EVALUATION OF THE PERSPECTIVE AND TYPE OF STUDIES IN ANIMAL HEALTH ECONOMICS

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OBJECTIVES: Importance of animal health economics has been widely acknowledged. The objective of this project was to evaluate the perspective and type of analyses used in animal health economic studies. METHODS: An electronic search in EMBASE and MEDLINE was conducted from 1987 onwards, using the key words economic, cost-effectiveness, cost-benefit, cost-minimization, cost-effect analysis, combined with the respective kind of animal (cow, pig, horse, dog, cat). Among 631 articles, 68 abstracts were included for this review (34 studies in cows, 13 in pigs, 3 in horses, 14 in dogs, 4 in cats), the others did not represent health economic studies. RESULTS: Study perspective was stated in only one abstract but could be assumed from the content in the other studies, being that of the animal owner in all but one. Cost-effectiveness was the type of study most often used (37/68), followed by cost-benefit studies (22/68). Again, the kind of study often had to be assumed as it was only mentioned in 22% of the abstracts (15/68). The main field of investigation was that of immunization. CONCLUSION: The fact that fundamental information on the perspective or type of study was rarely stated in the abstracts might be due to the fact that guidelines on animal health economics are missing. The predominant perspective, namely that of the animal owner differed from those found in human health economics. It reflects the fact that insurance or public coverage of costs is not widespread in animal health; accordingly the owner is the main payer. If compared with human health economics the share of cost-benefit analyses was higher, as there is a market price especially for farm animals and their products. Further efforts in this field might improve quality of study presentation and probably raise interest for health economic studies on veterinary pharmaceuticals.

GUIDELINES FOR ENSURING DEGREES OF VALIDITY IN HEALTH ECONOMIC MODELS

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OBJECTIVES: Greater emphasis for economic evaluations in health care reimbursement decision-making has brought about the need for models that are accurate and methodologically sound. Although guidelines exist suggesting appropriate methods for model validation, there remains a paucity of practical guidance outlining steps to ensure that outcomes have been appropriately validated. The objective was to establish a process outlining a series of practical tests to ensure consistent model validation. METHODS: A systematic search of the literature was conducted to identify modeling guidelines and published modeling studies discussing validation techniques. Results from the literature search were used to develop practical steps to ensure consistent model validation. RESULTS: A list of validation tests were compiled and collated following a review of 15 guideline publications on model validation. Model validation should not only encompass checking for calculation errors or structural inconsistencies, but also include a complete synthesis of the evidence-based data used to produce results. Initially, the model structure should be reviewed for face validity, assessing the economic and clinical assumptions that include consulting scientific experts, external to the model development process. Secondly, convergent validity should be conducted where a series of tests are performed comparing if results from other independently developed models draw similar conclusions. Internal validity involves a series of procedures to ensure the basic model framework and mathematical calculations are consistent. Test-runs should be performed including a replication test, and extensive sensitivity analyses, whereby a series of extreme/hypothetical