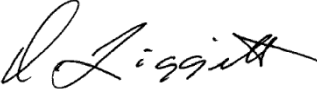


July 23, 2010

To : The Graduate School  
Gerald J. Baldasty, Vice Provost & Dean  
James Soto Antony, Associate Vice Provost & Associate Dean for Academic Affairs  
Thomas W. Gething, Assistant Vice Provost & Assistant Dean

Douglas J. Wadden, Executive Vice Provost, Office of the Provost  
John T. Slattery, Vice Dean for Research & Graduate Education, School of Medicine

From : H. Denny Liggitt, D.V.M., Ph.D.   
Professor & Chair

SUBJECT: Departmental Response to Review Committee Report

Our response begins on page 1. For ease of reference the Review Committee Report written by Dr. Michael Rosenfeld follows on pages 7-10.

**Departmental Response to the Academic Program Review of the  
Department of Comparative Medicine (DCM)**

We sincerely thank the review committee for the time and effort placed in performing this review. Our Department is not a typical academic department so the reviewers needed to take the effort to become aware of the mission and constraints that we operate under. It is to the credit of the committee that members took the extra time and effort to thoroughly assess the strengths and weaknesses of the Department and report the outcome. Because of the care and diligence shown by the committee the DCM faculty considered the review process to be eminently fair and as such concur with their findings. The committee report lists several issues or recommendations that attracted particular attention and which were listed as items 1-6. These will be addressed individually.

1. The Committee unanimously recommends continuation of the DCM MS program with re-evaluation in 10 years. As noted, we think the DCM is "doing what it should be doing and doing it well".

*Response:* The faculty appreciate that the overall unanimous recommendation is to extend the MS program for 10 years. While our program is small it is high quality and uniquely serves an important position in training veterinarians and comparative medical scientists to further

medical research. Our graduates go on to serve the public and private sectors in this state, the nation and the world in this important area where looming shortages of such experts exist.

2. The Committee further recommends that all attempts be made to protect a minimum of 9 months for student research despite the temptation to fill the overwhelming service needs by extending the clinical rotations of the residents.

*Response:* Our residency program is designed to cover a three-year period of clinically oriented training and research. The research component is oriented to partially qualify students (in addition to course work) for the MS degree and eligibility for board-certification - both of which require a first-author research publication. We agree that a minimum of 9 months of focused research activity is necessary to achieve this goal and commit to providing the time and funding to accomplish this.

3. We also recommend immediate addition of new faculty, in particular someone with training in veterinary pathology and provision of new space as soon as it becomes available.

*Response:* Two of the largest issues facing our Department are contained within this recommendation. The first is the limited numbers of faculty members that we have and the second is the inadequacy of our research and office space. While we are truly committed to find solutions they will not come easily. With the exception of the Chair's position and one other legacy tenured position all faculty within the DCM are funded by some combination of service related funds (cost-center linked clinical and pathology support related to animal medical care, diagnostics, specialized research support or animal use training), research funding and, to variable degrees, RCE funds. Given the 'soft' nature of this funding it makes hiring additional faculty very difficult without negatively impacting the per-diem costs. We have faced this in the past by initially hiring residents (senior fellows) and gradually over multiple years intercalating them into the faculty as some mixture of funding becomes available. We have also 'adopted' faculty from other departments who are in search of a home department. However, these positions are typically, although not exclusively, supported totally by research funds thereby limiting availability to serve other functions. Without other sources of funds we will need to continue to use these entrepreneurial approaches to attract (or 'grow') new faculty. This is a long and risky process because faculty become recruitment targets once we have enabled them by training and support. Because of the critical role that DCM plays in assuring the continued opportunity for animal-based research to occur within the UW system we strongly advocate that a faculty position be made available via central funding. This would provide immediate assistance and relief to a critical Department that has essentially the same number of core faculty today that we did 20 years ago.

Our next target is to identify a senior fellow or current junior faculty member who will focus efforts in the area of comparative pathology. Training as a comparative pathologist is a historically rigorous path. As such it is a challenge to find interested and committed

individuals so it will take some time but we have initiated a planning and search effort. The goal would be to have this person eventually evolve into and be competitive for a faculty level position in DCM.

