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Editorial

The AALAS Journals: 2018 in Review

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The November 2018 issue of the *Journal of the American Association for Laboratory Animal Science (JAALAS)* volume 57 and the December 2018 issue of *Comparative Medicine* (*CM*) volume 68 mark the end of another year for the AALAS journals. As always, we are incredibly fortunate to have a talented and conscientious support team — art director Amy Tippett, scientific editor Amy Frazier, and editorial specialist, Virginia Dawson. This team together continues to sustain a timely flow of well-edited and professionally presented information through the entire process from manuscript submission to publication. We also thank members of the Editorial Review Board (ERB) for their support in providing timely thorough reviews and solid

Table 1. Journal statistics

JAALAS	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total submissions	172	167	191	170	179	158	148	162	163	144
International	61	52	71	57	74	75	54	60	64	62
% international	35	31	37	34	41	59	36	37	39	43%
Disposition of submissions										
Referred to *CM*	15	18	31	16	17	25	23	36	19	23
Withdrawn	4	8	5	5	3	4	4	0	3	1
Rejected	41	43	55	64	75	62	44	60	50	43
Accepted	93	91	90	75	80	91	62	75	77	84
Total reviewed*	134	134	145	139	155	153	106	135	127	127
% accepted	69	68	62	54	52	59	58	56	61	66%
Days from submission to										
first decision	28	28	28	28	28	32	34	36	35	34
final decision	64	62	62	50	56	75	60	66	68	64
Manuscripts printed **	68	90	96	79	71	88	67	90	82	68
Manuscript pages printed	840	916	993	872	810	727	446	828	581	517
Average pages per article	5.9	5.8	6.4	6.8	11.4	8.3	6.7	9.2	7.1	7.6
2-year impact factor	0.950	0.805	0.708	1.145	***	1.118	0.906	1.195	1.218	NA
5-year impact factor								1.545	1.645	NA
Downloads (x 1000)										
PCM		55	97	179	272	313	379	427	473	553
Ingenta										29
Total										582
Total citations	212	259	342	557	494	733	892	1132	1393	NA
CM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total submissions	158	138	162	171	169	135	127	140	129	142
International	86	55	73	76	89	80	66	59	73	71
% international	54	40	45	44	53	59	52	42	57	50
Disposition of submissions										
Referred to *JAALAS*	39	36	31	29	23	12	9	12	15	14
Withdrawn	6	6	4	3	6	1	0	3	3	1
Rejected	51	35	54	75	69	75	54	54	62	65
Accepted	47	61	57	64	63	45	56	53	58	52
Total reviewed*	98	96	111	139	132	120	110	107	120	117
% accepted	48	64	51	46	48	38	51	50	48	44%
Days from submission to										
first decision	28	28	28	24	24	28	24	29	27	27
final decision	53	61	53	46	42	45	47	56	55	46
Manuscripts printed **	59	55	60	68	60	58	59	62	60	57
Manuscript pages	613	520	576	568	547	436	401	502	477	435
Average pages per article	7.7	6.9	7.0	6.7	9.1	7.5	6.8	8.1	8.0	7.6
2-year impact factor	1.094	1.205	1.052	1.120	***	0.742	1.00	0.832	0.585	NA
5-year impact factor	NA	NA	NA	NA	NA	NA	NA	1.175	0.884	NA
Downloads (x 1000)										
PMC	NA	42	62	98	144	173	192	212	229	244
Ingenta	NA	4	6	10	14	17	19	21	23	27
Total		46	68	108	158	190	211	233	252	271
Citations	773	695	751	971	906	1103	1148	1241	1306	NA

*, some articles submitted in 2018 were still under review in 2019
**, some of the articles published in 2018 were accepted in 2017
***, impact factors for 2013 were calculated based on 3 issues, rather than 6, for each journal and as a result were inaccurate.
NA, not yet available

Table 2. Overviews published in 2018

JAALAS, volume 57, 2018	Authors	Pages
Updated review of fish analgesia	Chartigny, Creighton and Stevens	5-12
Contribution of the breadth and depth of IACUC membership to experimental design as a factor in research reproducibility	Mohan, Barbee and Silk	104-109
Preventing adverse events at research facilities	Koch	660-669
Comparative Medicine, volume 68, 2018		
Animal models of aspergillosis	Desoubeaux, Cray	109-123
Comparative review of antimicrobial resistance in humans and nonhuman primates	Kim, Coble, Salyards, Habing	124-130
Effects of rodent thermoregulation on animal models in the research environment	Hankenson, Marx, Gordon, David	425-438
Identifying and implementing endpoints for geriatric mice	Toth	439-451

feedback and suggestions for the improvement of the journals.

