such negative aspects may be listed as follows:
(i) scarce reliability of data presented statistically;
(ii) frequently, higher reliability of sampling investigations in comparison with current reports;
(iii) desensitisation of health operator with regard to ES problems and information of the population;
(iv) sometimes, conviction of the uselessness of the collection and circulation of data, which are often considered as useless bureaucratic practices (further decrease of information quality).

On the whole, the activities of ES of CE which are affected by the above negative aspects will make it difficult (or even impossible):
(a) to assess the relevance or non-relevance of the problem (socio-economic impact);
(b) to determine intervention strategies;
(c) to evaluate the level of advancement of the control programmes.

Interventions required to improve ES of CE

In order to improve the activities of ES of CE, different interventions are needed, both general and specifically related to the disease. The main ones are the following:
(i) substantial cultural and training revision of physicians and veterinarians, with special reference to those who have an institutional task in the Public Health sector;
(ii) identification, in medical and veterinary services, of persons who may be charged with the responsibility for the reception, analysis and transmission of data; if necessary, support of an expert or group of experts for more sophisticated analyses (e.g. economic evaluations, mathematical models, etc.);
(iii) standardisation of information and data collected in view of their automatic processing and transformation, if possible, into indicators;
(iv) better timeliness in transmitting data, according to the periodicity of collection;
(v) long-term planning of ES activities, avoiding sporadic activities associated with extemporaneous funding; CE is a problem which cannot be solved in a short time and requires continuing action and evaluation;
(vi) improvement of collaboration between physicians and veterinarians (and generally among all operators of health and agricultural-zootechnical sectors), trying to overcome all difficulties deriving from differences in competence and responsibility and often from belonging to different administrations (Ministry of Health, Ministry of Agriculture, etc.).

This last point appears to be the most important or at least the one which, once reached, may favour the implementation of other interventions.

Final considerations

This short note has examined only some aspects of ES of CE, with particular attention to information and data which may be obtained and analysed and to the main negative aspects which may make ES scarcely useful.

Some interventions were also pointed out which should be considered and implemented in order to improve ES of CE. Of these, particular emphasis has been placed on medical-veterinary collaboration.

In addition, the problem (not dealt with here) of a proper, rapid transmission of information to all those who need it should be remembered. In the first place, to the population through information and health education activities, and also to all people having the responsibility for investments in public health and animal husbandry and who need adequate decision-making instruments.

Only a valid and continuous ES of CE can provide serviceable suggestions and evaluations, especially if it is integrated in a wider and more efficient health information system at the national and international levels.

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VETERINARY PUBLIC HEALTH (V.P.H.)

V. P. H. ACTIVITIES IN BULGARIA IN THE PROCESS OF ACCESSION TO THE EUROPEAN UNION

B. Bussi and R. Marabelli***

In July 1997 the European Commission published its *Agenda 2000* referring proposals on enlargement, policy reform and future financing of the European Union (EU). In this document, the Commission proposed to bring together the different forms of pre-accession support provided by the Union within a single framework, the **Accession Partnership**. The Accession Partnerships are designed to help prepare the Central European Candidate Countries (CCs) to meet fully the criteria set by the Copenhagen European Council for membership (June 1993) regarding democracy, stability of institutions and market economy.

A key element of this pre-accession strategy is preparing CCs of Central and Eastern Europe for their tasks in adopting the *Acquis Communautaires (the whole of EU norms and legislation)*. For this purpose, every CC has developed its *National Programme for the Adoption of the Acquis (NPAA)*, which is a legal and technical instrument for achieving the strategic target, namely the country's accession to the European Union.

The funds needed to accompany the CC in their accession process are provided by the PHARE Programme, established in 1989, to support the process of economic and social reform in Poland and Hungary. As the political situation in Central and Eastern Europe developed, PHARE geographical coverage was gradually extended, its budget increased and the scope of programmes widened to address longer term economic development and investment requirements.

In this perspective, the PHARE has launched the twinning initiative, where selected public administrations of the Member States are asked to assist CCs in acquiring the independent capacity to adopt, implement and enforce the full *Acquis* in accordance with *Agenda 2000*, before accession to the EU.

The twinning project in Bulgaria

The main objectives of the project are:

- *the preparation and adjustment of the veterinary sector of Bulgaria to the integration with the EU;*
- *the effective transposition of the EU control system for food hygiene and animal health to achieve conformity with the Acquis.*

This objective is in accordance with the Bulgarian NPAA where the legislative measures relating to veterinary control are considered of paramount importance in achieving the accession target. In the NPAA, priority has been assigned on veterinary sanitary and hygienic requirements for the production and trade in animals and animal products *(meat, meat products, milk, etc.)* and control of animal disease. These aspects are particularly important for the future role of this country to protect the external veterinary border of the enlarged European Union.

In order to assist Bulgaria to meet the priorities stated in the NPAA, the Bulgarian Ministry of Agriculture has signed a Twinning Covenant with the Department of Food, Nutrition and Veterinary Public Health of the Italian Ministry of Health, who is responsible for the project implementation. The project started on November 1999 and it will last for twenty four months. The total budget provided by PHARE is 1 MEURO.