This leads to the other conundrum which is the lack of space. Currently we have no office or lab space to accommodate even one new faculty member above the level of a resident (senior fellow). Our Dean has indicated that he is aware of this situation and has committed to the Chair that a space solution is being investigated. Relevant to this the Office of the Provost has just initiated a Master Planning Process for Animal Use on the entire UW campus. This process was started in June 2010 (to be completed in the fall) with the hiring of a consulting firm the Jacobs Group to assess campus wide needs. As part of this the needs of the DCM faculty and staff will also be included. The findings from this study will hopefully (or at least accurately) reflect the reality of the situation and may aid in the evolution toward some space relief for animals and people as well. The recently approved construction of SLU 3.1 (to be completed in 2013/14) will also provide extra capacity by decanting some existing programs from Montlake to SLU. This may provide an additional opportunity for DCM to acquire locally vacated laboratory and office space and/or for selected individuals to relocate to SLU.

Given the challenges of this academic but heavily service-oriented Department there is no single issue as important as the quality of the faculty. Faculty members, including senior fellows, must be knowledgeable in a highly specialized area, they must be ethically grounded to understand the need and requirements for doing animal-based research, they must do research to be able to relate to the clients we support and, most importantly they must be able to deal with the stress and complexity in a collegial and professional manner. These individuals drive the culture of the Department which has always been its strength. While we desperately need new faculty we must be deliberate in their selection and growth to preserve and sustain the culture.

4. Based on our discussions with current and past students, we recommend adding didactic and practical training in facilities management and design, financial and personnel management, and more exposure to molecular approaches and transgenic technologies.

*Response:* These are excellent and pragmatic recommendations and we will strive to incorporate or expand focused training or rotational experience in these areas. We will accomplish this with exposure to 'real-life' practical situations and supplement with lectures, problem-based learning episodes and guest speakers. The selection of appropriate research projects will also be an aid in driving learning in these critical areas.

5. We also encourage the DCM to continue discussions with the WaNPRC (Washington National Primate Research Center) on a combined PhD degree program.

*Response:* A goal of the DCM is to expand the research base of our activities and to train research scientists in comparative medicine. This can be facilitated by providing graduate training opportunities that go beyond an MS program. In particular having a PhD program can facilitate establishment of a DCM or DCM/WaNPRC centered T-32 training program which can provide funding for comparative scientists. One of our partners in the comparative medicine enterprise at the UW is the WaNPRC. The DCM program is not large enough to foster a PhD program in its entirety. However in preliminary discussions with Dr. Dave Anderson, Director of the Washington National Primate Research Center, we have considered the option of partnering with the WaNPRC and possibly other regional public/private entities to offer an interdisciplinary program in comparative biology and medicine relevant to emerging needs in translational medicine (preclinical development) and other areas dependent upon examining similarities and differences between animals and humans. We have some experience in collaborating with WSU in PhD training and expansion of this interaction might also be considered. This program would leverage the unique expertise of scientists in all groups and use it to tap an emerging need. This interdisciplinary program would be modeled after existing programs such as those in Nutritional Sciences or Molecular and Cellular Biology where combined faculty constitute the core of the program. As it currently stands this area of preclinical translational medicine lacks a central focus or 'home' which an interdisciplinary program would provide. The provision of advanced training in preclinical translational medicine would provide a pool of potential employees for both the public and private sectors. As pharmaceutical, biotechnological and device companies emerge or expand the need for people with this training escalates. There are very few formal training opportunities in the US for individuals wanting to receive this training. Most are trained on the job following matriculation in some other area such as biology, bioengineering, or clinical veterinary medicine. As NIH shifts its focus to translational medicine and as cities such as Seattle attempt to attract more investment in this area it makes sense that such specialty training would be attractive. As stated in our self study this is a major undertaking. Because of the complexity and importance of this decision we will develop a group of faculty from within and outside the DCM to 1.) make a thoughtful decision on the practicality of such an approach and 2.) either dismiss it or advance it to a planning phase. If we elect to proceed a bench-marked planning document will be developed as an initial tool for engagement with the Graduate School. The goal will be to complete this preliminary study and, if appropriate, plan by the end of 2011.

6. Finally, we think there is a need for a strategic plan for replacing retiring faculty and for additional revenue generation.

