Veterinary community health: an emerging discipline

E Hohn[a] and J H Williams[b]

Throughout the world, animals play an important part in man's livelihood[6,16]. Since more than two-thirds of African soil is unsuitable for cultivating crops, about 50 % of the protein consumed by Africans is of animal origin[10]. The dependence on livestock for survival is hampered by overgrazing, erosion and lack of available drinking water[16]. Animals in the third world also appear to be more prone to disease than those in the first world[16].

It is generally accepted that improvement in the quality of livestock production in Africa could contribute to improving the quality of human existence in African communities. Livestock raising on small African farms is considered to improve crop production and support a higher level of agricultural practice[1]. As a result, almost the entire veterinary effort of the continent is directed towards livestock, most veterinary schools on the African continent concentrate on animal production and preventive medicine, while considerably less time is allocated to clinical subjects and companion animals[10].

It is perhaps not entirely appropriate to compare the productivity of Africa's livestock to that of developed countries, but it is a fact that Africa is now the only area in the world where per capita food production is declining[10]. Limited employment opportunities and the widespread failure of agriculture have contributed to the drift of young people to urban areas[3]. Adherence to traditional customs, with resistance to change, is usually more evident in developing rural communities[6]. It is suggested that this resistance could be partly overcome in the veterinary field by promoting the human-companion animal bond to first gain credibility amongst the younger, receptive urban African population[6]. Once established, this may lead to acceptance of the veterinarian even in the rural areas following familial contact and reassurance, and suggested improvements could then increase rural community development[6].

Developing communities, both urban and rural, suffer largely from diseases that are, in the long term, related to their socioeconomic predicament[14]. Paradoxically, these conditions are preventable at relatively low cost[14]. They are due to failure of health care peripheral to the hospital; in other words, a failure of primary health care[14]. While this field of human medicine is becoming increasingly more important and popular, it appears to have been overlooked in the veterinary field.

COMMUNITY HEALTH

Community health has 2 disciplinary components, namely comprehensive and community medicine. Comprehensive medicine is directed towards individual patients with care in relation to domestic, cultural, occupational and socioeconomic planes of existence, and includes preventative, promotive, curative and rehabilitative care of the patient[15]. Community medicine is directed to whole communities at all stages of development[15]. It determines their health status and priority health needs, and also assists in providing the means to obtain and maintain health optimally at all levels by constantly monitoring results and appropriately directing resources[15].

While much has been written about primary health care, it should be realised that neither the concept nor the practice is new[5]. Until very recently, no evidence of the utilisation of these principles in the veterinary field existed. The importance of the use of epidemiology in community-orientated health care systems must be realised[5]. The assessment of community health needs and the delivery of care in relation to these needs forms one of the bases of this practice[5].

When considering the possible place of primary health care in the system, a number of issues must be considered:

- **The responsibilities of the health team**

  The most important of these is the practice of 'outreach' by the veterinarian, nurse and others into the community. The objective is to ensure that all are obtaining the care that they require in relation to their needs[5]. The initiative for the delivery of care therefore lies with the health team, while not excluding involvement of the community[5]. It is important at this stage to distinguish between need and demand. If the policy of health is geared to supply and demand, the resources and organisation will be very different from the situation where health services are delivered in the framework of primary health care[5].

- **Whose needs must be assessed?**

  It is important to realise that the success of any community health project depends on assessing the needs of the whole community and not only those who come to the service of their own initiative[4,5].

- **The health needs of a community**

  The health needs of the community should always be defined in relation to the natural history of disease, as depicted in Fig. 1. This model is applicable to developing countries, since the majority of diseases are due either to malnutrition or infections[3,10,11,14]. Complete medical care is concerned with arresting the progress of disease before advanced stages in the natural history of a disease are reached[5].

- **Primary prevention**

  This includes both health promotion and specific prevention[14].

  » **Health promotion**

  The major action is community health education, but the important role of legislation should not be overlooked[5]. Many aspects of health promotion at community level are determined in this area[5].

- **Specific prevention**

  This can conveniently be subdivided into early diagnosis and specific treatment[5].

  » **Early diagnosis**

  The rationale for this is that complications can be prevented if a condition is diagnosed early and treated timeously[5].