The main inputs provided by the Italian Veterinary Services are: a long term advisor, short terms experts visiting Bulgaria; training courses in Bulgaria, study tours in Italy for Bulgarian veterinarians and specific legal advisory.

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The project is focused on veterinary public health issues, including zoonoses control since, as in many Mediterranean countries, zoonoses represent an emerging problem in Bulgaria, as explained below.

Anthrax

Prevention from anthrax is performed through extensive vaccination of big and small ruminants. The disease appears sporadically in animals that have missed vaccination. In the last three years, 25 outbreaks of anthrax have been diagnosed, involving different species of domestic animals.

Bovine Tuberculosis

According to the National Control Programme, all animals are tested twice a year, using intradermally bovine PPD tuberculin. All positive reactors or suspect animals are to undergo a second test 42 days later. Positive animals are slaughtered. Since 1993 the Ministry of Agriculture and Forests has approved a compensation programme for farmers. As a result of these measures taken by the National Veterinary Service, the outbreaks of tuberculosis have been reduced. In 1997 there have been diagnosed only two outbreaks, in 1998 only one and in 1999 seven.

Bovine Brucellosis

Bulgaria is brucellosis-free since 1958. According to the National Programme, each year 100% of bovine in the boundary zone with Turkey, Greece, FYROM and Yugoslavia are tested serologically. In the rest of boundary zones, 50% of the animals are tested, whilst in the rest of the country 20% of them. All animals meant for import are quarantined for 30 days and during this period they are tested twice serologically for brucellosis. All bulls in the stations for artificial insemination are tested twice a year serologically. All miscarries of cows are tested serologically. In the zones bordering with Turkey, Greece, FYROM and Yugoslavia, movements of animals are restricted, to avoid contact with the animals of the neighboring countries, which are not free from the disease.

Sheep and goats Brucellosis

Bulgaria is free of sheep and goat brucellosis since 1941. The programme of control and surveillance on the disease is the same as this on cattle.

Rabies

The disease is endemic in Northern Bulgaria and it affects mainly foxes. According to the prevention programme, all registered dogs in the country are compulsorily vaccinated. When there is an outbreak of rabies, ring vaccination around the outbreak of all farm animals is performed. Vaccination of fox population is not performed. All people in contact with a rabid animal or bitten are to undergo obligatory treatment.

In 1997 fifteen cases of rabies, involving dogs, foxes and other animals, have been reported, in 1998 ten cases and in 1999 the cases were fourteen. In the first three months of 2000 there have been three cases of rabies.

Trichinellosis

In conducting obligatory test of all slaughtered swine in approved slaughter houses, sporadical carriers of *Trichinella* are found mainly in the semi-wild swine from the race of *"East Balkanic"* and their crossbreed raised in pasture conditions. The animals found positive to *Trichinella* are safely slaughtered and the owners receive compensation from the state budget. In the last three years, the outbreaks of *Trichinella* in the country were 22.

The tendency of increasing the number of cases is constant.

Echinococcosis / Hydatidosis

The disease is widespread in animals and people. The main reason for this disease is the huge population of stray dogs which are not deparasitized. In slaughter houses all organs with cysts are confiscated and destroyed. It is not so out of the slaughter places where the organs with parasites are not destroyed and the possibility to be eaten again by the dogs remains.

In the last 10 years (1985-1996), 4847 patients have been operated from echinococcosis. In 1997 and 1998 there have been 591 and 692, respectively, operated patients.

The number of children infected and operated from echinococcosis is increasing.

The legal base for control of dog population exists, but the implementation of measures is extremely difficult.

Leptospirosis

There is an increasing trend of leptospirosis cases. In 1997, 1998 and 1999 there have been reported 10, 48 and 30 cases respectively. In swine and bovine infected farms vaccination is performed.

Tularemia

This disease has been diagnosed in humans in two regions of the country, near the borders with Yugoslavia. The animals tested in those regions resulted negative for presence of *Francisella tularensis*. Periodic deratization is implemented in the outbursts. Tests are made on domestic animals and rodents for finding out the cause of infection.

Q Fever

The disease has been found in several regions of the country on big and small ruminants.

Salmonellosis

Every year a few outbreaks of salmonellosis are reported in poultry. According to the prevention programme, affected and in contact poultry are slaughtered, on the expenses of the owner. The National Veterinary Service undertakes the disinfection of the premises after slaughtering of the birds, which are only released following thermic treatment.

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TULAREMIA OUTBREAKS IN KOSOVO & ALBANIA

*B. Sotira**

During the Kosovo *"crisis"*, there was an increase threat for outbreaks of transmissible diseases from animals to humans in Albania. This was related to the huge waves of refugees crossing the border between Albania and Kosovo.

Recently an outbreak of tularemia was reported in the western region of Kosovo.

In April 2000 a suspected tularemia outbreak was notified by the WHO National officers in Prishtina, Kosovo. The outbreak cases were mainly located in Kosovo's western region bordering to Albania.

