Collaborative information system for PRRS management: From farm to cell phones

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Introduction

The availability of an efficient PRRSV monitoring information system for a large scale project remains a major issue. The purpose of this paper is to present the system developed by CDPQ to support Quebec's province-wide PRRS monitoring effort (3000 sites).

Materials and Methods

Conceptual framework

The system has three main components: 1) the database system, 2) a data collection and management tool[1], and 3) an information delivery system adapted to clients (producers, veterinarians, laboratories and the University of Montréal's research department).

Each information system partner (producers, veterinarians, laboratories and researchers) has its own database that communicates and shares specific data with the other databases (see figure 1). This structure, which does not have a central database, guarantees high quality data in the system at the lowest cost (no intermediary).
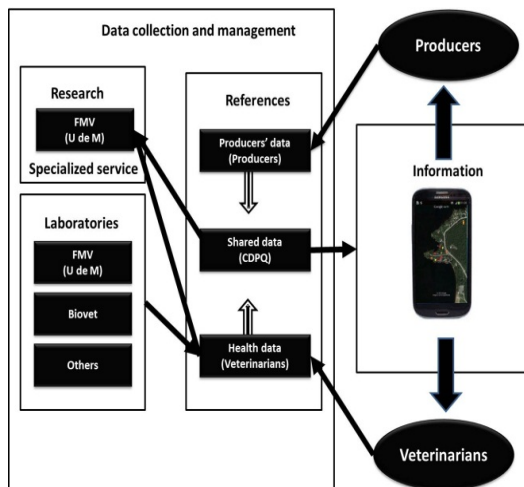
Figure 1. Operational framework of the information system

The data collection and management tool gathers the data and inputs it into the information system. CDPQ, an independent third party, manages this tool. This data management tool is built on Microsoft SQL server and comprises two data collection tools (data importation facilities and web-based data validation and import tools).

All the data obtained from various sources is then used to produce information for clients (producers, veterinarians and other consultants involved in swine health management). Information is transferred to specific clients through Dropbox linked to their cellphone, tablet or pc.

Technology

The technology to support this system is based on freeware. Moreover the technology is compatible with most platforms (Android, IOS and Windows).

Ownership and control

This system allows the producer (owner of the pigs) to have full control over the entire system. At any given time, a producer can display basic health-related information on a cellular phone, and see who has access to the information on his sites.

Shared information

The information currently shared comprises: statistical reports about PRRS status and virus strains in the area; and geographical maps which indicate the location of the production sites, the type of production and the health status of the sites. Different levels of confidentiality are offered, depending on what producers want.

Results

This monitoring system facilitates analysis of the PRRS status profile of a group of farms or in a region. It can also be used to monitor other types of disease (Porcine Epidemic Diarrhea, Influenza, etc.).

The system lets the producer, herd veterinarian and technical staff share strategic and standardized information between themselves, as well as within the community projects framework.

It also allows the optimization of the efficacy of the work being done by the teams on the field.

Finally, it provides information to researchers involved in disease control projects.

Cost of the system

The anticipated cost of running this information system should be less than CAD 100 per client per year.

Conclusions and Discussion

We are entering a new era where smartphone technology and apps will be widely used.

CDPQ believes this low cost collaborative information system for monitoring PRRS provides a sustainable template for disease control initiatives in the province and elsewhere.

References

1. Portail et Zoom santé du CDPQ, copyright 2013