  » **Specific treatment**

  The disease is either cured or the sequelae are limited to a minimum[5]. If specific treatment is perceived as an

[a]Elanco Animal Health, Dextra Court, Chapel Hill, Basingstoke, RG215SY, United Kingdom.

[b]Department of Companion Animal Medicine and Surgery, Faculty of Veterinary Science, Medical University of Southern Africa, PO Box 160, 0204 Medunsa, South Africa.

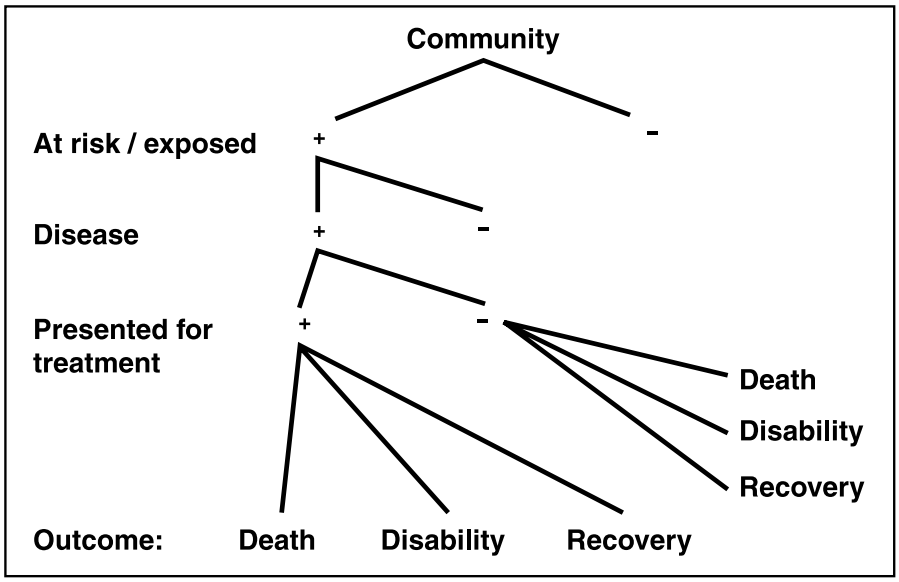

Fig. 1: **The natural history of a disease condition in a community** (modified from Epstein and Eshed[5]).

action that prevents the patient from deteriorating to a further stage in the natural history of the disease, the paradox of viewing treatment as a form of prevention is resolved.

- **Tertiary prevention**

  The emphasis here is on the limitation of disabilities and the rehabilitation of patients where possible[5]. However, in the interests of cost efficiency, a veterinary primary health care system should not be extensively utilised at this level.

  » **Limitation of disabilities**

  This action should only be necessary on rare occasions or when the health care system has failed to prevent the sequelae of the disease.

  » **Rehabilitation**

  This may have to be considered if necessary.

The objective of community health or primary health care is to intervene at the earliest possible stage in the natural history of disease[5], in order to shift the balance in favour of primary prevention.

For a health team to adequately plan intervention at the community level, it must have access to data on the distribution of disease and its causes[5]. The scientifically based collection of these data, their analysis and interpretation are the fundamental roles of epidemiology[5]. Epidemiology is therefore considered to be the basic science required in the planning and delivery of community-orientated veterinary primary health care[5]. To constantly respond to community demand in a haphazard manner is neither cost nor time efficient.

Practical implementation of a community-orientated veterinary health care system

To be effective, primary veterinary health care should be simple, accessible, acceptable and affordable. It should blend into the cultural background of the community, rely on community participation and draw on community resources as far as possible[14]. The system should be integrated, through proper referral channels, with the total veterinary health care system of the district and if possible the country. Close supervision and constant evaluation are essential to the effectiveness of a veterinary primary health care system[14].

An example of a practical organisational structure consists of a well-equipped central regional referral hospital with specialist and technological expertise[14]. This should serve several district hospitals that need not be as well equipped or have a specialist component[14]. District hospitals should be manned by veterinarians of general practitioner status. Ideally, each district hospital should have 2 or 3 surrounding comprehensive veterinary health centres in the form of peripheral clinics in outlying areas[14]. In practice, resources may be insufficient for a regional referral hospital and a district hospital, and a moderately equipped district hospital may have to suffice. This is not of major importance to veterinary primary health care, which is centred on the peripheral clinic.

