

Human Resource Needs in Veterinary Research: Ideal Speculation

Ole Nielsen

Assumptions

- **Veterinary medicine deals largely with health and disease in vertebrates**
- **Its major fields are**
 - **Food animals**
 - **Public health**
 - **Ecosystem health**
 - **Biomedical science**
 - **Companion animals**

2003 DVM Graduates

- **Private practice** **70 %**
 - Large animal **6 %**
 - Mixed **9 %**
 - Equine **6 %**
 - Small animal **49 %**
- **Public and corporate** **2 %**
- **Advanced study** **26 %**
- **Other and unknown** **2 %**

Assumption

- **Insufficient numbers of veterinary scientists are being educated to meet needs in fields of veterinary medicine of particular importance to society**
- **Biological security has become a critical societal issue**

Reform Veterinary Education

- **Lack the students, mentors and established programs with which to respond adequately unless there is substantial change to veterinary education**

Assumptions

- **Veterinary medicine will adopt an engineering or a “Purdue” model for veterinary education to deal more adequately with all fields of veterinary medicine**
- **Thereby make it possible to establish a fixed enrolment track in comparative medicine (among others) for those students who wish to pursue a biomedical research career**

Comparative medicine

- **The study of phenomena basic to the diseases of all speciesat organismal, population and ecosystem levels and their application in health management.**
- **Basic body of knowledge that characterizes veterinary medicine and is its foundation**

Veterinary Medicine

Small Animals

Equine

Food Animals

Public Health

Ecosystem Health

Biomedical Science

Comparative Medicine

Assumptions

- **Comparative medicine will be the common element in all DVM curricula**
- **Comparative medical research merits high priority**

Goal

- **Educate an independent research scientist in biomedical science and comparative medicine in a 10 year program**

Idealized 10 year program

- **BSc biomedical studies** **2 years**
- **BSc/DVM/grad/research** **4 “**
- **PhD research** **2 “**
- **Post doctoral research** **2 “**

“Purdue plan”

Pre-veterinary BSc program

- **A flexible pre-veterinary biomedical curriculum that complements a track in comparative medicine in the DVM program**
- **Admit to DVM track in comparative medicine after 2 years**

BSc project

- **BSc program includes an investigative project using a laboratory animal(s) or a species of interest in population medicine in period between DVM Years 1 & 2**

DVM track in Comp. Med.

- **Opportunity to emphasize either organismal or population dimensions**
- **Accommodate PBL where appropriate**
- **Curricular courses emphasize comp. med.**

BSc degree

- **A baccalaureate degree awarded at the end of DVM Year 2 or after an additional year in a science to acquire an intercalated B.Sc. degree that compliments career aspirations**
- **Enroll in MSc/PhD and commence graduate program in summer recess between DVM Years 2&3 and 3&4)**

Undergraduate clinical rotations

In DVM years 3 and 4

- **Emphasize laboratory animal medicine or a field in population medicine**
- **Located within a CVM and/or in appropriate programs of institutional partners**

DVM and Research Degrees

- **DVM degree in a comparative medicine track after 6-years**
- **Complete PhD degree 2 years after DVM, i.e.after 8 university years**

Postdoctoral Research

- **Undertake 2-year post doctoral research**

Conclusion

- **Independent principal investigator after 10 preparatory years**
- **A first year DVM student entering such a program this Fall would finish in 2012**