Samples were collected and sent to the Institute of Veterinary Research in Tirana for diagnosis confirmation. The outcome of the tests confirmed the tularemia outbreak. Samples were sent to Skopje as well, though the positive results there were not deemed reliable, considering that the antigen used had largely surpassed its expiry date.

By mid-April, serological samples were received by the Institute of Veterinary Research from two Kosovo's regions, **Gjakova & Peja,** and a serological control was performed.

The diagnostic methods used were: *(a) slide agglutination test, and (b) tubes agglutination test.*

All samples resulted positive for tularemia[1].

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From **Gjakova** region, 5 patients *(14-45 years old)* originated from the same village ***(Brovina)***, while, from **Peja** region, 3 patients of different age originated from **Deçan** village and the third one from **Istok**.

In the slide tests the titer varied from 1:80 to 1:320, while in the agglutination tube test the titer was 1:1280 (++++).

Given the potential of involvement of the Albania districts bordering Kosovo, the WHO office in Tirana immediately assembled and sent an investigation team to the region. The team members were epidemiologists from WHO, the Institute of Public Health (IPH) and the Institute of Veterinary Research.

This example of cooperation between the two services, anticipated the organization of the second phase of the National Seminar on Transmissible Diseases from animals to humans and laid the backgrounds for the establishment of joint strategies for the diagnosis and control of diseases. This was reflected in the proposed amendments of the existing legislation, which is actually being considered for approval by the government.

Risk assessment

The risk for tularemia outbreaks in the districts bordering to Kosovo, i.e. **Tropoja, Has** and **Kukes** has been assessed as high.

This is supported by the confirmation of the tularemia outbreak in an 11 years old female patient from **Has** region.

Assessment of the epidemiological situation in the bordering countries

a. ***Hasi*** *district is inhabited by 22.447 people. It is composed of three communes: Golaj, Gjinaj, Fajza.*
   All people in these counties rely on farm animal breeding and are situated in areas where wild animals and rodents are found in abundance.
b. *The risk of contacts of local people with rodents especially during the summer season is particularly high.*
c. *Water supply in the area is ensured by natural sources and wells.*
d. *The hygienic conditions of the villages are bad. In the inhabited areas there are optimal conditions for the growth of all kinds of insects and rats.*
   Disinfection and deratisation services are inexistent.

In **Kukes** district: there are three communes bordering to Kosovo:

- Terthore, - Zapot, - Shishtavec

The problems are similar to the **Hasi** district:

a) All the villages rely on animal breeding and are situated in arid areas thus creating optimal conditions for the ticks growth.
b) Water supply in the area is ensured by natural sources and wells.
c) The hygienic conditions of the villages are bad. In the inhabited areas there are optimal conditions for the growth of all kinds of insects and rats.

d) Disinfection and Deratisation Services are inexistent.
e) Harvested cereals are preserved for about six months, thus favoring the growth of rats' populations.

All these factors not only create optimal conditions for the tularemia infection, but also are directly involved in the increase of the vector-associated infection cases. Therefore, in these areas there is an increase of human leishmaniasis cases, hemorrhagic fever, pyroplasmosis, and scabies in animals.

The information system

The described situation urged for the immediate creation of a surveillance system for tularemia in the high-risk region.

The system functionality was retained as indispensable for the situation control. So the local physicians and veterinarians of the counties would be able to promptly report the outbreaks cases to the respective services through the established system **ALERT** *(Albanian Epidemiological Reporting Tool)* data transmission.

ALERT is a computer application for the diseases reporting and functions as an Epidemic Early Warning System.

Both services perform interactive information exchange at the levels of counties and districts and, additionally, convey data at the central level.

Alerting

Considering the imminent threat posed by the disease to the village bordering Kosovo, the area was considered a priority.

Leaflets were prepared from the two services, and distributed to the population (in public places, schools, clubs and shops). TV-programmes and radio-programmes were broadcasted.

Alerting the population by joint efforts of the two services resulted as very effective, considering that with the exception of **Hasi**, no other outbreak case has been reported.

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SEMINAR AND TRAINING COURSE ON FOOD HYGIENE IN THE EMERGENCIES

*A. Peccio**

Forte dei Marmi, Tuscany, Italy 17-18 November 2000

The Seminar and the Training Course were organised by the Italian Department of Civil Defense together with the WHO/FAO Collaborating Centre for Veterinary Public Health, Rome, and the local Health Agency.

Both were addressed to and attended by many physicians and veterinarians of the regional Prevention Department. The steadily increasing importance of veterinary public health in emergency situations, was stressed not only with regard to traditional surveillance and control over populations of farming and companion or synanthropic animals, but especially with regard to the hygiene and control of foods intended for consumption by the population.

Guidelines prepared by the Department of Civil Defense on the management of emergency kitchens and refectories were presented.

These guidelines have been produced to meet the need, especially felt after national ind international experiences, to adopt operative procedures that may be used as a model both for prevention (health training and education) and for the management of actual emergencies by previous adaptation to "specific" situations.

The items dealt with sypplying, cleaning and disinfection of kitchen and refectory premises, hygiene of the personnel, major foodborne infections, health training and education.

