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Short communication

## Citations of plenary-session articles published in the Proceedings of the International Symposium on Veterinary Epidemiology and Economics

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### Abstract

We measured the potential impact of articles representing the International Symposium on Veterinary Epidemiology and Economics (ISVEE) plenary-session presentations in subsequent published literature. Between July 1, 2004 and November 9, 2004, we searched the Web of Science<sup>®</sup> for citations in the scientific literature to all 99 plenary-session articles published in the proceedings of the previous nine ISVEEs (or in journal special issues dedicated to the ISVEE plenary articles). We used a 4-year window around the publication of each of the ISVEE proceedings. We located 187 citations for 37 (of the 99) articles. We infer that the ISVEE proceedings represent an important resource for veterinary epidemiology.

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*Keywords:* Veterinary epidemiology; Citation analysis; ISVEE proceedings

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## 1. Introduction

The International Symposium on Veterinary Epidemiology and Economics (ISVEE) is a nonprofit organization created to promote the study of veterinary epidemiology and veterinary economics globally. Since 1976, this group has convened every 3 years in a different region of the world to exchange the latest information on such topics as: animal agriculture, education, food safety, public health, and risk management (see <http://www.ISVEE.org/>). Dissemination of the proceedings is accomplished through distribution of written proceedings in 1976 and, beginning with the 2000 meeting; the proceedings have also been distributed on a CD-ROM disk.

Information is very often revealed for the first time at conferences (Oseman, 1988, pp. 124–137; Oseman, 1989; Martens and Saretiski, 1993, pp. 237–260). Lazarev et al. (2001, pp. 103–118) stated that Proceedings Of International Conferences were “one of the steadiest sources of references”. Though the presented findings can be important and substantial, questions have arisen regarding the subsequent usefulness of it in manuscripts, journal articles and other written materials. Citation analysis is an objective method that has been used to measure the impact of the proceedings in various fields (Payne and Merriam, 1991, pp. 165–173; Oseman, 1988, pp. 124–137; Oseman, 1989; Lazarev et al., 2001, pp. 103–118). In this manuscript, we describe our study in which we counted the citations in the published literature to articles that were presented in the plenary-sessions and then published in the proceedings from the first nine triennial ISVEE conferences (1976–2000).

## 2. Materials and methods

Proceedings (including most of the plenary-session papers that have been presented) of ISVEE have not been indexed consistently. Articles from the proceedings have also occasionally been published in scientific journals. Beginning in 1997 (with ISVEE VIII), the ISVEE plenary-session articles were published in *Preventive Veterinary Medicine*. These articles are subsequently indexed by databases, such as the National Library of Medicine’s MEDLINE.

We did a citation analysis for all 99 plenary-session articles from ISVEEs I to IX that were published either in the ISVEE proceedings or in journal special issues dedicated to the plenary-session articles. The earliest ISVEE proceedings did not consistently separate plenary papers from the rest of the papers. We used the counts of citations as proxies for the impacts of the plenary-session articles. Only plenary-session presentations that were represented as plenary-session articles were included and analyzed. We conducted a citation analysis for all 99 plenary-session articles and used the counts of citations as proxies for the impacts of the plenary-session articles. The citation analysis of these specific ISVEE plenary-session articles was conducted using the Web of Science<sup>®</sup>. The Web of Science<sup>®</sup> is an internet database that includes the Science Citation Index Expanded (SCIE). The SCIE is comprehensive and indexes more than 5900 science journals. The SCIE also captures all the cited references within indexed articles, thus providing the means to allow ISVEE author citations to be searched.

Plenary-session articles and author(s) were identified for each set of ISVEE proceedings. For each such article basic bibliometric details were collected (title, author, year of publication in proceedings, and page numbers). Authors were then used in a cited-reference search on the Web of Science<sup>®</sup>. A span of 4 years was chosen as the time frame for reference selections. This 4-year span included the year of the ISVEE meeting in which the article was presented and the 3 years immediately following the meeting. We examined all search results for authors individually. Duplicate records or cited articles that were not related to work presented in plenary-sessions of specific ISVEE proceedings were not included in the analysis. To ensure an accurate count for each search, hardcopies of any articles that could not be accessed through the website were obtained manually or by inter-library loan and examined for relevance to the analysis.

