

# Customisation of a wiki for Animal Health Australia to provide secure online document development and act as an online repository for non-public animal health program information

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## ABSTRACT

Australia's *Animal Health Surveillance Quarterly* report (AHSQ) is an output of the National Animal Health Information System (NAHIS). The NAHIS is managed by Animal Health Australia, a not-for-profit public company established and funded by the Australian, state and territory governments and major Australian livestock industry organisations. The AHSQ includes contributions of text from multiple contributors and is produced to a very tight schedule. The recent inclusion of an additional external scientific editing step made deadlines increasingly difficult to meet, and ways to improve the efficiency of production were sought. This paper describes the use of a wiki by Animal Health Australia to manage the external collaborative development of the AHSQ and other documents.

## KEYWORDS

wiki, animal health information system

## INTRODUCTION

Australia's *Animal Health Surveillance Quarterly* report (AHSQ) is now in its thirteenth year of production and is an output of the National Animal Health Information System (NAHIS). The NAHIS is managed by Animal Health Australia, a not-for-profit public company established and funded by the Australian, state and territory governments and major Australian livestock industry organisations. The AHSQ includes contributions of text from between 15 and 25 people and, in order to be both timely and subjected to the required levels of review and approvals, is produced to a very tight schedule. For more than 10 years, contributions were managed via the emailed circulation of Microsoft Word documents, but with the recent inclusion of an additional external scientific editing step, deadlines became increasingly difficult to meet, and ways to improve the efficiency of production were sought.

## USE OF A WIKI FOR COLLABORATIVE DOCUMENT DEVELOPMENT

A wiki is 'a website that uses wiki software, allowing the easy creation and editing of any number of interlinked Web pages, using a simplified markup language' (Wikipedia, 2009). Many wiki software packages exist. Of these, PmWiki was selected for use by Animal Health Australia because: 1) it is compatible with the company's existing information technology infrastructure (programming language: PHP); 2) it is open source software, so can be tailored to meet Animal Health Australia's particular needs; and 3) it is free. PmWiki has been customised as Animal Health Australia's wiki and is now an ancillary application within the NAHIS. The NAHIS is described in the companion papers *Animal Health Australia's National Animal Health Information System: A Web-Based System for the Submission, Analysis And Display Of Australian Animal Health Data* (presented by JM Hutchison) and *Managing Cost and Promoting Sustainability in an Animal Health Information System: Technical Aspects of Animal Health Australia's National Animal Health Information System* (presented by AR Cameron); its structure is shown in Figure 1 (below).

Each issue of the AHSQ consists of a number of articles followed by a series of tables summarising national animal health data. A group of pages is created in Animal Health Australia's wiki for each issue, with each article assigned its own wiki page (note: the original animal health data is not managed in the wiki). The chore of setting up new wiki pages each quarter is minimal due to the development of a mechanism that automatically generates the pages based on predefined settings. Once the pages have been created, the text for each article is loaded into the relevant wiki page by its author. Initial editing and first and second rounds of review of the text is conducted in the wiki.

## **Security**

Public wikis typically are visible to all internet users and there may be limited or no restrictions placed on alteration or creation of wiki pages. However, many wiki software packages (including PmWiki) allow control of page visibility and editability.

Read access to most of Animal Health Australia's wiki is restricted to authorised users registered with the NAHIS. A batch permissions manager (customised for Animal Health Australia) is used to provide individual users or groups of users (wiki groups) read, edit or attach permissions to one or more wiki pages or wiki page groups. Management of wiki groups occurs in the NAHIS. The batch permissions manager enables changes to page access permissions to be made quickly and easily. This is essential as, although the 'read' permission for AHSQ pages remains constant, the 'edit' permissions must change as the issue moves through the editing and review process.

## **Editing pages**

Edits or additions to the wiki's pages require the use of simplified markup language to identify headings and apply formatting. Although word processor to PmWiki 'converters' are in development, none are currently available and text copied directly from word processing programs to the wiki loses its formatting. This can annoy contributors but is a useful feature for the editors, who do not have to cope with issues of merging documents or competing style sets as can occur when word processing programs are used to combine documents. The AHSQ uses four heading levels, bolding, italics and dot points; most contributors quickly learn how to apply these features to their text.

## **Reviewing**

A feature of wikis is the ability to view a page's history. Often, when a page's history is viewed, the text of the changed paragraph is shown along with the previous version of the paragraph. The date of change and identity (if collected) of the user responsible for the change are also listed. In addition, an option is provided to restore the text to the previous version.

We found that PmWiki's 'History' feature did not provide sufficient detail to enable AHSQ authors to easily determine where edits had been made to their articles, so a 'View Changes' feature was developed for the wiki. This new feature provides two methods to examine changes or edits made to a page. In each method, the reviewer must select a version to examine (a new version of the page is created each time the page is saved). When 'View Changes' is selected for a page, a listing is provided of the page's versions, identifying the person responsible and the date and time of the change. The 'All' comparison method compares the selected version of the document with the current version, displaying all changes made by all users (including the version selected). The 'Single' comparison method compares the selected version with its preceding version. The changes are displayed in a format that is similar to that used by Microsoft Word's 'track changes' feature.

After initial editing, the AHSQ is subjected to review by persons who have read, but not edit access to AHSQ wiki pages. These people make use of PmWiki's 'comments' feature to add remarks or ask questions of the authors; the comments do not form part of the page's text and so are readily visible to the authors and other readers.

## **Extraction from wiki**

The AHSQ text must be extracted from the wiki and prepared for printing in a commercial publishing application. A 'Full Document' feature was developed to display text from all component AHSQ pages in the group on a single 'Full Document' html page. The full AHSQ text is then copied from the 'Full Document' page and pasted into the desired application for final processing.

