Multidisciplinary collaboration in veterinary public health

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Summary. Multidisciplinary collaboration has been recognised necessary for centuries and has a long tradition. It is supported by solid bases, and is required to control a number of risk factors. Its practice encounters difficulties in various critical points. At present, the models of collaboration provided by the activities of the WHO/Mediterranean Zoonoses Control Centre and by the Med-Vet-Net network of the European Community represent relevant examples.

Key words: inter-professional collaboration, zoonoses, food safety, Europe, Mediterranean.

INTRODUCTION

Human medicine and animal medicine have developed as “one medicine” starting from the times in which their bases were laid until the mid 18th century when specialisation proved necessary and led to the establishment of modern veterinary schools. Mention must be made of outstanding physicians (Hippocrates, Redi, Galen, Fracastorius, Lancisi, Ramazzini) who faced human and animal epidemics. The founders of microbiology (Pasteur, Koch, and so on) investigated the aetiological agents of both human and animal diseases. Also in the earliest texts on communicable diseases the two fields are not dealt with separately.

The separation has been the logical consequence of the construction of different fields of action, made necessary by the evolution of the disciplines and of the social and economic context, but common areas have remained relevant and are required by modern developments. In veterinary medicine two separate branches have developed: the first (prevailing public) dealing with communicable diseases (zoonoses included), food safety, management of animal populations, animal welfare and environmental problems connected with animals; the second (prevailing private, devoted to the tradition of “one medicine”) practicing the care of animals (farm, companion, sports), and continuing the tradition of farriery.

The necessity of collaboration has been surveyed by many publications, courses, conferences etc. A fundamental document is the declaration of Alma Ata [1] stating that “primary health care involves, in addition to the health sector, all related sectors and aspects of national and community development, in particular agriculture, animal husbandry, food industry and other sectors”. The need for collaboration was also examined and recommended in two recent meetings of WHO [2] and FAO [3].

This paper will discuss some problems nowadays facing the practice of collaboration as well as special issues concerning the Mediterranean area and Europe.

THE PRACTICE OF MULTIDISCIPLINARY COLLABORATION

The risk factors requiring inter-professional collaboration are:

- zoonoses (all);
- human diseases connected with food of animal origin;
- animal population control;
- animal-connected occupational diseases;
- arthropods common to man and animals (disease vectors included);
- pests and vector vertebrates;
- detection of drug-resistant agents;
- environmental pathogenic agents;
- substances used to protect animal health;
- substances used to increase animal production;
- products able to induce resistance in pathogenic agents;
- environmental contamination;
- emergencies involving humans and animals;
- use of animals for human welfare and therapy;
- co-existence of animals with persons exposed to special risk.

The bases for inter-professional collaboration are:
- physicians should know the zoonoses reported in animals in the area (e.g. brucellosis, anthrax, rabies, emerging zoonoses);
- veterinarians should know which zoonoses are reported in humans in the region;
- the same applies for other animal-connected problems;
- legislation should provide for compulsory information on common problems;
- cases of zoonoses and other animal-connected problems in humans should be reported to veterinary services that will perform epidemiological investigation and take the necessary measures;
- cases of zoonoses and other related problems should be reported to medical services to identify persons at risk and take appropriate measures;
- planning of common action (e.g. in epidemics or emergencies) should be organised;
- common information and training should be organised;
- health education and public information should be worked out jointly.

The main critical points [4] are:
- competitiveness between sectors, services, professions, persons, etc.;
- different administrative locations;
- conflicting competences;
- professional weakness;
- different availability of personnel and resources;
- different access to the attention of public administrators and mass media;
- different cultural backgrounds;
- different evaluation of priorities;
- different languages;
- difficulties in recognising common objectives;
- lack of knowledge of legislation;
- lack of knowledge of productive structures (food production, processing chain included);
- lack of knowledge of the real needs of consumers;
- lack of knowledge of other service(s).

While it is generally recognised that most of the emerging and re-emerging infections are of zoonotic origin, on the other hand there is insufficient consideration for endemic classical zoonoses. While “new zoonoses” such as BSE, West Nile fever and others are attracting great attention and resources, “old zoonoses” are often overlooked and considered of scarce interest. Zoonotic leishmaniasis re-emerging in the Northern Mediterranean is considered a priority in areas where Brucellosis and cystic hydatidosis are old endemic infections implying more important consequences for human and animals. The most frequent result is that services, professions and mass media pay attention to “fashionable” infections, while the control of classical endemics (brucellosis, bovine tuberculosis, rabies and others) is neglected although being of greater social importance.