Of particular interest was the comparison of the participants experiences during interventions in recent emergencies both in Italy and abroad.

The subsequent training course, intended for volunteers working in camp-kitchens and refectories, was attended by numerous representatives of different voluntary civil defense organizations from many regions.

The objective of the course was the participants education and training in health issues. This was performed through the presentation of those sanitary aspects, which are fundamental for the proper hygiene of foods throughout the whole processing (from production and preservation to processing and distribution).

The risks connected with food consumption were expounded with special reference to foodborne infections.

Special attention was paid to the importance of the environmental and the personnel hygiene in relation also to particular events likely to occur during emergencies (e.g. partial availability or total lack of drinking water).

During the course, the participants visited also a camp kitchen and refectory in order to observe their practical management.

The comparison and discussion of the different experiences of the various associations were particularly interesting. Special emphasis was placed on the choice of the most appropriate strategies to be selected according to the size and the demographic characteristics of the disaster-stricken areas, as these strategies demonstrate the need to have an adequately prepared personnel able to face the emergency.

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ANTIMICROBIAL RESISTANCE*

USE OF ANTIMICROBIALS IN FOOD ANIMALS

New WHO recommendations

WHO has just released global principles aimed at mitigating the risks to the use of antimicrobials in food animals. Among other uses, antimicrobials kill bacteria in animals used for human food.

Over 70 experts from human and veterinary medicine, national licensing authorities, pharmaceutical companies and international organizations [such as the Food and Agriculture Organization of the United Nations (FAO) and the World Animal Health Organization], met from 5 to 9 June 2000. They discussed 6 important areas of intervention: antimicrobial registration, distribution/ sales, advertising, surveillance, education/training and prudent use.

The new recommendations are designed for use by governments, veterinary and other professional societies, industry and academia. Some of the most important measures included in the new *Global principles for the containment of antimicrobial resistance due to antimicrobial use in animals intended for food* are:

- obligatory prescriptions for all antimicrobials used for disease control in food animals;
- termination or rapid phasing-out of the use of antimicrobials for growth promotion if they are also used for treatment of humans in the absence of a public health safety evaluation;
- creation of national systems to monitor antimicrobial usage in food animals;
- prelicensing safety evaluation of antimicrobials with consideration of potential resistance to human drugs;
- monitoring of resistance to identify emerging health problems and timely corrective actions to protect human health;
- guidelines for veterinarians to reduce overuse and misuse of antimicrobials in food animals.

Overuse and misuse of antimicrobials in food animals contribute to the emergence of resistant forms of disease-causing bacteria. Such resistant bacteria can be transmitted from food animals to humans, primarily via food. Infections can result that are difficult to cure because the resistant bacteria do not respond to treatment with antimicrobials.

One example is the emergence of antimicrobial-resistant *Salmonella* bacteria in food animals in Europe, Asia and North America which have caused diarrhoea, sepsis (blood-poisoning) and death in humans. Another example is *Enterococci* infections which present severe treatment problems, particularly in immunocompromised patients, because these bacteria have become resistant to all available antimicrobials.

WHO had already convened meetings of experts in 1997 and 1998 to identify and assess the risks associated with the use of antimicrobials in food animals. These meetings recognized the existence of the risk for public health and encouraged WHO to develop principles for prudent use of antimicrobials in food animals. This is one part of WHO's Global Strategy for the Containment of Antimicrobial Resistance.

WHO has just issued a major new report on the use of antimicrobials in treating all types of infectious disease.[1]

Source
WHO Weekly Epidemiological Record, 75(33) 268-269, 2000.

** See also Inf. Circ. - WHO Mediterr. Zoon. Control Cent, 49, 13, 2000.*

BOTULISM AND ITS MANAGEMENT

Botulism is a paralytic illness caused by the neurotoxin produced by the bacterium *Clostridium botulinum*. Paralysis first affects the cranial nerves, then the skeletal muscles; untreated intoxications can lead to dense flaccid paralysis, respiratory failure, and death.

Although rare and sporadic, foodborne botulism is a persistent cause of morbidity and mortality in the United States. In 1997, an annual survey of state epidemiologists and directors of state public health laboratories identified 24 cases of foodborne botulism with one associated death (CDC, unpublished data, 1998). During 1989-1998, a median of 23 cases (range: 17-42 cases) of foodborne botulism was reported each year with a median of one death (range: 0-2 deaths).

C. botulinum spores are ubiquitous. Safe food preservation methods destroy spores or inhibit their germination and growth. Conditions that promote germination and growth of *C. botulinum* spores include absence of oxygen (anaerobic conditions), low acidity (pH >4.6), temperatures >39 F (4 C), and high moisture content. Most foodborne botulism cases that occur in the United States are the result of improperly home-canned foods. This is the first reported case of botulism related to eating pickled eggs. The amount of toxin detected in the recovered egg yolk suggested that bacterial growth was concentrated in that portion of the egg. Intact eggs that have been hard-boiled should be free of bacteria or spores. Pricking cooked eggs may introduce *C. botulinum* spores into the yolk. Portions of the yolk that remained anaerobic and inadequately pickled (i.e., not acidified to pH ≤4.6) may have allowed *C. botulinum* spores to germinate, grow, and form toxin. Setting the pickling jar in sunlight provided warmth that facilitated bacterial growth and toxin production.