Peripheral clinics require appropriate accommodation for the staff, a communication system with the district hospital and transport for patients to the district hospital[14]. These clinics should have levels of service contact with the community through workers drawn from the community[14]. Personnel of each peripheral clinic should establish regular visiting points in the community, *e.g.* at a store or a specified landmark[14]. Village health workers are auxiliary workers drawn from the community who act as assistants to veterinarians and nurses who run the peripheral clinics[14]. They should live in the community and should be nominated by the people, forming an important bridge between the veterinary service and the community[14]. They would require regular short courses of basic training in order to provide guidance with regard to basic veterinary health care as well as to collect information for the monitoring of the community by the health team[2,14]. They carry out follow-up home visits and refer owners to the clinics when necessary for promotive, preventive and curative services[14]. The World Health Organisation has categorically stated that any rural health care system that does not involve village health workers is in danger of health deprivation[18], and this is equally applicable to veterinary health care.

Guidelines

There can be no single method of veterinary primary health care implementation suitable for all communities. Modification and adaptation according to the needs of each community and its circumstances are essential[14]. However, there are well-known and frequently-stated general guidelines[2,8,9], such as:

- The development of a skills pyramid. Routine work should not be carried out by an individual if somebody less qualified can do it as competently, *i.e.* delegation down the skills pyramid;
- Upward referral of tasks;
- A total commitment by all the members of the team to the training of those less qualified than themselves;
- The acceptance of all the members of the team by the veterinarian and a willingness to assist in in-house training.

The importance of education in propelling the health status of a community in the direction of primary prevention must not be underestimated. Health education should not be allowed to become a separate arm of the veterinary health services; it should be all-pervasive and be an integrating force in the various spheres of veterinary community health[17]. Health education should include the following:

- Visits to schools to give talks, show videos and distribute pamphlets;
- The production and distribution of

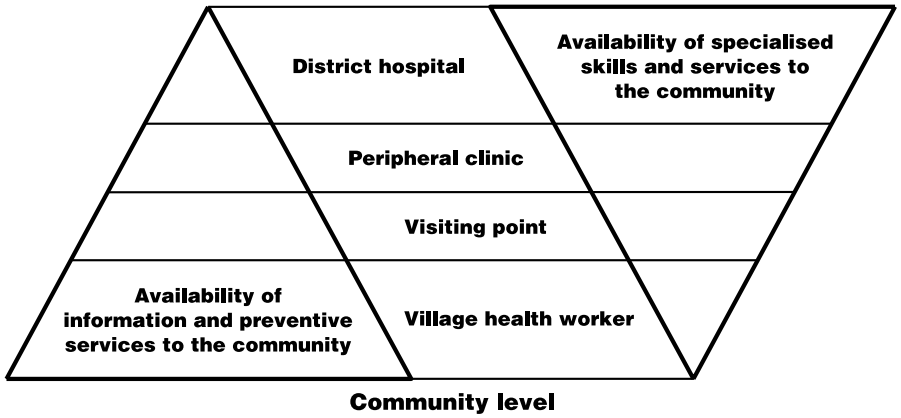

Fig. 2: **Organisational levels for veterinary health care.**

newsletters and leaflets within the community;
- Involvement of the media to include ongoing educational programmes for the community.

Careful coordination and supervision of these programmes is essential to ensure that conflicting information is not being presented. It would also be desirable if the information disseminated by the village health worker, teachers or veterinary nurses is similar in content to that disseminated via the radio and press, as this serves to reinforce the information.

One must realise that once a programme has been developed, regular surveys are required to monitor changes in the patterns of disease and attitudes of the people, as well as the efficacy of the educational or health programmes that have been implemented[7,12,13].

The availability of services to the community at various levels can be represented by a diagram (Fig. 2). At the level of the village health worker the high availability of information and preventive services and the low availability of personnel with specialised skills and specialised services, assists in lowering the cost of the health service. With progression from village health worker to visiting points and peripheral clinics, the availability of preventive services decreases and that of specialised services and skills increases.

The implementation of services following the principles outlined here would have numerous advantages, including: cost-efficiency in the delivery of veterinary services to the community; high exposure to and credibility with the community owing to active community involvement; and improvement in the level of basic animal care. Primary health care has made a great difference to the lives of many people in the third world; a similar approach could also have considerable benefits in the veterinary field.

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