*Response:* In the next 2-5 years it is likely that two to three faculty will completely or partially retire. Two of these candidates include the Chair and Vice-Chair who currently have major administrative, service and research activities. Six years ago when Dr. Liggitt became Chair a new position of Vice-Chair was established. This was done to provide broadened expertise in a field that has undergone rapid transformation. Traditionally in the DCM the position of Chairman, while opened to a national search, has ended up passing to an internal candidate. This is a reflection of the total candidate pool available but also of the desire to maintain the

continuity and culture of the Department. There are few Departments of Comparative Medicine in the United States and each is distinctly different based on how they evolved and have been supported. While there can be advantages to bringing in an outside person to Chair a department the relative complexity of the individual system that they are thrust into can be overwhelming and destabilizing. Alternatively the right person could bring a new vision or insight gained from other relevant experience. This is a choice that only the search committee, in consultation with the Dean, can make. To optimize the opportunity for one of our own current faculty to be able to transition into a leadership position it is important to involve potential candidates in operational and planning discussions and decisions and make them aware of problems and opportunities. We attempt to accomplish this in several ways including having a relatively transparent operation that provides ascending faculty with a view of the challenges (good and bad) facing the Department. Key faculty are involved with facilities planning, budgeting, training/teaching and general operational issues thereby helping to prepare them for the future. We need to (and will) improve the exposure we give to potential future leaders in the areas of finance and personnel management since these are major challenges that a service-oriented department face. We also must recruit new young Assistant Professors because our ranks are becoming increasingly 'top-heavy' with Associate and Full Professors. As mentioned earlier this will require entrepreneurial effort since positions are funded with 'soft' money. The availability of some central faculty support will be critical in making this transition. There should also be the opportunity available for retiring faculty to aid in the transition process if so desired. This would be particularly advantageous when a Chair is replaced.

A final critical need is for the remaining faculty to decide how they desire the Department to evolve. This is elemental to planning transitions and recruiting new faculty whether they are young Assistant Professors or Chairs. This is a discussion that will be brought forth in the coming academic year as we explore the PhD option, research training and curriculum changes emerging from this academic review. The venue for these focused discussions will be at our faculty retreat which is held locally within UW facilities (South Campus Center or Waterfront Center) to enable all to attend regardless of duty status.

The plan for obtaining additional revenue is relatively basic because it relies mostly on traditional academic sources of revenue including funds from grants, contracts and research service activities, funds from donors or interactions with the private sector and funds acquired by teaching. We do not anticipate any direct funding from state resources although some central support for animal care services (including modest faculty support) will eventually be necessary. Success in obtaining funds from any of these sources will require coordination of service and research/teaching activities. This coordination is necessary to provide faculty the time to pursue and perform fund raising efforts. Since submitting our academic program review last fall faculty in the Department have been very successful in obtaining a number of grants from NIH either as PI's or co-investigators. This suggests that the action taken a few years ago to emphasize research productivity is gaining traction and displaying results.

Ultimately success in research and training fund raising will also depend upon the availability of appropriate office and laboratory space.

Another area for potential fund raising is recovery of some indirect costs from research grants. We will have to explore with our administration a process for obtaining more of our indirect costs since we currently do not have access to these, except in rare instances. Some of our specialty centers such as the transgenic program and the histology and imaging core (HIC) have or are making minor to significant income by working with private or nonprofit companies. We are encouraging expansion of this because it advances the UW goal of increasing the private-public partnership and it allows these groups to independently expand their offerings and expertise with generated funds.

We are also working with the SOM Office of Advancement to develop a funding opportunities brochure that will serve to introduce, in particular, research activities and services that private biotechnology and device companies (established or start-ups) may wish to use. We will also use the opportunity to describe options for funding of positions, training and resource sharing.

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This academic review process has led to the generation of a planning document, specific challenges and proposed solutions. As such the process has been valuable. It is the intention of the Department to use the findings generated by this process to focus and drive improvements in the academic and associated service activities which we provide to the university, region and state.

## **Review Committee Report written by Dr. Michael Rosenfeld**

### **I. Charge to the Review Committee**

The Review Committee's charge was to "assess the quality of graduate education" in the Master of Science (MS) degree program of the UW Department of Comparative Medicine (DCM) and to make a recommendation as to whether the MS degree program should be continued and if so, when it should be re-evaluated. We were also asked to provide the faculty with "constructive suggestions for strengthening the program" and to address the "educational value, role within the University and community, role within the academic discipline, and resource requirements, future objectives and changes necessary to achieve them". Our charge was also to provide our opinion as to whether the DCM is "doing what they should be doing, doing it well, how they can do things better, and how the University can assist them. The following is the Review Committee's report.