To reduce the risk for botulism when pickling, food items should be washed and cooked adequately, and utensils, containers, and other surfaces in contact with food, including cutting boards and hands, should be cleaned thoroughly with soap and warm water. Containers (e.g., jars and lids) in which pickling will occur

1 Overcoming antimicrobial resistence - WHO report on infectious diseases 2000. (Document WHO/CDS/2000.2.1, which can be obtained on request from: CDS Information Resource Centre, World Health Organization, 1211 Geneva 27, Switzerland; fac: +41 22 791 42 85; e-mail: cdsdoc@who.int.).

should be sterilized (e.g., placed in boiling water for the prescribed period published in the container instructions). Adequate acidification to a pH ≤4.6 is essential. Refrigeration at 39 F (4 C) during pickling is advisable, especially in foods that may be acidified inadequately such as whole eggs. Once opened, any canned or pickled food should be refrigerated. Prickling, poking holes or otherwise handling whole eggs in a manner that might allow spores or bacteria into the yolk should be avoided.

When foodborne botulism is suspected, clinicians and public health investigators should inquire about the preparation and eating of foods preserved by any home method (e.g., canning, pickling, curing, and fermenting).

Management

The mainstay of treatment for severe botulism is supportive therapy with mechanical ventilation, which has substantially decreased mortality rates in the past 40 years. Because respiratory arrest may be rapid, patients suspected of having botusilm should be monitored initially in an intensive care unit, the vital capacity should be checked frequently, and mechanical ventilation should be initiated at the earliest signs of respiratory decompensation.

The administration of antitoxin is the only specific pharmacologic treatment available for botulism. If antitoxin is administered early during the course of neurologic dysfunction, it is effective in preventing progression of illness and shortening the duration of ventilatory failure in severe cases of botulism.

Because cases of foodborne botulism result from ingestion of contaminated food that may still be available to cause illness in others, a single case of foodborne botulism represents a public health emergency and may herald the beginning of a larger outbreak. Investigation of a suspected case of botulism includes a search for other possible cases, identification of suspect food exposures, and diagnostic testing of both cases and foods as needed. Rapid assessment to determine the source of contamination can lead to appropriate control measures, such as impounding home-canned foods, closing a restaurant, or instituting an emergency product recall. Efforts to locate persons exposed to the same suspect food may lead to early diagnosis in persons in whom the diagnosis might otherwise be missed altogether.

Local public health authorities and national food safety authorities should be involved as soon as foodborne botulism is suspected so that possible sources can be investigated and the need for further investigation and preventive measures can be determined.

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WHO RECOMMENDED SURVEILLANCE STANDARDS*

(2nd edition - Doc. WHO/CDS/CSR/ISR/99.2)

CUTANEOUS LEISHMANIASIS

Rationale for surveillance

Cutaneous leishmaniasis is endemic in over 70 countries. The yearly incidence is estimated at 1,500,000 cases. The disease has several clinical forms: localized cutaneous leishmaniasis, diffuse cutaneous leishmaniasis, the most difficult to treat, and (in the western hemisphere mainly) mucocutaneous leishmaniasis, which is the most severe form as it produces disfiguring lesions and mutilations of the face. In foci where man is believed to be the sole reservoir (anthroponotic foci), epidemics are linked to human migrations from rural to poor suburban areas; in zoonotic foci, where mammals are the reservoirs, epidemics are related to environmental changes and movement of non-immune people to rural areas.

Surveillance is essential to establish disease impact and to monitor efforts towards the control of disease and the detection of epidemics.

Recommended case definition

Clinical description

Appearance of one or more lesions, typically on uncovered parts of the body. The face, neck, arms and legs are the most common sites. At the site of inoculation a

* This is a completely updated edition of the *"Communicable Diseases Surveillance Kit"* first published in 1997. It has been produced jointly by technical clusters of WHO and UNAIDS. This document is not meant to replace existing technical guidelines or be an exhaustive description of surveillance of all diseases. Moreover, it seems only as a guide to good practice and may help to harmonize surveillance activities.

The purpose of this manual is to be a handy reference for key elements and contact information for all communicable diseases/syndromes associated with current WHO control programmes. For each disease or syndrome there is a description of the rationale for surveillance, case definition, types of surveillance, minimum date elements, data analyses and principal uses of data for decision making.

The *WHO/MZCC Information Circular*, in its Nos 46 and 48, published the sections referring to Human Brucellosis and Salmonellosis respectively. The sections Cutaneous and Visceral Leishmaniasis are included in the current issue.

nodule appears, and may enlarge to become an indolent ulcer. The sore remains in this stage for a variable time before healing, and typically leaves a depressed scar. Other atypical forms may occur. In some individuals, certain strains can disseminate and cause mucosal lesions. These sequelae involve nasopharyngeal tissues and can be very disfiguring.

