

EXPERT PANEL REPORT

RESEARCH EVALUATION OF THE DEPARTMENT OF VETERINARY CLINICAL SCIENCES (IKV)

- Overall assessment of the research quality and recommendations for the future.

Based on the department's self-assessment report and the expert panel site visit in Copenhagen, November 20-23rd, 2017.

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INTRODUCTION

The veterinary area at the Faculty of Health and Medical Sciences at the University of Copenhagen (UCPH-Health) is the only place in Denmark which offers pre and post graduate veterinary medical education. The Department of Veterinary Clinical Sciences (DVCS) contributes nationally and internationally through teaching, research, innovation and dissemination. The Department employs approximately 160 persons (full-time equivalent; FTE) and is located at two campuses 25 km apart: Frederiksberg and Taastrup. The Department is organized in five scientific sections and two integrated University of Copenhagen veterinary teaching hospitals (UCPH-VTH-CA and UCPH-VTH-LA):

Scientific Sections

- Large Animal Medicine and Surgery
- Veterinary Reproduction and Obstetrics
- Companion Animal Medicine, Oncology, and Veterinary Clinical Pathology
- Companion Animal Surgery, Neurology, and Cardiology
- Veterinary Imaging

Hospitals

- Large Animal Teaching Hospital (UCPH-VTH-LA)
- University Hospital for Companion Animals (UCPH-VTH-CA)

Overall, the panel would like to congratulate the department on their research activity and also thank them for the clear and well-presented documentation. The panel would like to highlight that, although two departments, we would encourage the faculty to work hard to maintain the identity of the “Veterinary School” as this is incredibly important for stakeholder relations, alumni, staff and students.

The clinical department, and the vet school in general should be considered as a “Jewel in the Crown” of the University and the Faculty. The clinics represent the “front face” of the University, seeing thousands of patients each year and being exceptional ambassadors. There is a rich seam of clinical data for research, that is yet to be realised (because of time pressures and understaffing). The outputs have been exceptional under the circumstances, but a bold strategic vision, with investment in staff and infrastructure could catapult the clinical areas into highly fundable transformational research areas.

1. THE QUALITY AND INTERNATIONAL IMPACT OF THE RESEARCH

Observations

- Despite the paucity of resources internally for research money, there is considerable research output in terms of publications and citations.
- There has been considerable success in obtaining funding from several external sources, both smaller and substantial grants including high profile such as EU, The Danish Council for Independent Research and Innovation Fund Denmark.
- The research is impacting on important societal needs and supports the companion animal, equine and livestock industries.
- The quality of the research is reflected in the high QS ranking of the school and also the reputation internationally.
- The panel noted that the sections are co-operating well, but may be being hindered by being on a split site. This also impacts clinical services such as diagnostic imaging.
- The IVK department plays an enormous role in clinical education which is very labor intensive

Commendations

- Considering the volume of teaching, clinical work and resources for the clinical department, the academic staff are to be commended on their publication output and international standing in clinical veterinary medicine.
- The department should be commended on the enthusiasm and professionalism of its staff. They are highly committed individuals with strong dedication to the vet school.
- The staff were highly complimentary of Asger Lundorff-Jensen's leadership of the department.

Recommendations

- We would recommend that the department develop a bold strategic plan with an ambitious vision for 21st century veterinary clinical research. This should include enabling variables such as staffing, infrastructure and equipment.
- As noted in the SER, the department is in the unique position in Denmark as the only establishment for veterinary clinical research in the individual patient. It has internationally leading experts within specific veterinary clinical disciplines and associated research areas. There is enormous potential to fully capitalize on this if appropriate resources and infrastructure are realized.
- Consideration should be given to resource allocation to the department from the University and Faculty to ensure it's activities can be supported (see details below).
- Scientific themes within the department are appropriately reflected by the expertise of the staff and include: clinical animal disease models (cardiac, dementia, epilepsy, diabetes, reproductive, cancer, wound healing, degenerative joint diseases); novel

laboratory (inflammatory, haemostatic, thrombotic), imaging and genetic biomarkers; antibiotic resistance/prudent antibiotic use, and chlamydia vaccine testing model. In addition, highly valuable and important educational research including clinical skills training laboratory, blended learning and other novel training models. The Department should build a bold strategic vision to ensure that it is equipped to build research programmes that will embrace the increasing focus on veterinary precision medicine, preclinical trials in veterinary patients and biomarker development. This will include how it will deal with large data sets and the infrastructure required to manage multiple data sources. This has also been recommended to IVH and a joint strategy would seem obvious for the school as a whole.

