

SERVING UP SURVEILLANCE DATA : WHAT TO DO WITH IT ONCE YOU HAVE COLLECTED IT

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La surveillance est un processus continu de collecte, d'analyse et d'interprétation d'événements relatifs à la santé qui est ensuite suivi d'une diffusion régulière des résultats aux responsables de la programmation, de la mise en place et/ou de l'évaluation des mesures de prévention. Les données de surveillance sont rassemblées afin de fournir une information sur l'extension d'une maladie, sur ses caractéristiques et/ou sur ses conséquences. La conception et la mise en oeuvre d'un programme de surveillance, qui se concrétise par la récolte et la synthèse de données utiles ne signifie pas que le programme est arrivé à son terme. En réalité, à bien des points de vue, il s'agit seulement de son début. Les programmes de surveillance doivent fournir régulièrement des informations utilisables aux responsables de la santé animale et aux autres utilisateurs de données de surveillance.

L'objet de cette communication est de discuter l'utilisation des données collectées au cours de l'étude "Porc'95" du Département américain de l'Agriculture. Cette étude nationale est réalisée tous les cinq ans et sert de système de surveillance pour la filière porcine américaine.

Les stratégies de production des données de surveillance collectées via le système national de suivi de la santé animale (NAHMS) impliquent une sortie rapide des rapports et une large diffusion aux bénéficiaires, des liens stratégiques avec des segments clés de la filière, et une capacité à retrouver rapidement les données utiles pour répondre efficacement aux demandes.

INTRODUCTION

The USDA's National Animal Health Monitoring System (NAHMS) represents an important effort of public veterinary medicine to adapt to and meet new needs of the rapidly changing food animal industries and demands of the public. The availability of scientifically and statistically reliable information is essential to the improvement of the health and productivity of the national swine herd and to the maintenance of domestic and foreign markets [Gardner, 1995]. The cornerstone of the NAHMS program are the national commodity studies which collect health, management, production, and biological data on farms using probability sampling methods. Complex analysis methods are applied for estimation to the national population [Dargatz, 1996].

For swine, national baseline studies are conducted at five year intervals for surveillance purposes. Surveillance data is useful for defining the health status of a population, assessing disease patterns, evaluating intervention programs, and conducting research [Eylenbosch et. al, 1988; Teutsch et. al., 1994]. Surveillance is an ongoing process of collection, analysis and interpretation of health related events followed by timely dissemination of results to those involved in the planning, implementation, and/or evaluation of preventive measures [Bush, 1995]. The dissemination of processed information derived from collected data to users and the linkage of results to decision makers completes the surveillance process. Without this latter stage where surveillance data is linked to action the surveillance system is incomplete. [Thacker & Berkelman, 1988b]. The linking of the collection and analysis of health data with action is one of the key features distinguishing surveillance activities from epidemiological studies. Surveillance data therefore must be both relevant and timely [Teutsch et. al., 1994].

To ensure the collection of relevant data, NAHMS has developed a well defined mission and an effective needs assessment phase. In addition, the NAHMS program has developed an array of mechanisms to encourage the output of information on a timely basis. Information generated from the NAHMS program is broadly disseminated via mailing lists, is shared with users via strategic linkages, and is available to the all others via an ad hoc response system. The effective output of surveillance data is critical to users of the information who rely on objective data for decision making and policy development. In addition, it is important to those who benefit from the information for educational purposes.

BROAD DISSEMINATION

Objective information on swine health at the national level is useful to a host of groups including producers and veterinary practitioners and their respective organizations, pharmaceutical companies, researchers, Extension service, and other affiliated groups. Thus it is important to garner a wide distribution of surveillance data in multiple formats on a rapid basis. Toward this end, NAHMS staff maintain a mailing list for each commodity. Of the more than 1700 names on the swine mailing list, over one third (37%) are university researcher; one fourth (25%) are with the State or Federal Department's of Agriculture; nearly one tenth are private practitioners (10%) or producers (9%); with the remainder consisting of media, Extension service, and other interested parties.