Laboratory classification

- positive parasitology (stained smear or culture from the lesion)
- mucocutaneous leishmaniasis only: positive serology (IFA, ELISA)

Case classification

WHO operational definition:

A case of cutaneous leishmaniasis is a person showing clinical signs (skin or mucosal lesions), with parasitological confirmation of the diagnosis (positive smear or culture) and/or, for mucocutaneous leishmaniasis only, serological diagnosis.

Recommended types of surveillance

At peripheral level individual patient records must be retained for investigation and case management.

Routine monthly reporting of aggregated data of cases from periphery to intermediate and central level.

Active case finding through surveys of selected groups or mass surveys (standardized and periodical) is an alternative to estimate the prevalence of cutaneous leishmaniasis.

International: Annual reporting from central level to WHO (limited number of countries).

Recommended minimum data elements

Individual patient records at peripheral level

Leishmaniasis data: Clinical features, date of diagnosis, parasitological (Mucocutaneous leishmaniasis only) and serological diagnosis, *Leishmania* species, treatment outcome.

Identification data: Unique identifier, age, sex, geographical information, past travels, duration of stay at current residence.

Aggregated data for reporting

Number of cases by age, sex, type of diagnosis.

Recommended data analysis, presentation, reports

Tables: Incidence by geographical area, by age, by sex, by type of diagnosis, by month/year.

Maps: Incidence by village.

Principal uses of data for decision-making

- Evaluate the real extent of the problem and the main populations at risk.
- Improve and focus the control activities.
- Improve management and follow-up of cutaneous leishmaniasis, disseminated cutaneous leishmaniasis and mucocutaneous leishmaniasis patients (WHO guidelines).
- Identify technical and operational difficulties.
- Evaluate impact of control interventions.
- Anticipate epidemics.

Special aspects

The prevalence of cutaneous leishmaniasis tends to be grossly underestimated because most of the official data are obtained through passive case detection only. Other factors that may lead to misdiagnosis or non-diagnosis are: wide scatter of foci, limited access to medical facilities, scarcity of diagnostic facilities and limited or irregular availability of first-line drugs.

VISCERAL LEISHMANIASIS

Rationale for surveillance

Visceral leishmaniasis is endemic in over 70 countries. The incidence is estimated at 500,000 cases each year. It is the most severe form of leishmaniasis and it can be fatal in the absence of treatment. Deadly epidemics frequently occur in the anthroponotic foci of Bangladesh, India, Nepal and Sudan, where humans are believed to be the sole reservoir. Surveillance is essential in establishing disease impact and monitoring efforts towards disease control and detecting epidemics.

Recommended case definition

Clinical description

An illness with prolonged irregular fever, splenomegaly and weight loss as its main symptoms.

Laboratory criteria for diagnosis

- positive parasitology (stained smears from bone marrow, spleen, liver, lymph node, blood or culture of the organism from a biopsy or aspirated material)
- positive serology (IFA, ELISA)

Case classification

WHO operational definition:

A case of visceral leishmaniasis is a person showing clinical signs (mainly prolonged irregular fever, splenomegaly and weight loss), with serological (at geographical area level) and/or parasitological confirmation (when feasible at central level) of the diagnosis. In endemic malarious areas, visceral leishmaniasis should be suspected when fever lasts for more than two weeks and no response has been achieved with anti-malaria drugs (assuming drug-resistant malaria has also been considered).

Recommended types of surveillance

Routine monthly reporting of aggregated data from periphery to intermediate and central level.

Active case finding through surveys of selected groups or mass surveys (standardized and periodical) is an alternative to estimate the prevalence of visceral leishmaniasis.

International: Annual reporting from central level to WHO (limited number of countries).

Recommended minimum data elements

Individual patient records at peripheral level

Identification data: Unique identifier, age, sex, geographical information, travel history, duration of stay at current residence.

Leishmaniasis data: Clinical features, date of diagnosis, serological/parasitological diagnosis, *Leishmania* species, treatment outcome.

Aggregated data for reporting

Number of cases by age, sex, type of diagnosis.

Recommended data analysis, presentation, reports

Tables: Incidence by geographical area, age, sex, type of diagnosis, risk group, by clinical features, by month/year. Point prevalence (if active case detection).

Contact

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NEWS FROM THE MZCP

THE PLAN OF WORK 2000-2001 AND ITS IMPLEMENTATION

The MZCP Plan of Work of the present period is focusing its activities towards training national health and animal health staff as well as laboratory personnel of the Member Countries in areas related to prevention, surveillance and control of zoonoses and related foodborne diseases.

Training activities include two categories: (a) International Training Courses (ITC) and (b) National Training Courses (NTC). Category (a) is implemented under the full responsibility of the MZCP, while category (b) is performed in close collaboration with each one of the countries they have requested for.

During the year 2000 two ITCs have been implemented namely:

A. ITC on Formulation and Management of Projects on Surveillance, Prevention and Control of Zoonoses and Foodborne Infections.

It was held from 9-14 October 2000 in the Republic of San Marino, the Government of which generously offered hospitality assuming all expenses.

