

# Where in the world are we going to get the poultry vets needed for the future?

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As we know, the undergraduate veterinary course does not produce veterinary graduates immediately able to work effectively in the modern intensive poultry industry. The range of competencies which an avian veterinarian will require in his professional work is extensive (Fig. 1).

Veterinarians are the health professionals of the poultry industry. The major responsibilities of veterinarians working with the companies in this industry include ensuring both optimum poultry health welfare during

production and that poultry products are safe for human consumption.

Poultry meat and eggs are a major source of high quality animal origin protein in the diets of people in all countries, whether economically developed or still developing.

In the next few decades, the world's poultry industry will continue to increase its productive capacity, with the largest increases in economically developing countries such as Brazil, Mexico and China. Other countries such as Iran, Turkey and Eastern European countries are also likely to emerge as significant producers.

At this time, the levels of international trade in poultry products will also be rising, needing enhanced quarantine activities in attempts to prevent spread of major infectious diseases along with this trade for example vv infectious bursal disease, HPAI and virulent NDV. Public health concerns about poultry and food safety also increase

in those countries importing product from countries with developing economies and less certain food safety practices.

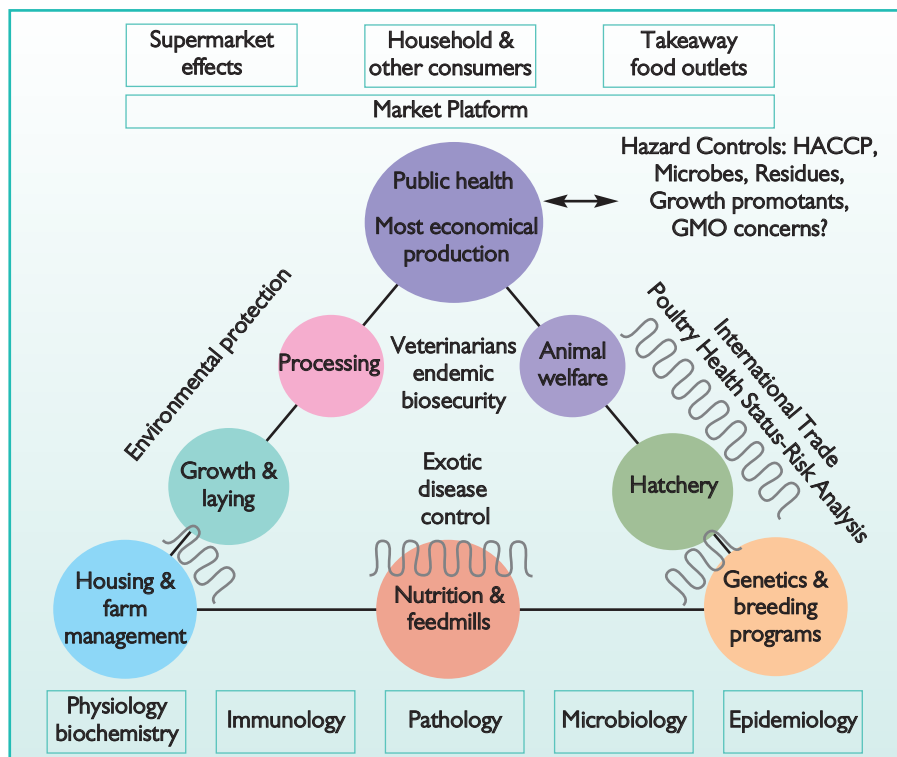
While the previous paragraph refers to major trends, it is critical to keep in mind that the major role of most avian veterinarians in intensive poultry production is to maximise productivity (and hence company profitability) by optimising poultry health.

A contemporary analysis of data available from the USA poultry industry shows that health related economic losses are still running at some 8.2% of the GVP for poultry production.

These figures include losses from mortality, reduced production and condemnations, the cost of vaccinations and chemotherapy and the cost of regulatory functions.

Indeed it is those disease costs and treatment option costs for diseases endemic in the poultry industry, such as respiratory, immunosuppressive and gut associated infections and their interactions with the production environment, which are major causes of erosion of profitability of commercial poultry businesses worldwide.

**Fig. 1. The range of professional competencies which will be required of avian veterinarians to operate successfully in the modern intensive poultry industry. Success in apex activities will directly affect company performance in the market.**



## Clear understandings

Continually evolving and being the fastest growing globally of the agri-industries, the modern poultry industry expects the professional operations of its veterinarians to be able to provide companies with information and the best practices currently available.

Indeed all of the recognised professions work towards ensuring that this need can be met by their members, by having each of their practitioners undertake Continuing Professional Education (CPE).

So how can avian veterinarians go about the accessing of CPE?

Options available will include reserving time for the regular reading of industry technical and related scientific journals. Another good option is participation in intensive seminars or workshops focused on key topics, for example hatchery management, serology, vaccination or aspects of food safety. Professional association scientific meetings and regional poultry health and welfare group discussions are other options.

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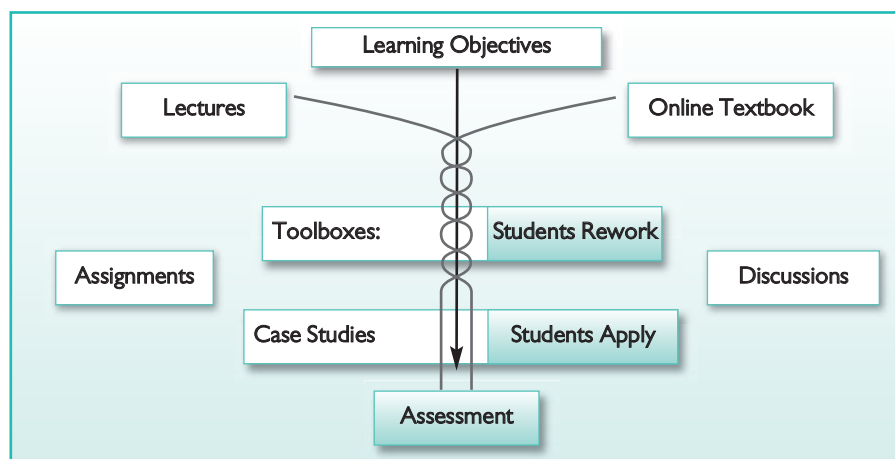
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Each of these forums will have strengths, but, by their natures, none can provide a systematic or sustained coverage of the range of activities needed for the job role(s) of the avian veterinarian (as Fig. 1).