### **II. Why this MS program is needed**

Currently, there are a very small number of similar programs in the United States and as a result, there is a very short supply of veterinarians trained in laboratory animal medicine and biomedical research. These veterinarians are desperately needed to support the translational research efforts of universities, research institutions, and industry both state wide and throughout the country. For example, there are about 40 veterinarians that complete specialty training and achieve board-certification in laboratory animal medicine nationally each year and the UW DCM accounts for about 5% of these graduates. The small number entering the field each year reflects the fact that most veterinary schools are not research oriented and generally are designed to meet the needs of the agriculture and pet industries. Because there is relatively little research conducted in most of the 25 American veterinary schools, which are primarily located in agriculture-oriented universities, there is limited awareness of the needs of the biomedical research community. This is precisely why the DCM is an essential part of the UW School of Medicine rather than the WSU School of Veterinary Medicine.

The combination of the clinical training with the research thesis requirement of the MS program also helps prepare the students for passing the specialty boards for laboratory animal medicine (American College of Laboratory Animal Medicine {ACLAM}) and veterinary pathology (American College of Veterinary Pathology {ACVP}). Furthermore, eligibility for the ACLAM specialty boards requires a first authored research publication. The DCM MS program also plays an essential role within the UW. The presence of veterinary residents helps support the huge and increasing service workload of the DCM in overseeing all of the animal research efforts at the UW. Last year alone, UW researchers brought in more than \$400 million for animal research. The MS program has also helped to fill the ranks of current junior faculty in the DCM. Without the combined focus on service, research and teaching, many of the senior faculty indicated that they likely would not have come to or stayed at the UW. Finally, the DCM MS program is a benefit to the UW because it is not a financial drain but is in fact,

“revenue neutral” and provides a cost efficient means to deliver veterinary care and research support to the research animal colonies and investigators, respectively.

### **III. Quality of the MS Program**

The DCM currently has 9 regular faculty members who are highly dedicated to their combined clinical, teaching and research roles. The faculty have strong national reputation and are highly valued by both the students and staff. This small faculty provide the clinical and surgical rotations, teach the required and elective courses (the biology and diseases of laboratory animals CMED 520/521 and CMED 530/531, regulatory medicine CMED 590, pathology CMED 512, research updates CMED 514, animal models CMED 540) and support the laboratory research rotations and thesis research. Based on interviews with 19 present and former students (12 in-person and 7 call-in from institutions across the US) there was a high degree of satisfaction with both the clinical and didactic training provided by the faculty. Students commented that the MS program “provided an excellent foundation for both clinical and research roles”, and “prepared us for all eventualities”. A number said that they learned to “troubleshoot” and to “work with PIs”. The students also appreciated the “flexibility” of the Program and the mentoring by faculty. One student stated that the faculty “continued to provide mentoring long after my graduation” and another felt that the faculty were “sincere and caring”.

Perhaps the best measure of the success of the DCM MS program is the placement of the graduates. As noted, the program has helped fill the ranks of the DCM faculty. One graduate, Dr. Thea Brabb is currently an Associate Professor and the University’s Attending Veterinarian. Additional graduates are currently Instructors, Lecturers, Assistant Professors and Clinical Veterinarians in the DCM. One graduate is a Veterinary Pathologist at the Washington National Primate Research Center (WaNPRC) and another is the Veterinarian and Animal Services Manager at the Benaroya Research Institute at Virginia Mason. The graduates of the DCM MS program have also filled key jobs nationwide. For example, one graduate is an Assistant Professor at the MD Anderson Cancer Center, another is the University Veterinarian at the University of Texas at San Antonio, and others have positions at institutions such as Cal Tech, the Cleveland Clinic, Washington University, Southern Illinois University, and Charles River Laboratories.

The quality of the MS program is strengthened significantly by its close association with the WaNPRC. The WaNPRC provides additional unique clinical and pathology training opportunities that are not available to most comparable programs nationwide. This is because the UW is one of very few universities to have a primate center situated within the medical school. The close association between the DCM and the Office of Animal Welfare (OAW) is also considered an additional strength of the MS program because the OAW provides an IACUC rotation and essential training in current federal regulations for animal research. Other strengths include exposure to aquatics facilities, transgenic and stem cell cores and veterinary pathology. The quality of the training program is also evident from the integrated roles of



faculty, students, and staff and the degree of satisfaction voiced by the staff. The students work closely with both the faculty and veterinary technicians during their clinical and surgical rotations and clearly all were “in the trenches” together. In summary, in the opinion of this review committee the DCM is “doing what they should be doing and doing it well”.