Publication statistics for the journals remain steady (Table 1). Acceptance rates were 66% for *JAALAS* and 41% for *CM* (Table 1). These percentages are consistent with previous years and allow us to obtain an adequate amount of high-quality content for each issue. The number of articles submitted has remained relatively constant over the years. A highlight of the year is the number of overview articles published (Table 2), as these are valued highly by readers and often cited. The times from submission to first and final decisions on manuscripts are 34 and 64 days, respectively for *JAALAS* and 27 and 46 days, respectively, for *CM*. We will be investigating reasons for these differences between the 2 journals.

The impact factor (IF) for *JAALAS* has remained stable over the years. However, we have seen a gradual decrease in IF values for *CM* (Table 1) over the past 3 to 4 years. The IF is calculated by dividing the number of citations in *JAALAS* or *CM* during a given year by the total number of articles published during the preceding 2 in that journal. An investigation of possible reasons for this decline led to the realization that this trend began when we made the decision to publish clinical case reports in *CM*. Since that change was made, approximately a third of the articles published in *CM* have been single-animal case reports, which are rarely cited and contribute heavily to a downward trend in IF. Therefore, the decision was made, with Editorial Review Board approval, to no longer accept single-animal case

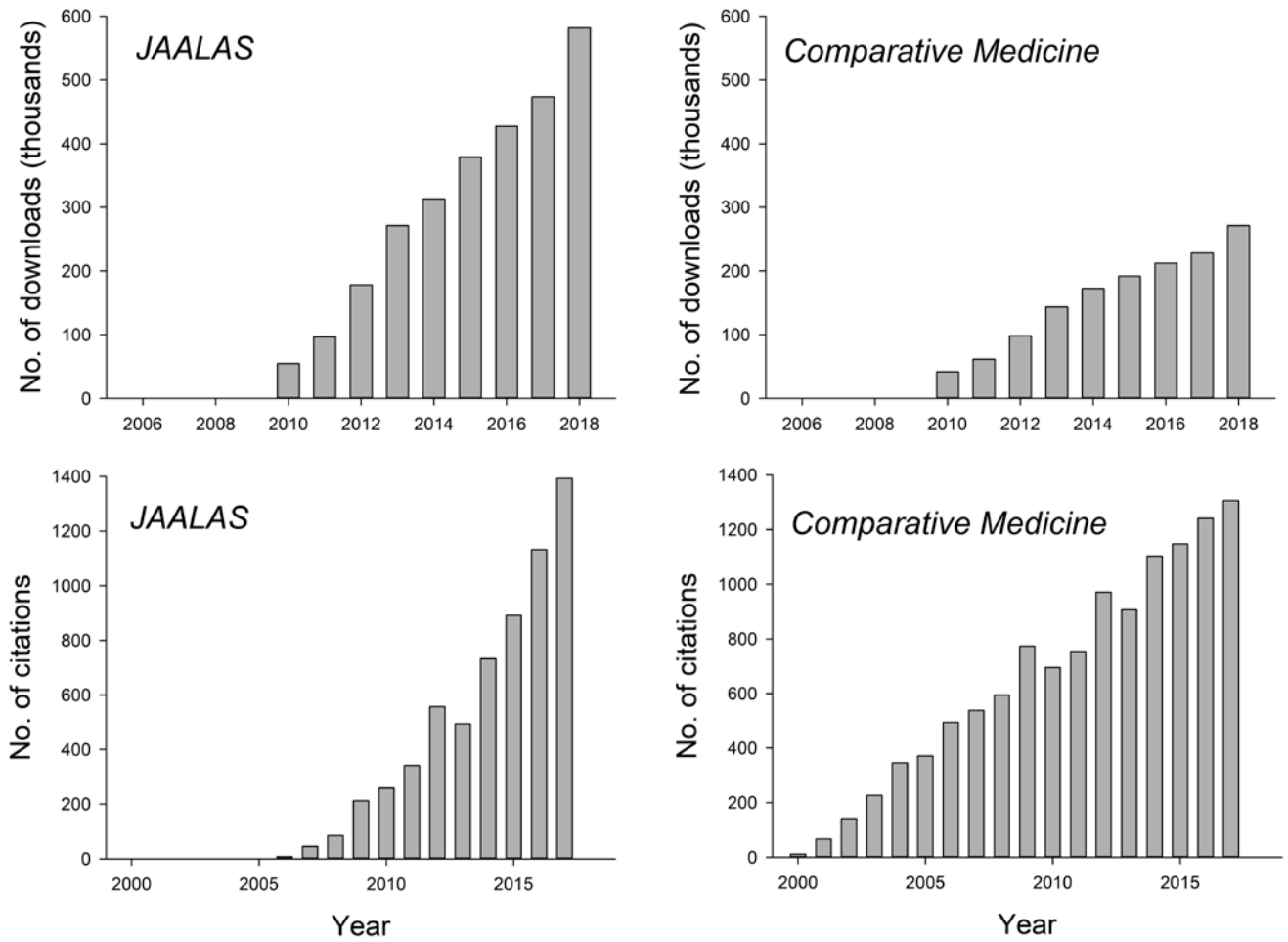

Figure 1.

Table 3. *JAALAS* - Top 10 Downloaded Articles from PubMed Central in 2018

Article	Live in PMC	Total Requests			
		2015	2016	2017	2018
Turner PV, Brabb T, Pekow C, Vasbinder MA. 2011. Administration of substances to laboratory animals: routes of administration and factors to consider. **50:**600–613. ***	3/1/2012	31034	40670	48836	45195
