Developing a disease prevention strategy in the Caribbean: the importance of assessing animal health - related risk at the regional level

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7th Epigroup Meeting, Barbados, Dec. 2010

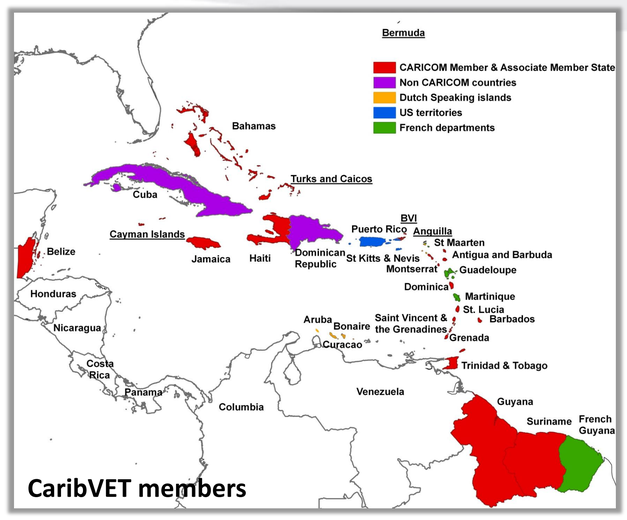
BACKGROUND

The Caribbean Animal Health Network (CaribVET), established in 2003, brings together national veterinary services of all Caribbean countries and territories. Its aim is to achieve more effective animal disease prevention and control within the region.

Given the high heterogeneity of Caribbean countries/territories and the numerous exchanges between them, animal health risk management (RM) is a huge regional challenge. As the scientific basis for RM, risk assessment (RA) is hence becoming a fundamental element of the network's activities.

The Epidemiology Working Group (Epigroup) of CaribVET is in charge to identify regional priorities, but to determine the shared animal health-related risks of network members, it is necessary to first identify priorities and harmonize approaches.

In 2009, the Epigroup implemented a survey among members of the CaribVET on the ways in which exotic diseases are introduced and the importance of RA tools in preventing and controlling both endemic and exotic disease.



OBJECTIVES:

Assess perception of Veterinary Services use of risk assessment

Identify principal exotic diseases of concern in the Caribbean Region and their means of introduction

MATERIALS & METHODS

1. Questionnaire edit by the Epigroup members.

Questionnaire 's questions

- Indicate perceived domain for the application of RA methodologies (control and or prevention of endemic and or exotic diseases)
- Prioritize specific objectives to be pursued by the use of RA methodologies
- Rank major ways of introduction of 5 exotic diseases selected from a list of 25
- Evaluate 13 ways of introduction of chosen diseases according to perceived importance for the country.

2. Questionnaires submission and collection

Questionnaire submitted to the Chief Veterinary Officers (CVO) of 27 Caribbean countries by the chair of Epigroup.

Answers were collected by one Epigroup member., coordinating this work

3. Survey results summarised and discussed during a three-day meeting attended by fourteen animal health officers from six countries.

A score *i* was attributed between 1 (low importance) and 3 (high importance) for each proposed way of introduction. Score 0 when the CVO was not able to evaluate the importance.

For each country *c*, a score *Scj* was calculated for each specific way of introduction *j* by summing up all the weighted scores provided:

$$(1) \quad Scj = \sum_{i=1}^{i=3} \mathrm{fi} \times \omega i$$

fi = frequency of the score i and ωi = the weight of score i, with ω1 = 1, ω2 = 2 and ω3 = 3.

Scores *Scj* were combined across countries to obtain an overall ranking *Sj* of the importance of different routes *j* for the introduction of exotic animal diseases in the region:

$$(2) \quad Sj = \sum_{c=1}^{c=17} Scj$$

RESULTS

➢ **17 countries answered to questionnaire.**

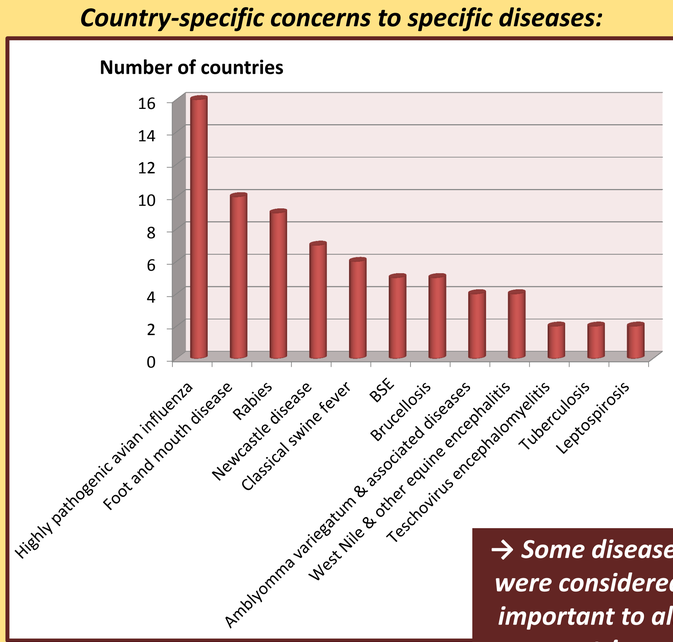
→ All respondents stated that RA has a role in informing strategies to prevent introduction of exotic diseases.