#### **IV. Current Issues**

As noted, the UW brought in over \$400 million last year for animal research and this constitutes close to a 60% increase from the previous year. While some of this increase in funding may reflect the federal stimulus package (ARRA), it still needs to be supported by the faculty and veterinary staff of the DCM. It is the opinion of this review committee, that the DCM is currently understaffed and will require a heroic effort to meet this challenge. The addition of two more residents to the DCM MS program by this coming June should help address the increased demands for veterinary support. However, the committee still feels that there is an immediate need for additional faculty. This is compounded by the fact that a number of the senior faculty are close to retirement. The overwhelming service responsibilities of the DCM faculty could have a negative impact on the DCM MS program by reducing the amount of time the faculty have for grant submissions, and for research discussions and training of the students. This concern was echoed by both the senior and junior faculty. We are also concerned that this will impact the quality of care campus wide and could have long range repercussions for the continued success of the University’s overall research efforts.

The DCM outlined a plan for expansion that involves replacement of veterinary technicians with residents. Currently there is about a 4:1 ratio of vet techs to residents. The plan is to bring this ratio closer to 1:1. This appears to be a viable approach as it would likely bring a higher level of expertise without additional expense (residents and vet techs make comparable salaries), allow for more clinical training of the residents with no compromise in the quality of service and provide a shorter chain of command. However, this is a long range plan and won’t alleviate the current increased need for veterinary support of the animal research at the UW.

It is the opinion of the Committee that the laboratory space currently allotted to the DCM faculty is insufficient and outdated. This reduces the competitiveness of the faculty for obtaining research funding, limits the ability of the faculty to recruit and retain additional faculty, and hinders current collaborations. In turn, we think this lack of quality space is likely to have a negative impact on the number and quality of research opportunities available to the MS students. It is ironic that the DCM enables the research efforts of so many faculty and staff at the UW, but is rewarded by having some of the worst space on campus. We highly recommend that at the very least, the DCM be included in the plans for expansion with completion of the SLU phase 3 complex.

While the DCM plan is to expand the MS program, the large service requirement, inadequate and outdated space and the small number of current faculty that have NIH funding are significant impediments to immediate expansion of the MS program. The faculty felt that

the maximum number of MS students that they could currently accommodate was six. The Committee concurs with the DCM faculty that this is an appropriate number of MS students given the current situation with faculty numbers and allotted space.

## **V. Addition of the PhD track**

The Committee was asked by the DCM to provide advice on whether the time was right to expand the program to include a PhD track. It is our opinion that a PhD track would provide additional visibility and opportunities to attract top notch students. We also think that the additional research training afforded by the PhD track would make students more effective lab animal veterinarians and would facilitate more effective interactions with scientists involved in basic and translational research. We also think that students completing the PhD would be more competitive for jobs in the field at a time when there is a need to replace older faculty. However despite these positive aspects of a PhD track, we don't think there are sufficient resources currently available to support expansion at this time. The Committee recommends discussions with faculty in the WaNPRC for development of a highly unique joint PhD degree program in "translational and comparative medicine". This would immediately draw on additional faculty and likely would attract many new applicants including those without a DVM. It would also facilitate submission of an NIH training grant for support of bona fide pre-doctoral students.

## **VI. Recommendations for continuation of the MS degree program**

1. The Committee unanimously recommends continuation of the DCM MS program with re-evaluation in 10 years. As noted, we think the DCM is "doing what it should be doing and doing it well".
2. The Committee further recommends that all attempts be made to protect a minimum of 9 months for student research despite the temptation to fill the overwhelming service needs by extending the clinical rotations of the residents.
3. We also recommend immediate addition of new faculty, in particular someone with training in veterinary pathology and provision of new space as soon as it becomes available.
4. Based on our discussions with current and past students, we recommend adding didactic and practical training in facilities management and design, financial and personnel management, and more exposure to molecular approaches and transgenic technologies.
5. We also encourage the DCM to continue discussions with the WaNPRC on a combined PhD degree program.
6. Finally, we think there is a need for a strategic plan for replacing retiring faculty and for additional revenue generation.