The learning objectives of the Course aimed to provide knowledge and skills on:

- *Need assessment performance;*
- *Planning and formulation of projects;*
- *Project management and evaluations;*
- *Training methodologies and course management,* and to provide
- *Information on major technical co-operation agencies and bilateral and multilateral donors;*
- *Understanding of the significance of intersectoral collaborations and co-ordination.*

B. ITC on Hazard Analysis Critical Control Points (HACCP) Systems: concepts and applications.

It was held from 4 to 11 December 2000 at the premises of the WHO/FAO Collaborating Centre, Istituto Zooprofilattico Sperimentale, Teramo, Italy.

The learning objectives of the course aimed to:

- *Promote understanding and awareness of food safety practices;*
- *Establish approaches for the identification of hazards' critical control points and critical limits;*
- *Provide understanding of HACCP principles and practices and its application in the production of food of animal origin;*
- *Provide knowledge and skills on training methodologies and course management;*
- *Understanding of significance of intersectoral collaboration.*

The goals established for the Training Courses have been fulfilled in their greatest part thanks to some essential elements adopted to ensure their success, namely:

- *Careful selection of the topics to be discussed;*
- *Interactive methodology including close collaboration between facilitators and trainees;*
- *Preselection of the trainees to assure they possess at least basic background knowledge related to the subject(s) of the course.*

This year, from 19 February to 1 March 2001, another ITC will be held in Canea, Crete, Greece. Its core subject is the *"Intersectoral Collaboration in Zoonotic and Foodborne Infections Surveillance, Prevention and Control"*.

Another crucial factor having ensured the success of the MZCP activities in the past, but most particularly during the present period, is the group of collaborating scientific institutions and of specialised scientists, who are generously contributing to transfer expertise and knowledge to the MZCP Member Countries. This is an occasion for us to express our deep appreciation and acknowledgement to all the MZCP Collaborators. Most particularly our thanks are addressed to the Government of the Republic of San Marino as well as the Director and the staff of the European Centre for Disaster Medicine of the same country, who generously hosted the first of the international activities of our Programme.

The NTCs which will follow, will be held in each one of the Member Countries that have requested. Their common core subject is the promotion and strengthening of the intersectoral collaboration and co-ordination under different situations. The importance of this essential requirement in activities related to prevention, surveillance and control of zoonoses and related foodborne diseases has been understood and the MZCP is endeavouring for its enforcement the wider possible.

BOOK REVIEWS

A. AN UPDATE ON ZOONOSES

This special issue on the *Scientific and Technical Review* of the Office International des Epizooties is devoted entirely to zoonoses.

The most serious zoonoses are often viral in origin, and the viruses concerned are evolving constantly. While such viruses are generally in a state of equilibrium with respect to their hosts, be they individual animals or animal populations, this finding does not hold true for humans, who as a rule are accidental hosts. In the absence of broad-spectrum antivirals, medical science is often unable to counter this type of infection; in such an event, saving lives may require preventive vaccination.

The problem is further compounded by the fact that wildlife, especially in the tropical areas where biodiversity is greatest, seems to constitute an inexhaustible reservoir for new zoonoses, as evidenced by recent episodes of infection by the Hendra and Nipah viruses.

Specific farming practices are also conducive to the emergence of new diseases, as shown by the occurence of bovine spongiform encephalopathy in Europe and the simultaneous appearnce of a hitherto unknown disease in humans, the variant of Creutzfeldt-Jacob disease. Other practices may also be responsible for accidents, for example, the co-existence of swine and poultry in the same agrosystem, which has the potential of resulting in the generation of new influenza virus reassortants.

Public attitudes towards animals are sometimes contradictory. In developed countries where the problem of food security has been solved to a large degree, public concern is focused on food safety and animal welfare, along with a debate on the social status of both domestic and wild animals. Zoonoses are often the focal point of these concerns. In developing countries, the emphasis is still placed on food security.

The globalisation of trade, the expansion of animal production and global warming are all factors that, by disrupting the existing balance, increase risks. Finally, the advent of new medical practices, such as xenotransplantation, require a preliminary assessment of the associated skills; this is indispensable to rational risk management.

Zoonoses are a vital component of all these considerations. A new dimension has thus been added to the work of animal and public health authorities and consequently, all development programmes should not only take these diseases into account, but also include them in the relevant risk assessments.

366 pages. Price FRF 270 or US$ 45

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B. THE ECONOMICS OF ANIMAL DISEASE CONTROL

It is a wide-ranging review of the use of economics in decision-making related to animal disease control and improved animal health published in the same *Scientific and Technical Review* as above. Economics plays an important role in everyday life and decisions. Although economic criteria are regularly used in such decisions, as well as those related to industry and trade, there is sometimes a degree of hesitation before economics are taken into account in decisions concerning investment in animal health programmes. For many with a traditional veterinary background, preference is often given to the use of biological criteria of efficacy and expected outcomes. However, the challenge for the future is to develop an appropriate balance between the biophysical and economic criteria in rational decision-making. This is particularly important for countries contemplating major disease control or eradication programmes, to relieve the burden of a given disease on livestock production, or to open avenues to increased trade in a particular livestock product.