- We would recommend building collaboration further with the IVH and this could be supported by “pump priming” small awards for collaborative research or having joint PhD students.
- The importance of educational research is being realized in all veterinary schools world-wide. To retain competitiveness in this field, and to enhance the student experience, we recommend that consideration is given to enhancing the staffing in this vital area of vulnerability.

2. RESEARCH-BASED EDUCATIONAL ACTIVITIES

Observations

- The department has a strength in teaching and there is good alignment of teaching and research activity
- The staff members perform a huge amount of highly intensive clinical teaching. The costs of veterinary education are weighted in the clinical department and this puts a huge burden on the staff and resources. The department is severely under resourced for teaching activities and this means there are less funds available for research. It also means that the staff are stretched in terms of time they have for research activities.
- There is a strong masters programme which is also a CE/CPD activity for systematic continuing professional development and supports clinical activities and finances with at least 3 FTE.
- The concept of intern/residency programmes and the importance of European Boards is not being realized in the clinic. This creates a risk that the clinical department will lose it's competitive edge nationally and internationally.

Commendations

- The staff are commended for the balance they attain in clinical work, teaching and research. This represents dedication to the overall programmes.
- The quality of the PhD students and residents are excellent

Recommendations

- There is a need to review the allocation of budget for teaching in the department. It is significantly under resourced and requires investment in new appointments, equipment and infrastructure. The lack of investment is detracting from the staff realizing the true potential of research and preventing a stronger research programme, based on the rich seam of clinical data being generated by the clinicians.
- We recommend building a vibrant Intern/Residency and PhD community and embedding this across the clinical disciplines. This would support staff, promote a positive research environment and ease the pressure within both hospitals. This will require infrastructure investment and the possibility of actively recruiting clinical academic diploma holders to positions within the hospital to drive this initiative. We realize the investment required, but it would be a false economy and a significant risk not to move in this direction.
- The current training for residents or PhD's is severely restricted by the lack of investment in equipment. For example, imaging equipment is becoming obsolete and the requirements of research and training will mean significant investment in technologies such as multi-slice CT scanning, MRI and Radiotherapy. If this is not done, then there is a risk to losing competitiveness. Local practices to the hospital are offering a service with much better equipment, meaning that the hospital will lose business and research opportunities.

3. PRIVATE AND PUBLIC COLLABORATION

Observations

- The department has performed well with external private and public partnerships as evidenced in the SER documentation. This has included partnerships with private practices, industry and government bodies. The University and School has a strong brand and, coupled with its innovative and enthusiastic staff, has the capacity to grow the collaborations much further.
- The opportunities could be limited by the smaller number of staff trying to complete too many tasks. This is a large risk in a funding environment that has fewer opportunities for veterinary research.
- There is a potential for broader collaboration regarding production animal diseases, both with groups at IVH (HERD and epidemiology) and with industry. This area seems under-developed and somewhat fragmented, particularly when considering the importance of the livestock industry to Danish economy. Residency programs to train skilled clinicians in large animal diseases could be an important part of the "preparedness" part of the surveillance activities from 2020

Commendations

- The Department is to be commended on its approach to external partnerships and its innovation in driving this agenda.

Recommendations

- The funding environment for veterinary research means that external partnerships with industry and the public sector will become far more important. The reputation and quality of the staff mean that the department is in an excellent position to capitalize on opportunities with industry. This could include consultancy work, research partnerships with private practices, and key industrial partnerships with the major animal health and nutrition companies. However, the rate limiting steps in capitalizing on this include the limited scope for extra work by an already over stretched staff. As part of the recommendation for a bold strategy for growth, we include here further evidence that investment in people could be highly cost effective in driving research-led external opportunities. Members of staff report that they have had to turn down lucrative industry work because of a lack of staff and time to deliver on projects. There is a clear need to look carefully how this can be rectified.
- A further bottle-neck is the speed at which the school is supported by the technology transfer office. This is reported to be painfully slow and this needs to be rectified as a matter of urgency.
- In a new strategic plan, consideration should be given to investment in a clinical trials coordinator to support staff who could capitalize on significant opportunities with the animal health industry.

4. IMPACT AND INNOVATION

Observations

- The research work of the staff is both innovative and impactful
- There is little or no departmental funds for research projects and the staff have been incredibly innovative in terms of identifying small pots of funding for research and utilizing opportunities with masters and PhD students.
- The research is internationally competitive but is hindered by time, funds and infrastructure.
- Although there is clear evidence of impact in the SER (and by reputation), there is little evidence that the department promotes this internally and externally.