Matthews KA, Taylor DK. 2011. Assessment of sterility in fluid bags maintained for chronic use. **50:**708–712.	3/1/2012	**	**	7190	28049
Duran-Struuck R, Dysko RC. 2009.Principles of bone marrow transplantation (BMT): providing optimal veterinary and husbandry care to irradiated mice in BMT studies. **48:**11–22. ***	7/1/2009	11634	10792	10265	8758
Turner PV, Pekow C, Vasbinder MA, Brabb T. 2011. Administration of substances to laboratory animals: equipment considerations, vehicle selection, and solute preparation. **50:**614–627.	3/1/2012	13013	13610	13568	8685
Gao P, Dang CV, Watson J. 2008. Unexpected antitumorigenic effect of fenbendazole when combined with supplementary vitamins. **47:**37–40.	6/12/2009	**	**	**	7666
Cray C, Rodriguez M, Zaias J, Altman NH. 2009. Effects of storage temperature and time on clinical biochemical parameters from rat serum. **48:**202–204.	9/1/2009	5974	6273	6343	7294
Fernandez I, Pena A, Del Teso N, Perez V, Rodriguez-Cuesta J. 2010. Clinical biochemistry parameters in C57BL/6J mice after blood collection from the submandibular vein and retroorbital plexus. **49:**202–206. ***	9/1/2010	6178	5861	5800	5791
Keen JN, Austin M, Huang L, Messing S, Wyatt JD. 2010. Efficacy of soaking in 70% isopropyl alcohol on aerobic bacterial decontamination of surgical instruments and gloves for serial mouse laparotomies. **49:**832–837.	5/1/11	**	4059	4243	5386
Marx JO, Vudathala D, Murphy L, Rankin S, Hankenson FC. 2014. Antibiotic administration in the drinking water of mice. **53:**301–306.	11/1/14	**	4059	6004	5304
Redelsperger IM, Taldone T, Riedel ER, Lepherd ML, Lipman NS, Wolf FR. 2016. Stability of doxycycline in feed and water and minimal effective doses in tetracycline-Inducible systems. **55**:467–474.	1/1/17	**	**	**	5004

** New to top ten downloaded list
*** Also, a top ten cited article in 2018

Table 4. *Comparative Medicine* - Top 10 Downloaded Articles from PubMed Central in 2018

