Impact Evaluation and Priority Ranking of Zoonoses in Mongolia

A.M.J. McFadden[1], P. Muellner[2], Z. Baljinnyam[3], D. Vink[1] and N. Wilson[4]

[1]Ministry for Primary Industries, PO Box 2526, Wellington 6140, New Zealand.
[2]Epi-interactive, 87 Nevay Road, Miramar, Wellington 6022, New Zealand.
[3]Swiss Agency for Development and Cooperation, Tengeriin Tsag Centre, Olympic Street 12, Khoroo 1, Sukhbaatar District, Ulaanbaatar, Mongolia.
[4]University of Otago, Wellington, PO Box 7343, Wellington 6021, New Zealand.

Summary

Risk ranking is widely recognized as a starting point for risk-based priority setting and resource allocation and has been established as an important component of risk management frameworks.

A **'One Health' framework** to rank zoonotic diseases was developed and applied for the purpose of prioritising animal health surveillance and control activities in Mongolia. A **combined multi-criteria score** for both impact of a disease and feasibility of its control was calculated.

The model identified five high-priority diseases, namely:
- Ovine brucellosis
- Echinococcosis/hydatids
- Rabies
- Anthrax
- Bovine brucellosis

The project helped to **improve existing impact estimates** that were based on a human health perspective alone and also identify additional zoonotic diseases to be considered. Recommendations for joint surveillance, control and resource allocation were made.

Methods

In a first step past activities in Mongolia were reviewed and a hazard list of zoonoses relevant to the region and the objectives of the project was compiled. This was followed by a review of available methods for risk ranking and finally the development of a multi-criteria zoonosis ranking model for Mongolia, which assesses both the **impact of each disease and the feasibility of its control**. As a modular structure was used impact and feasibility of control could be separately assessed. The model was developed in close collaboration with Mongolian experts.

Criteria included:

Impact assessment
- Amount and severity of disease
- Population at risk
- Treatment cost
- Economic value of affected markets

Control feasibility assessment
- Ability to carry out surveillance
- Expected success of control
- Cost of control

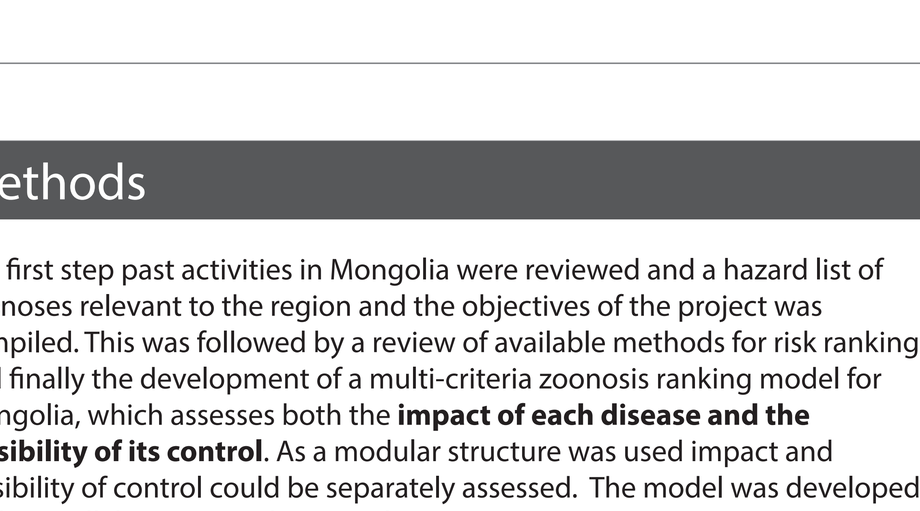

Figure 1: Zoonoses ranking model for Mongolia. The total score is based on overall impact and feasibility of control in both the human and livestock sectors.

Result & Discussion

A total of 22 zoonoses of potential relevance for Mongolia were included in the assessment. The model identified five high-priority diseases, namely ovine brucellosis, echinococcosis/hydatids, rabies, anthrax and bovine brucellosis. Recommendations made include analysis of passive surveillance data, education of veterinarians, joint surveillance of high-priority disease and active surveillance of medium-priority disease, including foodborne zoonoses.

Risk ranking tools are designed to give a **broad measure of the relative importance of a set of specific diseases** in relation to one another based on the chosen criteria. This is in contrast to a defined quantitative assessment of individual diseases per se and has to be interpreted as such.

The priority list developed may be broken up into broad categories (e.g. high, medium and low) that are helpful to **focus resource allocation**. The division into priority groups that was made in the current assessment could be further modified based on factors such as resource availability and current policies of the regulating authorities.

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Contact information

Petra Muellner

petra@epi-interactive.com
P: 0049 8031 7969195

www.epi-interactive.com