We organized the articles by topic to measure the number of citations by plenary-session article topic. Topic categories for this analysis were developed using key words associated with the published plenary-session articles and by striving to use a scheme similar to the categorization of ISVEE proceedings. Topic categories included: animal welfare; companion animals; economics and finance; education and curriculum; epidemiological methods, models, and information systems; epidemiological overview; and food safety. All plenary-session articles were classified into one of these groups. One article from ISVEE IV was double classified.

### 3. Results and discussion

Of 99 ISVEE plenary-session articles published from the nine ISVEEs between 1976 and 2000, 37 articles were cited a total of 187 times in other refereed literature (Table 1). When comparing citation statistics between ISVEE proceedings, some ISVEE proceedings had a greater impact on the subsequent literature (Table 1). For example, eight articles from plenary-sessions at ISVEE VII were cited a total of 75 times. Similarly, seven of the plenary sessions from ISVEE VI were cited 49 times. Five of the plenary sessions from ISVEE IV, cited 22 times, also had an important impact on the subsequent published

Table 1  
Citation analysis summary

ISVEE proceedings	No. of plenary-session articles		
	Analyzed	Cited	Total
I 1976	25	1	2
II 1979	10	3	6
III 1982	11	5	7
IV 1985	15	5	22
V 1988	8	2	4
VI 1991	8	7	49
VII 1994	11	8	75
VIII 1997	6	4	16
IX 2000	5	2	6
	99	37	187

Table 2  
Frequency of Topics Cited in ISVEE Proceedings

ISVEE proceedings topic	Total no. of plenary Topics	Total no. of citations per topic
Animal welfare	1	3
Companion animals	2	6
Economics and finance	5 <sup>a</sup>	38
Education and curriculum	4 <sup>a</sup>	10
Epidemiological methods, models, and information systems	21	111
Epidemiological overview	4	15
Food safety	1	7
Total	37	190 <sup>a</sup>

<sup>a</sup> One plenary-session article in ISVEE 4 was categorized two ways (education and curriculum and economics and finance) and three citations were attributed to this article.

literature. Most (54%; 20/37) of the plenary-session articles' topics were related to epidemiological methods, models, and information systems (Table 2). Similarly, the most-cited category of articles (Table 2) (111/187) was "Epidemiological methods, models, and information systems". This is consistent with the general scope and mission of ISVEE meetings.

Many of the plenary-session topics were considered "state-of-the-art" at the time of their presentation and might have represented the first published work on the subject. The likelihood of a time lag from publication of the plenary-session article to subsequent citation by other authors is also recognized. Thus, it is important to recognize that plenary-session articles from more recent meetings such as ISVEE VII and IX are likely to continue to be cited.

We acknowledge several potential pitfalls in inferring the impact of proceedings using citation analysis. Mistakes in the citations of page numbers, volume numbers, and similar bibliographic information might have prevented location of some relevant citations. Rarely, there was not sufficient information provided in the citation to locate a plenary-session article. In addition, some citations might not have been located because the Web of Science<sup>®</sup> only indexes the highest-impact journals in a discipline.

When authors cited research presented at an ISVEE meeting, an unambiguous connection was established between the archived work and their current research. Others have described acknowledgements of a previous information source, in this case an ISVEE proceeding, as an "intellectual debt" (Merton, 1983, p. vi; Kochen, 1987, pp. 54–64). Certainly, authors who referenced work from ISVEE proceedings demonstrated that the writer did find the information presented in a particular proceeding useful.

#### 4. Conclusion

Of 99 ISVEE plenary-session articles published from the nine ISVEEs between 1976 and 2000, 37 were cited a total of 187 times in other refereed literature. Articles related to Epidemiological methods, models, and information systems were cited most frequently (111/187).

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