To reach such a broad audience, information is put out in multiple formats. Reference reports contain a comprehensive set of national estimates for each of the health, management, and productivity indicators used in the baseline questionnaire. Where appropriate, estimates are broken down by herd size or region. These

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numerically intense tabular reports are targeted for technical users and useful for decision making and policy formation. These users, such as industry organizations, pharmaceutical companies, and researchers tend to be interested in industry level information and national trends [USDA, 1995; USDA, 1996]. Infosheets communicate findings in a narrative fashion with only a few tables or graphs illustrating the key points. They are directed toward a non-technical audience. The single sheet covers a specific topic such as biosecurity practices, trends in preventive practices, or prevalence of PRRS [USDA, 1997]. Extension agents, academia, private practitioners, and allied businesses find Infosheets useful for educating producers, students, and employees.

STRATEGIC LINKAGES

The importance of surveillance data being linked to action necessitates the formation of strategic linkages with key stakeholders. A surveillance system can not depend on broad dissemination of information alone but must put in place more formalized relationships with users, particularly the media and analysts. Staff technical writers have developed relationships with media personnel including editors of trade journals. Press releases are used to announce availability of new NAHMS publications which are then picked up by the media.

Information from the Swine '95: Baseline study have been published in at least a dozen different trade magazines reaching producers and practitioners and in other industry journals on numerous occasions. These publications reach hundreds of thousands of subscribers that would not otherwise be exposed to the information. Thus, strategic linkages formed with media contacts amplify efforts to broadly disseminate surveillance information [Teutsch, 1994]

Formal linkages with analysts allowing access to collected data for additional analysis of biological samples and data sets have played a vital role in the dissemination of surveillance information from the national swine studies. Such linkages broaden the scope of analysis beyond the capabilities and resources available with in NAHMS alone; they expand efforts to build bridges through out the industry; and increase the scientific credibility of the disseminated information by the appropriate analysis and interpretation of data by established experts. The tools available for creating linkages include cooperative agreements, Memorandum of Understanding (MOU), grants, and other binding contracts [Brachman, 1991].

Linkages with researchers at universities, other government agencies, pharmaceutical companies, and other private laboratories have been used to establish prevalence data and associated management factors for PRRS, *Toxoplasma gondii*, *Trichinae spiralis*, *Yersinia enterocolitica*, *Campylobacter* spp., and *Lawsonia intracellularis*.

AD HOC INFORMATION REQUESTS

A successful surveillance system should also be capable of rapid data retrieval for ad hoc information requests. Elements of rapid data retrieval include easy access to a point of contact, adequate understanding of the request, comprehensive identification of available data sources, and the ability to rapidly compile and deliver the appropriate information.

Since the completion of the Swine '95: Baseline study, NAHMS staff have received over 1000 ad hoc requests for information from university researchers, allied businesses, private practitioners, and many other users. Responses are made by mail, electronic fax, or manual fax of NAHMS publications, reprints of related scientific articles, or customized data tables.

Both the commodity support analyst and technical writer serve as points of contact for ad hoc requests for information. There are multiple avenues to a personal contact including mail, phone with voice mail capabilities, electronic mail, or personal contact at professional meetings and conferences. The ability for self-service access to data summaries via the World Wide Web (WWW) reduces the burden of simple responses for the point of contact.

Well trained staff are needed for an adequate understanding of the true information needs of the user. Staff serving as initial contact point need to have a basic understanding of scientific terminology, knowledge of information already summarized, and availability of additional technical support for more involved requests. Rapid data retrieval by the commodity support analyst are enhanced by electronic storage of data, effective documentation of available data sets, including their creation, validation, editing, and final contents. 'Canned' query programs are useful for data sets accessed often for similar types of queries.

CONCLUSION

Surveillance programs can not only collect, summarize, and occasionally publish results, but must incorporate effective mechanisms to ensure the data is acted upon. Strategies for the output of surveillance data collected via the National Animal Health Monitoring System (NAHMS) involve rapid generation of reports with wide dissemination to beneficiaries; strategic linkages with key segments of the industry; and rapid data retrieval for ad hoc information requests.

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