Perceived importance of RA in managing various animal health issues:

Animal health objectives	Scores: Median score [a]	Scores: Total score [b]
To prevent the introduction of exotic diseases through:		
– live animals for trade	5	65
– pets, animals for sport and exhibition	4	59
– movements of humans (tourists, workers…)	3	44
– trade of products of animal origin	4	65
– animal feed	3	44
– wild animals	2	37
To optimise epidemiological surveillance of endemic diseases	4	51
To identify high-risk areas for introduction of exotic diseases	5	61
To document compartments, zones or countries as free from disease for export purposes	3	37
To avoid or reduce contamination of the human food chain (food safety)	5	70
To identify vulnerability factors for potential impact of emerging (exotic) and re-emerging diseases in order to improve emergency plans	5	69

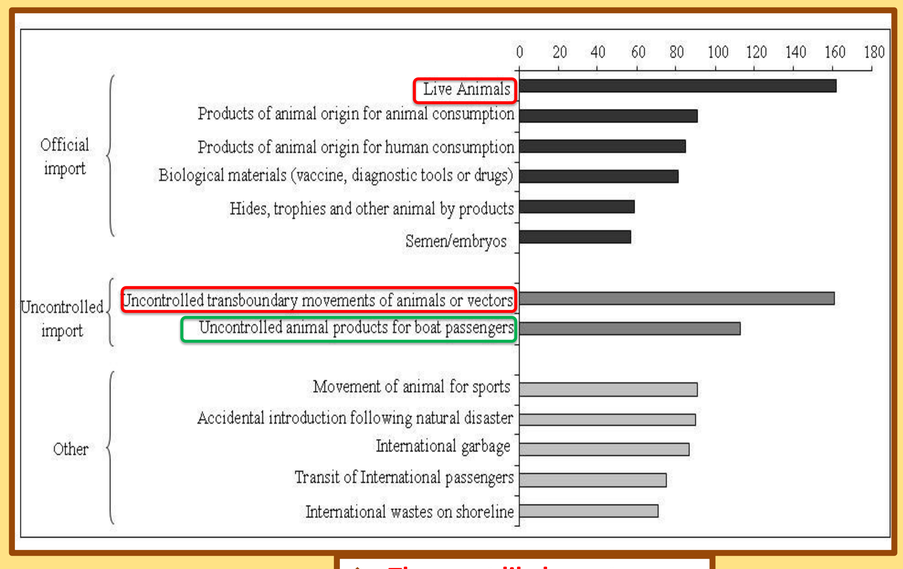
For each criteria, a score was given between 0 (not important) and 5 (most important).
a) Median score represents the median of all scores given by individual countries
b) Total score is calculated for each criterion by adding all the scores given by 17 individual countries

Country-specific concerns to specific diseases:



→ *Some diseases were considered important to all countries*

Major potential routes of exotic animal disease introduction ranked by survey respondents:



→ **The most likely route**

→ **Second most likely route**

CONCLUSIONS & PERSPECTIVE

Recommendations

Joint formal risk assessment of introduction of selected exotic infectious diseases (of shared regional interest) offers clearest opportunity for collaborative work among Veterinary Services in Caribbean region and should be a priority.

Current understanding of exchanges of animals & products in region is limited and should be improved.

Perspectives

CaribVET strategy of moving towards more coordinated regional work may be a useful example for other regional networks that face similar challenges in assessment and prevention of animal health- related risks.

Acknowledgements

We thank all the Caribbean Chief Veterinary Officers for their active participation in this survey and in the CaribVET network. This work was co-funded by the European Regional Development Fund and Interreg IV Caraïbes 'CaribVET'. We are grateful to Cristobal Zepeda for his expertise and input in the CaribVET Epidemiology Working Group.

13th International Symposium on Veterinary Epidemiology and Economics
ISVEE13, 20-24 August 2012, Maastricht, The Netherlands.