UW Medicine
SCHOOL OF MEDICINE

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To: Gerald J. Baldasty, Vice Provost and Dean of the UW Graduate School
James Soto Antony, Associate Vice Provost and Associate Dean for Academic Affairs, UW Graduate School
Douglas J. Wadden, Executive Vice Provost, Office of the Provost
John T. Slattery, Vice Dean for Research and Graduate Education, UW School of Medicine
Thomas W. Gething, Assistant Vice Provost and Assistant Dean, UW Graduate School
Denny Liggitt, Professor and Chair, Comparative Medicine
Lillian Maggio-Price, Professor and Vice Chair, Comparative Medicine
Melissa A. Austin, Professor, Epidemiology
Beth Traxler, Associate Professor, Microbiology
David Canfield-Budde, Academic Program Specialist, UW Graduate School
Jake Faleschini, President, GPSS

From: Department of Comparative Medicine, Graduate Program Review Committee
Michael E. Rosenfeld, Professor, UW Departments of Environmental and Occupational Health Sciences and Pathology (Committee Chair)
Brad T. Cookson, Professor, UW Departments of Laboratory Medicine and Microbiology
Ravi Tolwani, Associate Vice President and Research Associate Professor, Comparative Bioscience Center, The Rockefeller University
Charles Clifford, Director, Pathology and Technical Services, Charles River

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 a 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.

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

Sincerely.

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