A serious emerging problem (and an instructive model) is the epidemic of avian influenza which requires the collaboration of public and private physicians and veterinarians, as well as of wildlife specialists. These should co-operate also with administrators (politicians) and economists to face the social and financial issues involved in the control of the infection.

All too often there are scarce knowledge of and consideration for the welfare of animals and their role in human wellbeing. For example, the co-existence of animals with immunodepressed persons or of cats with pregnant women is not always accepted: a consultation with a well informed veterinarian could solve the problem.

Food safety is a field of “passive cooperation”. The fact that food of animal origin is safe because it has undergone veterinary inspection is often ignored. Food-associated infection outbreaks cause sometimes inter-professional conflicts and public alarm.

Often the inter-service report of zoonoses (brucellosis, anthrax, taeniasis/cysticercosis, cystic echinococcosis) in humans or animals is omitted even if required by law. The same applies to the detection of contaminants (estrogens, antibiotics, dioxins) in food of animal origin. These omissions result in increased difficulties in identifying possible consequences in humans.

A modern emerging concept is that “public health operators” are all the workers involved in the control of zoonoses, food safety, management of animal populations and related fields. Collaboration with medical and veterinary practitioners is also important. Another relevant prerequisite is the contribution by professionals not directly operating in public health, such as administrators, city planners, educators, etc.

VETERINARY AND MEDICAL INTEGRATED APPROACH TO FOODBORNE ZOONOSES SURVEILLANCE IN THE EUROPEAN UNION

It is self-evident that integrated surveillance will require a strong multidisciplinary approach. Medical, veterinary, and food microbiologists should be involved as well as medical and veterinary epidemiologists.

The EU has recently reconsidered its strategy for the control of foodborne zoonoses, both in human and veterinary health sectors.

Rules on surveillance of zoonotic infections, through community surveillance networks, are included in the legislation on human communicable infectious diseases (Decision 2119/98/EC). A relevant contribution to the harmonisation between human and veterinary public health legislation arose from Directive 2003/99/EC which recently implemented the legislation on the surveillance and control of foodborne zoonoses. This Directive requires that EU Member States collect rele-
The new form of the epidemiological surveillance system is now in full and successful operation in four Governorates of Syria, where it is shortly expected to cover the whole country, and it is also progressing to meet its targets in Jordan.

The re-organization of the brucellosis epidemiological surveillance system in the above-mentioned two countries, including the horizontal intercommunication for the first time established, is of utmost importance. It reduces underreporting at the lowest possible level, and better identifies the infection sources and cases distribution among different occupational, age, and other category groups. However, the most important achievement is that the inter-professional collaboration has been established and its beneficial effect has been understood and assessed.

The conclusion that could be drawn from the activities performed is that, besides agreements at theoretical levels upon crucial issues such as intersectoral col-
Collaboration and co-ordination, initiatives and activities should be translated into practice, being the only instruments which could really make evident the importance and benefits of adopting such strategies and practices.

**CONCLUSIONS**

Veterinary medicine has its origins in two main roots: farriery (which has developed into the modern private veterinary practice) and medicine (“one medicine”) in which physicians, besides their usual responsibilities, were also involved in contrasting human and animal epidemics. This situation evolved into the modern veterinary public health embracing all veterinary activities associated with human health. Inter-disciplinary collaboration has been required by food inspection, human-animal relationship management, and control of zoonoses (once recognised). The social and economic consequences of animal pandemics drove governments to mobilise the best scientists available (who were often, but not always, physicians). The achievement of collaboration passed through alternating phases in the different historical times according to the advancements of science and the progress of individual economies.

The present, developed veterinary medicine has exacted its own autonomous space, and has now attained professional, social and scientific recognition as an autonomous discipline with a number of specialisations. Various forms of collaboration have grown both inside the professional fields (mixed practices, public health teams) and among other professions involving different public health operators who also include professionals only occasionally interested in the sector.

Building up collaboration is a slow process, which in some areas is already advanced, is just beginning in others, but has still to start in the majority of regions.

The WHO/Mediterranean Zoonoses Control Centre was born as an inter-professional organism 26 years ago and has always worked in order to build and foster an inter-disciplinary culture. Recently, important results have been achieved in the control of human and animal brucellosis in Jordan and Syria.

The EU has supported the inter-professional approach in the field of foodborne zoonoses through a series of legislative and professional initiatives. These are based on the improvement and standardisation of diagnostic procedures and surveillance. The exchange of information at the national and international levels is also mandatory. Of particular importance is the constitution of the Med-Vet-Net network, within the “Quality and Safety of Food” Priority Area, aiming at harmonising the controls throughout the “whole food-chain” in the EU.

Submitted on invitation. 
Accepted on 5 October 2006.

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