To meet needs for CPE for avian veterinarians, while remaining in their usual employment, a special purpose CPE learning system has been developed.

Avian Health Online is an interactive online course which can be found at [www.avianhealthonline.vet.unimelb.edu.au](http://www.avianhealthonline.vet.unimelb.edu.au).

It has been offered through the University of Melbourne since March 2006 for veterinarians working in the global poultry industry and is focused on ensuring clear



**Fig. 2. The educational system for encouraging 'Active Learning' within Avian Health Online, with student learning and assessment activities highlighted.**

understandings of poultry pathogens and disease prevention as key tools in maximising productivity. Its development was begun by the University of Melbourne's Faculty of Veterinary Science in 2004-5 with financial support from the Australian Poultry Corporate Research Centre. Since 2008 Avian Health Online has been developed along with assistance in academic delivery, through active collaboration by Melbourne University's Faculty of Veterinary Science with counterpart academics from the Poultry Diseases Research Centre, Athens of The University of Georgia, USA.

The Avian Health Online course for the degree award of Master of Avian Health & Medicine was formally ratified by the Board of Regents of the University of Georgia in March 2010. It will be presented as a Masters degree which is joint badged by both universities from March 2011.

The AHO course is made up of component subjects or 'units'. The 16-week study units progressively build on what has been learnt in earlier parts of the course:

- Unit 1. Poultry Industry Fieldwork.
- Unit 2. Poultry Pathology and Diagnosis of Disease.
- Unit 3. Microbiology and Serology in Disease Control.
- Unit 4. Product and Public Safety, Trade and Economics (poultry).
- Unit 5. Advanced Poultry Diseases Studies.
- Unit 6. Research Project.

A Postgraduate Certificate in Avian Health (Units 1 and 2) can be completed with one year of part-time study. The degree of Master of Avian Health and Medicine (MAHM) requires a minimum of three years part-time study to complete all six units.

A new intake of students into the Course occurs in March each year.

Since the University of Melbourne began delivery of Avian Health Online in March 2006, a total of 22 avian veterinarians (from 12 countries), and including nine from Australasia, have successfully completed requirements for the Postgraduate

Certificate in Avian Health, while 13 are currently undertaking higher level studies for the degree of Master of Avian Health and Medicine. The first Master's graduates from the University of Melbourne will complete their courses in December 2010.

## How do students learn?

The main elements are illustrated in Fig. 2 using Unit 2 (Pathology) as an example learning unit.

For every topic within a weekly study module, the learning objectives are clearly stated. The lectures are tightly scripted, with minimum text which has been designed on the basis of 'need to know' information for that topic. Depending on the needs of the topic, text can then be supplemented with images, simulations, animations, video or audio. Online resources such as a special-purpose pathology textbook (or in unit 3, a microbiology electronic reference text) are part of the course learning materials.

Students in a class will then work to apply their learning to case studies, which will be based on real-life cases and scenarios. These answers are submitted to a tutor, who will provide feedback to the individual student, or to all in the class via an on-line forum for that class. The learning progress of each student is checked and then formally assessed via testing each four weeks (again with feedback to the student). A final examination is conducted at the end of each unit.

The student makeup in a class is always being drawn from different countries. Interaction and networking between the students will be encouraged by the tutor in online class discussions, as are informal contacts between individuals via email.

## Professional registration

The course content is already known to be a good preparation for undertaking the board examinations for the American College of Poultry Veterinarians and the examinations for the membership of the Australian College of Veterinary Scientists.

Formal discussions are soon to be undertaken with both of these professional accrediting bodies, as well as those relevant authorities in the UK and European Union as to recognition of Avian Health Online for accreditation or purposes of preparation for examinations for professional registration.

## What do students think?

Here is some feedback (late 2009) in response to whether the course is meeting student needs and expectations.

● Working in a poultry vaccines company, I need to understand the issues that drive the industry which is my customer. The course is meeting my aims ... (a student from Thailand/Australia).

- I would strongly recommend this program to experienced poultry practitioners who wish to further expand their knowledge base and consolidate their present knowledge .... (a student from the UK).
- I had just started as a poultry vet when I commenced this course. So far (now Unit 4) I have been very satisfied. We have not missed any important subjects ... (a student from Holland).
- With active forums, exercises, specific lectures, case studies and a wide source of references, course attendance gives a veterinarian the chance to bloom in their studies ... (a student from Cyprus).
- Hatchery practice, nutrition, environmental issues and genetics are areas where the

typical veterinarian-pathologist does not have a lot of experience. Unit 1 gives good understanding of the key points ... (a student from Russia).

● My first aim was to increase my abilities to provide fast, precise and correct veterinary advice to management....also to highlight blindspots that we all tend to fall into after years of working. The course is meeting my needs 100% ... (a student from Malaysia).

● The best part of the program is that I did not have to relinquish the job that I love in order to pursue further education in poultry medicine. I can still earn a full-time salary and yet go to school part time ... (a student from the USA). ■