This volume has a blend of authoritative chapters describing economic methods that can be applied to decision-making at different levels, with case studies on selected topics that illustrate the use of economic techniques. It also takes a look at some specific areas, such as the economics of improved trade, and of veterinary service delivery. This volume is timely, given the current impetus to enhance international trade in livestock and livestock products through improved disease control.

There has also been increasing use of economics in decision-making in most other spheres of livestock production, although not necessarily through the use of sophisticated computerised techniques. In the developing world, the requirement for improved quality of decisions on resource allocation is driven not only by the need to enhance efficiency in the livestock industries, but also by the need to prioritise public expenditures in response to diverse and sometimes competing needs of rapidly growing human populations, compounded by declining financial resources and declining public sector involvement in animal health service delivery.

The aim of this book is to provide an overview of the relevance of economic impact assessments in animal disease control, offer the reader with a review of methods that can be used under different circumstances and present selected examples.

276 pages. Price 40 EURO

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C. CANINE LEISHMANIASIS: AN UPDATE

Recently published *Proceedings* of a meeting held at Sitges (Barcelona), Spain, in January, 1999, give accounts of recent advances in canine leishmaniasis (CanL) of interest to veterinarians and public health workers in countries bordering the Mediterranean. The first paper by L. Ferrer (Universidad Autonoma de Barcelona) is an account of the clinical aspects of CanL in which the nine main clinical signs of disease are described and problems of clinical diagnosis are discussed. J. Lamothe (Clinique Vétérinaire, Carros, France) reports on new trends for the treatment of CanL with recommendations for doses and treatment schedules of antimomials, allopurinol and Amphotericin B. The geographical distribution and identification of the parasites causing CanL in the Mediterranean Basin are reviewed by J. Dereure and colleagues (Laboratoire d'Ecologie médicale et de Pathologie parasitaire, Montpellier). Nine zymodemes of *Leishmania infantum* have been identified in this area, although no isolates of parasites have been fully typed from Libya or Turkey. Three zymodemes of *L. tropica* have been reported but the authors suggest that the domestic dog is probably a victim rather than a reservoir host of this parasite.

R. and M. Killick-Kendrick (Imperial College at Silwood Park, UK) give an account of the biology of the nine proven or probable vectors of Mediterranean CanL and L. Gradoni (Istituto Superiore di Sanità, Rome) reviews the distribution and prevalence of CanL in countries of southern Europe. Recent studies on CanL as an emerging disease in Israel are presented by G. Baneth and C. Jaffe (Hebrew University, Jerusalem) with evidence that jackals may be important reservoir hosts. M. Miles (London School of Hygiene and Tropical Medicine) and colleagues give an overview of CanL in Latin America with special reference to current attempts to control the disease.

Cases of CanL presenting outside endemic areas are reviewed by R. Slappendel and E. Teske (Faculty of Veterinary Medicine, Utrecht) with an assessment of the risk of infection to dogs from non-endemic areas in northern Europe taken by their owners on holiday to southern Europe.

Two papers deal with the immunology of CanL. E. Pinelli (Faculty of Veterinary Medicine, Utrecht) and colleagues give an account of the cell mediated immune response in dogs and draw attention to recent studies on the modulation of this response by pharmacologically active substances in sand fly saliva. Prospects of a vaccine against CanL are discussed by C. Jaffe (Hebrew University, Jerusalem) with an account of candidate antigens and a brief review of the theoretical advantages of a DNA vaccine.

Human leishmaniasis with special reference to the visceral form with the dog as a reservoir host is dealt with by R. Davidson (Northwick Park Hospital, UK). This paper covers clinical features, diagnosis and treatment. Current concern with HIV/*Leishmania* co-infections is the subject of a paper by J. Alvar (National Centre of Microbiology, Madrid). Of the 1500 cases recorded world-wide, 90% are from countries of southern Europe with over half from Spain where the main transmission is among drug addicts sharing needles.

The last four papers are reports of a Round Table discussion on a deltamethrin impregnated dog collar that, in laboratory experiments, has been shown to protect dogs from more than 90% of sand fly bites for a complete sand fly season. R. Killick-Kendrick reviews literature on the anti-feeding effects of synthetic pyrethroids against mosquitoes and sand flies and suggests that, if field trials confirm the results of the laboratory experiments, the collar could be a means of interfering with the circulation of the parasite to such a degree that the risk of infection to both the human and dog populations would be much reduced. J. Lucientes (Faculdad de Veterinaria, Zaragoza) presents results of laboratory studies in Spain with the collar and *Phlebotomus perniciosus* confirming the antifeeding effect reported in earlier studies in France. Finally, M. Maroli (Istituto Superiore di Sanità, Rome) and V. Puccini (Università degli Studi, Bari, Italy) describe protocols for two field trials of the collar planned in Italy.

The *Proceedings* of the meeting can be obtained gratis under the title *Canine Leishmaniasis: an Update* by contacting Ms Nicole Kluess at NKluess@HRVet.com.

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