## **ADDITIONAL USES OF THE WIKI**

### **Information repository**

The ability to attach files to wiki pages and to limit access of wiki pages (and portions of wiki pages) to viewing by users assigned to particular wiki groups has expanded the use of the wiki beyond that of collaborative document development. The wiki is used as a repository of non-public animal health program information. As shown in Figure 1, the NAHIS currently contains three applications associated with animal disease surveillance programs: NAHIP application (National Animal Health Information Program); *NAMP Info* (National Arbovirus Monitoring Program); and EDIS (Endemic Disease Information System). The wiki now contains page groups for each of these animal health programs, with read access to each group of pages provided to all users assigned to the animal health program's wiki group. However, edit and attach accesses are limited to the program manager and NAHIS administrator. Documents attached typically include business

plans, standard operating procedures, budget documents, meeting documents (agendas, records of meeting) and other reference material and reports.

## Dynamic content

The inclusion of the wiki in the NAHIS means that the results of database queries developed in any of the animal health program applications can be displayed on a wiki page, with the data being generated at the time of wiki page request. This feature has been used to ensure the currency of data summarised in Animal Health Australia's disease information sheets, which are wiki-based. Their maintenance is an ancillary application in the NAHIS and is described in the companion poster *A web-based system for ongoing maintenance of Animal Health Australia's information sheets for animal diseases* (by R Gordon).

## CONCLUSION

Incorporation of the wiki into the NAHIS has ensured that the AHSQ is consistently produced according to schedule. The wiki is a valuable aid in animal health program management, and plays a key role in supporting Australia's animal health information sheets.

## REFERENCES

PmWiki: <http://www.pmwiki.org>

Wikipedia. (2009). *Wiki* [online]. [Accessed 15 June 2009]. Available from World Wide Web: <<http://en.wikipedia.org/wiki/Wiki>>.

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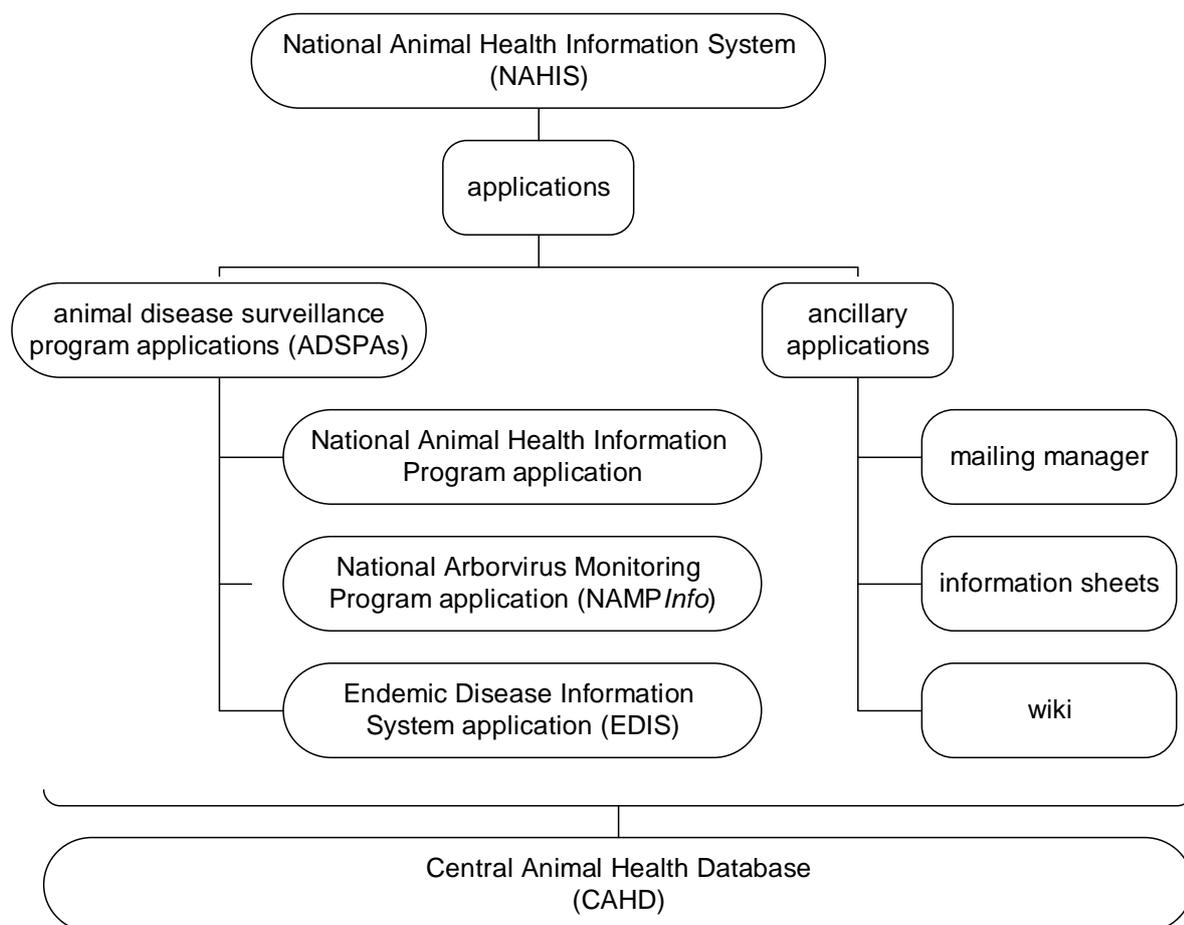


Figure 1 Structure of Animal Health Australia's National Animal Health Information System