Article	Live in PMC	Total Requests			
		2015	2016	2017	2018
Graham ML, Janecek JL, Kittredge JA, Hering BJ, Schuurman HJ. 2011. The streptozotocin-induced diabetic nude mouse model: differences between animals from different sources. **61:**356–360.	2/1/2012	8759	9735	10205	10941
O'Connell KE, Mikkola AM, Stepanek AM, Vernet A, Hall CD, Sun CC, Yildirim W, Staropoli JF, Lee JT, Brown DE. 2015. Practical murine hematopathology: a comparative review and implications for research. **65:**96–113.	10/1/2015	**	**	**	8472
Lynch WJ, Nicholson KL, Dance ME, Morgan RW, Foley PL. 2010. Animal models of substance abuse and addiction: implications for science, animal welfare, and society. **60:**177–188.	12/1/2010	6825	6504	9679	7544
Novak MA, Meyer JS. 2009. Alopecia: possible causes and treatments, particularly in captive nonhuman primates. **59:**18–26.	8/1/2009	16504	12492	8621	6724
Wafer LN, Whitney JC, Jensen VB. 2015. Fish lice (*Argulus japonicus*) in goldfish (*Carassius auratus*) **65**:93–95.	10/1/15	**	**	**	5675
Tartarov I, Panda A, Petkov D, Kolappaswamy K, Thompson K, Kavirayani A, Lipsky MM, Elson E, Davis,CC, Martin SS, DeTolla LJ. 2012. Effect of magnetic fields on tumor growth and viability. **61:**339–345.	2/1/2012	3083	3504	4459	5332
Cray C, Zaias J, Altman NH. 2009. Acute phase response in animals: a review**. 59:**517–526. ***	6/1/2010	6629	5378	4656	4808
Bagi CM, Berryman E, Moalli MR. 2011. Comparative bone anatomy of commonly used laboratory animals: Implications for drug discovery. **61:**76–85.	8/1/2011	**	**	4046	4361
Ericsson AC, Hagan CE, Davis DJ, Franklin CL. 2014. Segmented filamentous bacteria: Commensal microbes with potential effects on research. **64:**90–98.	10/1/2014	**	3700	5119	4096
Toth LA, Bhargava P. 2013. Animal models of sleep disorders. **63:**91–104.	10/1/2013	**	3161	4126	3939

** New to top ten downloaded list
*** Also, on the top ten cited list for 2018

Table 5. *JAALAS* - Top 10 cited articles*

Article	Publication year	Total number of citations as of			
		Apr 4, 2016	Mar 1, 2017	Feb 14, 2018	Mar 5, 2019
Portfors CV. Types and functions of ultrasonic vocalizations in laboratory rats and mice. **46:**28–34.	2007	172	191	219	260
Turner PV, Brabb T, Pekow C, Vasbinder MA. Administration of substances to laboratory animals: routes of administration and factors to consider. **50:**600–613.***	2011	48	81	135	194
Wilson JM, Bunte RM, Carty AJ. Evaluation of rapid cooling and tricainemethanesulfonate (MS222) as methods of euthanasia in zebrafish (*Danio rerio*). **48:**785–789.	2009	49	63	89	113
Matsumiya LC, Sorge RE, Sotocinal SG, Tabaka JM, Wieskopf JS, Zaloum A, King OD, Mogil JS. Using the mouse grimace scale to reevaluate the efficacy of postoperative analgesics in laboratory mice. **51:**42–49.	2012	44	56	68	86
Duran-Struuck R, Dysko RC. Principles of bone marrow transplantation (BMT): Providing optimal veterinary husbandry care to irradiated mice in BMT studies. **48:**11–22.***	2009	**	44	56	72
Hess SE, Rohr S, Dufour BD, Gaskill BN, Pajor EA, Garner JP. Home improvement: C57BL/6J mice given more naturalistic nesting materials build better nests. **47:**25–31	2008	43	52	61	72
Tannenbaum J, Bennett BT. Russell and Burch's 3Rs then and now: the need for clarity in definition and purpose. **54**:120–132.	2015	**	**	**	63
Fernandez I, Pena A, Del Teso N, Perez V, Rodriguez-Cuesta J. Clinical biochemistry parameters in C57BL/6J mice after blood collection from the submandibular vein and retroorbital plexus. **49:**202–206.***	2010	**	**	49	59
Heffner HE, Heffner RS. Hearing ranges of laboratory animals. **46**:20–22.	2007	**	**	**	56
Foley PL, Liang H, Crichlow AR. Evaluation of a sustained release formulation of buprenorphine for analgesia in rats. **50:**198–204.	2011	**	37	46	55

*Data collected from Web of Science
** New to top ten cited list
*** Also, a top ten downloaded article in 2018

