

Letters to the Editor

Fixing the debt

In an effort to continue the dialogue about recent efforts to reduce the educational debt of veterinary students, I would like to provide information on an admissions change here at the Michigan State University College of Veterinary Medicine—a change touched on by Dr. Jerrold M. Ward in a recent letter to the editor¹ and one that the college will be implementing in the next admissions cycle.

In his letter, Dr. Ward remarked that in the recent past, many students entered veterinary school after only 2 years of undergraduate education. Not only do many of our current alumni reflect this scenario, but so too do many of our international colleagues. Therefore, beginning with the 2017–2018 admissions cycle, Michigan State University has updated the prerequisite education requirements for veterinary college applicants. This new policy was approved by members of the College of Veterinary Medicine's Committee on Student

Admissions in fall 2016 for immediate implementation.

Specifically, the faculty-led Committee on Student Admissions voted to decrease the number of preveterinary requirements to 55 credits, which will allow prospective students to complete their admissions requirements in a 2-year period. In fact, some prospective students with advanced placement credits will be able to complete the preveterinary requirements at the end of their first year in college. Qualified applicants who enter the College of

Veterinary Medicine after 2 years of undergraduate education will, at the end of their veterinary training, receive a Bachelor of Science degree in Veterinary Science in addition to a Doctor of Veterinary Medicine degree.

This abbreviated prerequisite option could reduce the total time students spend pursuing a veterinary degree by 2 years, allowing students to not only decrease the time it takes to enter the profession, but also save up to 2 years of tuition and living expenses. It is our hope that this shortened educa-

Instructions for Writing a Letter to the Editor

Readers are invited to submit letters to the editor. Letters may not exceed 500 words and 6 references. Letters to the Editor must be original and cannot have been published or submitted for publication elsewhere. Not all letters are published; all letters accepted for publication are subject to editing. Those pertaining to anything published in the *JAVMA* should be received within one month of the date of publication. Submission via email (JournalLetters@avma.org) or fax (847-925-9329) is encouraged; authors should give their full contact information, including address, daytime telephone number, fax number, and email address.

Letters containing defamatory, libelous, or malicious statements will not be published, nor will letters representing attacks on or attempts to demean veterinary societies or their committees or agencies. Viewpoints expressed in published letters are those of the letter writers and do not necessarily represent the opinions or policies of the AVMA.

tional cycle will help students take control of their finances while also helping the profession as a whole.

The Michigan State University College of Veterinary Medicine's leadership team is working on a number of other ideas for reducing educational debt, enhancing the curriculum, and ensuring student competency. At the same time, the profession as a whole has come together to develop innovative strategies to fix the debt problem plaguing the profession.² I am proud that Michigan State is committed to this issue, and I urge my fellow academic colleagues and veterinary professionals to continue to contribute to the conversation regarding educational debt and the future of our profession. We are excited to move forward with this new initiative, and I will continue to update you on future changes we have in store.

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1. Ward JM. Call for more easily attainable preveterinary requirements (lett). *J Am Vet Med Assoc* 2016;249:375.
2. AVMA. Fixing the debt: your profession is working to ease the burden. Available at: atwork.avma.org/2016/12/08/fixing-the-debt-your-profession-is-working-to-ease-the-burden/. Accessed Feb 8, 2017.

Lomustine drug content in FDA-approved versus compounded capsules

I was interested to read the study¹ comparing drug content in FDA-approved versus compounded lomustine capsules. Given the astronomical rise in the cost of certain generic drugs, compounding has become almost a necessity if veterinarians want to be able to obtain medications at prices most of our clients can afford. Results from this small, initial study certainly raise concerns that I and, I believe, most veterinarians share about the efficacy and safety of compounded medications. I agree with the authors that the small sample size is a limitation on the conclusions that can and should be drawn. I hope that a larger study will follow to verify the results. I also hope that any future studies will be funded by independent third parties, and not by the manufacturer of the only FDA-approved lomustine capsule, Next-Source Biotechnology. If a larger, independently funded study reveals similar results as the present study, then the conclusions will be all the more powerful.

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1. Kukanich B, Warner M, Hahn K. Analysis of lomustine drug content in FDA-approved and compounded lomustine capsules. *J Am Vet Med Assoc* 2017;250:322-326.