Commendations

- The department is commended on the quality and impact of its research

Recommendations

- The impact on society and clinical practice should be highlighted at a very high level and publicized on web pages and through social media. The University should be proud of this incredible resource embedded within its structure, and the vet school needs to be bolder about its achievements and potential.
- Consider building a series of “impact case studies” that could be publicized/published on the website is worth consideration.
- Promoting the importance of the veterinary school and veterinary education at government level should be a high priority for the University. The importance of food security and the financial benefits of a robust livestock industry should be easy arguments to make. Equally, the importance of disease preparedness for Denmark is equally obvious. The economic importance of companion animals to the Danish economy should also be made (as an example, the companion animal market in the UK is worth £5 billion to the UK economy).
- Innovation is becoming hindered by the lack of investment in technology in the clinics (as described below). We recommend that a bold strategy would include business planning for investment in technologies (e.g. imaging) that would allow a significant enhancement in opportunities for innovation in clinical research. The school has a unique position in oncology, and an investment in radiotherapy infrastructure could have a massive impact on clinical income and research opportunities. In all of these investments in large infrastructure there has to be acceptance that there is high initial costs, but long term gains to be had that are both financial and reputational. This would also enhance collaboration across Sund and also with external private and industrial partnerships.
- Consider convening a small technology and innovations group, which would be responsible for horizon scanning technologies and advising the department on future investment strategies.

5. GOVERNANCE AND ORGANIZATION

Observations

- The new department would benefit from having a clear research strategy and direction based on its vision, current expertise and in sympathy with the clinical expertise and educational programmes of the school. A bold vision of strategic growth with investment in staff and infrastructure would place the school in a highly competitive position.
- After large organisational changes, it is important to ensure well-being at work and motivation of the personnel. It is essential to take care of the good micro-environment of the personnel to have the motivation level as high as possible.
- The split site between large animal and small animal hospitals is a threat to a cohesively run department and may have an impact on translational research.

Commendations

- The department is commended on its significant research strengths and innovation of its sections. However, concern was raised by panel members about the high work load of the staff members and the severe risk of stress induced illnesses. This makes the department very vulnerable.
- The staff are commended for their enthusiasm and dedication to the department and Asger Lundorff-Jensen is commended for his strong and compassionate leadership in circumstances of inadequate resources.

Recommendations

- We would encourage the department to develop a risk register which covers succession planning. This is especially important in areas where there is significant vulnerability that could affect teaching and clinical service. As part of the strategy we would encourage investment in recruitment of staff with board certification to allow the growth of a robust intern and residency programme.
- Recruitment and retention of high quality staff needs special attention; especially in areas such as surgery and internal medicine. The loss of staff in the area of animal reproduction represents an excellent opportunity for growth in key strategic research areas. However, we would encourage this group to develop stronger research links with IVH.
- The department would benefit from a more formal and uniform mentoring programme for staff and a robust appraisal system with work-load modelling.
- The University should consider a promotional track for “Veterinary Clinical” staff that is in line with other international institutions. This would allow promotion criteria to be more flexible around supporting clinical excellence and clinical research.
- Consideration should be given to creating a new “joint” hospital environment on a new site. This would bring the department onto one site and drive collaboration and streamline activities.

6. RESOURCES AND CAPACITY

Observations

- The department is filled with highly enthusiastic, motivated and dedicated individuals who are a credit to the University.
- The cost of veterinary education is very high and the bulk of those costs are weighted in the clinical department. However, it is a concern that the department is under resourced for these activities.
- The hospitals should be considered as an excellent resource for the University. It is the public face of the University and is an incredible source of patient-related data that could have significant impact on clinical practice. However, this needs to be supported.

- The lack of a residency and intern programme is hindering the progress of the department.
- The split site between large animal and small animal hospitals is a threat to a cohesively run department and may have an impact on translational research.

Commendations

- The department is to be commended on its achievements considering the limited resources available and the high teaching load and clinical commitments.

Recommendations

- Consideration should be given to resource allocation to the department from the University and Faculty to ensure all of its activities can be supported. The allocation of costs should be very carefully investigated by the Faculty to ensure that the department is resourced adequately to deliver on high quality education as well as research. As described above, the value of the veterinary school to the Danish economy should be made to government by the University.
- As described above: We would recommend that the department develop a bold strategic plan with an ambitious vision for 21st century veterinary clinical research. This should include enabling variables such as staffing, infrastructure and equipment.
- A new single site hospital for all species should be considered in an appropriate options appraisal review.
- The closure of the large animal research facilities is of concern and a plan for how large animal research will be managed needs to be developed.