Table 6. *Comparative Medicine* - Top 10 cited articles*

Article	Publication year	Total number of citations as of			
		Apr 4, 2016	Mar 1, 2017	Feb 14, 2018	Mar 5, 2019
Cray C, Zaias J, Altman NH. Acute phase response in animals: a review. **59:**517–526.***	2009	178	223	287	348
Lelovas PP, Xanthos TT, Thoma SE, Lyritis GP, Dontas IA. The laboratory rat as an animal model for osteoporosis research. **58:**424–430.	2008	162	164	203	247
Mansfield K. Marmoset models commonly used in biomedical research. **53:**383–392.	2003	143	160	175	194
Abbott DH, Barnett DK, Colman RJ, Yamamoto ME, Schultz-Darken NJ. Aspects of common marmoset basic biology and life history important for biomedical research. **53:**339–350.	2003	110	121	139	149
Dyson MC, Alloosh M, Vuchetich JP, Mokelke EA, Sturek M. Components of metabolic syndrome and coronary artery disease in female Ossabaw swine fed excess atherogenic diet. **56:**35–45.	2006	104	113	124	137
Callicott RJ, Womack JE. Real-time PCR for measurement of mouse telomeres. **56:**17–22	2006	82	97	110	122
Martini L, Fini M, Giavaresi G, Giardino R. Sheep model in orthopedic research: a literature review. **51:**292–299.	2001	**	80	92	109
Arras M, Autenried P, Rettich A, Spaeni D, Rülicke T. Optimization of intraperitoneal injection anesthesia in mice: drugs, dosages, adverse effects, and anesthesia depth. **51:**443–456.	2001	79	86	93	102
Nemzek JA, Hugunin KM, Opp MR. Modeling sepsis in the laboratory: merging sound science with animal well-being. **58**:120–128.	2008	**	**	**	98
Garner JP, Weisker SM, Dufour B, Mench JA. Barbering (fur and whisker trimming) by laboratory mice as a model of human trichotillomania and obsessive-compulsive spectrum disorders. **54:**216–224.	2004	76	80	85	97

*Data collected from Web of Science
** New to top ten cited list
*** Also, on the top ten downloaded list for 2018

Table 7. Journals with the greatest number of citations in AALAS journals in 2018

Rank	Cited *Comp Med* articles	Cited in *Comp Med* articles	Cited *JAALAS* articles	Cited in *JAALAS* articles
1	*JAALAS* (71)	*PLOS One* (47)	*JAALAS* (255)	*JAALAS* (255)
2	*PLOS One* (51)	*JAALAS* (46)	*PLOS One* (51)	*Lab Animal-UK* (96)
3	*Comp Med* (40)	*Comp Med* (58)	*Comp Med* (46)	*Comp Med* (71) *
4	*J Med Primatol* (38) *	*J Infect Dis (36)*	*Lab Animal-UK* (37)	*PLOS One (71)* *
5	*Sci-Rep-UK* (38) *	*J Virol (36)*	*Am J Primatol (28)*	*Am J Primatol (52)*
6	*Lab Animal-UK (16)*	*Guide Care Use LA* (33)	*Lab Animal* (27)	*Appl Anim Behav Sci* (49)
7	Am J Primatol (14)	*ILAR J (28)*	*Sci-Rep-UK* (23)	*Guide Car Use LA* (40)
8	*Lab Animal* (13)	*PNAS* (26)	*JOVE (16)*	*ILAR J (38)*
9	Exp Anim Tokyo (11) *	*JAVMA* (25) *	*Appl Anim Behav Sci* (15) *	*Lab Anim Sci* (37)
10	*J Zoo Wildlife Med* (11) *	*Lab Anim-UK (25)* *	*J Med Primatol (14)* *	*CTLAS* (35) *
			Princ An Res GrXB (14) *	*Lab Animal (35)* *

*Tied rank

reports for the journals. Case studies investigating outbreaks or facility issues will continue to be accepted for review. In addition, standards for acceptance of all articles will be higher. For example, manuscripts that contain relatively little data (only 1 table or figure) will be viewed as less desirable than articles that present a substantive and comprehensive investigation of a research question.

The high number of downloaded articles for the 2 journals truly underscores the value of the AALAS publications (Figure 1, Tables 3 and 4). Articles from the 2 journals are downloaded hundreds of thousands of times each year, and many articles have been downloaded thousands of time a year for many years after the publication date. These data show that even though the journal impact factors are not high, the articles are used by the community we serve and are durable in terms of content.