The authors respond:

Thank you for your interest in our article assessing compounded lomustine.¹ Compounding is defined by the AVMA as "the customized manipulation of an approved drug(s) by a veterinarian, or by a pharmacist upon the prescription of a veterinarian, to meet the needs of a particular patient."² Drug compounding is a necessity for some medications and animals when FDA-approved drugs are not available or approved formulations are not appropriate, but compounded medications should always be used cautiously. Client communication is advised to discuss the risks and benefits of using compounded medications, including the lack of standardized quality control systems to ensure correct content, concerns about stability, and the lack of contaminant (or purity) testing that FDA-approved drugs undergo. It is also important to inform clients that correct content does not necessar-

ily equate to equivalent drug exposure. Mawby et al³ demonstrated only 5% relative drug exposure following oral administration of compounded itraconazole capsules containing the correct drug content to dogs, compared with exposure following administration of FDA-approved capsules. The AVMA Veterinary Compounding policy is an excellent resource on veterinary compounding.²

To our knowledge, comprehensive assessments of compounded drugs are not available. The cost of these studies can be quite high, which likely limits the number that can be performed. Additionally, each change in formulation (eg, because of a different flavor, different drug content, or other ingredient change) could affect the stability and content of the product sold to the client. Although our study¹ was sponsored by a pharmaceutical manufacturer, the study was performed independent of their input. A separate study⁴ of compounded lomustine had similar results, and that study was not funded by a pharmaceutical manufacturer. Our laboratory has also examined the content of compounded doxycycline liquid formulations, tablets, and chews for veterinary use, and a manuscript describing our results is in line for publication in *JAVMA* later this year. Most of the compounded doxycycline formulations also had inadequate or inconsistent drug content, whereas FDA-approved formulations from various manufacturers had and maintained their stated content throughout the study. That study was not sponsored by pharmaceutical or drug-compounding companies.

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1. KuKanich B, Warner M, Hahn K. Analysis of lomustine drug content in FDA-approved and compounded lomustine capsules. *J Am Vet Med Assoc* 2017;250:322-326.
2. AVMA. Veterinary compounding. Available at: www.avma.org/KB/Policies/Pages/Compounding.aspx. Accessed Feb 8, 2017.
3. Mawby DI, Whittemore JC, Genger S, et al. Bioequivalence of orally admin-

istered generic, compounded, and innovator-formulated itraconazole in healthy dogs. *J Vet Intern Med* 2014;28:72-77.

4. Burton JH, Stanley SD, Knych HK, et al. Frequency and severity of neutropenia associated with Food and Drug Administration approved and compounded formulations of lomustine in dogs with cancer. *J Vet Intern Med* 2016;30:242-246.

Appreciation for *JAVMA* cover artwork

One of my favorite features of the *JAVMA* is the artwork that appears on each cover. Over the years, I have saved quite a few of them. I am amazed at the talent of many of the artists and their ability to depict animals in such minute detail. It is a gift that I am not familiar with.

When I first saw the cover of the February 1, 2017, issue, the first thought that popped into my mind was “this looks like a Norman Rockwell painting.” When reading about the artist, I discovered that Norman Rockwell had indeed influenced her paintings and that she was primarily self-taught. It is an awesome painting.

Please continue to include this feature in future issues of the *JAVMA*.

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The Veterinarian's Oath and our role in protecting wildlife and their habitats

The Veterinarian's Oath that all of us took at the time of graduation states that, as veterinarians, we “solemnly swear to use (our) scientific knowledge and skills for ... the prevention and relief of animal suffering.”¹ To me, it seems that many veterinarians interpret this to refer only to those animals they care for through their clinics, hospitals, zoos, and other places of work. I would argue, however, we should also consider those animals that are not our patients but that we affect through legislative and policy decisions at the local, state, and national level. Think, for example, of caribou struggling to find food, reproduce, or care for their young because of shrinking

habitats; of dolphins and other marine life dealing with the effects of ocean acidification; and of elephants and rhinoceroses on the brink of extinction because of illegal poaching.

But, we cannot truly concern ourselves with preventing and relieving the suffering of wild animals without also considering the environment in which they live and, especially, the effects of environmental degradation, whether because of climate change, habitat destruction, or environmental contamination. We cannot validate decisions that compromise wild animal health under the premise that we are relieving suffering in animals brought to us as patients. As a corollary to the section of the Veterinarian's Oath calling

for the prevention and relief of animal suffering, I believe we must also commit ourselves to the protection of the environment and animal habitats. I encourage all veterinarians to speak out and take the lead in protecting wildlife and their habitats. Without them, the relevance of our degree is diminished.

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1. AVMA. Veterinarian's Oath. Available at: www.avma.org/KB/Policies/Pages/veterinarians-oath.aspx. Accessed Feb 8, 2017.