The number of citations from both journals also continues to grow annually, with *JAALAS* citations increasing exponentially since the journal was re-named in 2005 (Figure 1). The list of top 10 cited articles has several new additions this year (Tables 5 and 6). Four articles (1 in CM and 3 in *JAALAS*) made both the top ten cited and downloaded lists. This overall lack of overlap between the lists suggests that different audiences are using the listed publications, some with focus on publishing new research (the cited articles) and others on information (the downloaded articles). The list of journals most cited in AALAS journals and those that most frequently cite articles from the AALAS journals remains consistent with past years (Table 7). Self-citations are common, which perhaps suggests that the AALAS journals are filling a niche in terms of the types of articles published. Several software enhancements to the journals became available for use in 2018. Of benefit to authors and readers, our new membership to "CrossRef" will configure our site to assign a digital object identifier (DOI) to manuscripts that have received a decision of accept. A DOI is a string of numbers, letters and symbols used to permanently identify an article or document and link to it on the web. The DOI helps readers to easily locate an article from the citation and is also an advantage to prospective authors, as their accepted work will be easier to locate and cite. "iThenticate" gives the editors and staff the ability to check a manuscript for plagiarism at any point during the process: submission, acceptance, or just prior to publication.

Several items of general interest were discussed at the meeting of the ERB at the national meeting in Baltimore. First, past policy has been to require that Letters to the Editor must refer to

Table 8. 2018 author survey

	JAALAS	*Comparative Medicine*
Total number of respondents	96	58
Was this your first publication?	Yes 22%, No 78%	Yes 22%, No 78%
Was this your first choice of a journal?	Yes 47%, No 53%	Yes 40%, No 60%
What were the most important factors for you in choosing to submit your work to this journal?	Distribution to appropriate audience, Subject coverage of journal, No publication costs	Distribution to appropriate audience, Subject coverage of journal
How would you rank this journal for relevance to your field?	Very high or high, 92%	Very high or high, 77%
How would you rank this journal for impact in your field?	Very high or high, 83%	Very high or high, 71%
Would you submit your work to this journal again?	Yes, 90%	Yes, 88%
How were your interactions with the Associate Editor?	74% positive, 21% neutral, 5% negative	76% positive, 19% neutral, 5% negative
How was your experience with the review process?	72% positive, 19% neutral, 9% negative	73% positive, 21% neutral, 6% negative
How was your satisfaction with time to process your article?	84% satisfied, 16% dissatisfied	84% satisfied, 16% dissatisfied
Would you upload supplemental materials if this option was available?	Yes 75%, No 25%	Yes 73%, No 27%

articles published in one of the 3 preceding issues. Discussion focused on whether this time period was too short. The consensus was to accept letters that extend beyond 3 issues as long as it is possible to contact the authors for a response to the letter. Second, because of confusion regarding studies with multiple species, it was determined that articles in *CM* will no longer be grouped according to species and instead will be grouped as overviews, original research, and case-based research. Third, based on ERB recommendations, we are taking steps to give authors the option of including supplemental files with their articles. Authors will upload the content to Manuscript Central during submission. Once the article is approved for publication, readers will be able to access the supplementary material on the Ingenta website. Staff will consult with legal counsel regarding potential copyright issues relevant to this type of information (most importantly, data and ownership of the data). Also, due to the cost of adding supplemental material to our Ingenta repository, the proposal for this addition must be approved by the Board of Trustees. Preparation of this request is in process.

In 2018, we conducted a survey of authors with the goal of obtaining their perspectives on journal strengths and weaknesses. Unfortunately, the response to our questionnaire was low. A total of 4,788 invitations were sent to all authors who published between the years 2015 to 2018. The *JAALAS* survey was sent to 2711 authors, with a 45.7% open rate and a 17.3% click rate. *CM* similarly was sent to 2077 authors, with a 42.3% open rate and a 13.1% click rate. We appreciate the input from those individuals who responded (96 for *JAALAS* and 58 for *CM*) and compiled their feedback from this small sample (Table 8). Evaluations were highly congruent for the 2 journals. A majority of authors indicated that the AALAS journals were not their first choice for publication. Future surveys will attempt to investigate the reasons for an alternative preference. Rankings for relevance to the field and impact in the field were high for both journals, but more so for *JAALAS*. This likely reflects the applied nature of *JAALAS* publications as opposed to the basic science or medical nature of *CM* articles. However, a large majority indicated willingness to submit their work to AALAS journals in the future. For both journals, most authors expressed positive views of Associate Editor interactions and the review process, and satisfaction with article processing time. Finally, most authors expressed likelihood of submitting supplemental materials (for example, videos, data, analysis code) if this opportunity becomes available.

As always, we welcome suggestions for improvements in the journals and encourage readers and authors to give us your opinions, perspective, concerns, and suggestions. You have our continued thanks for your support in the development and growth of the journals.