ASCLS Members Perceptions Regarding Research

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ABSTRACT

One of the benchmarks of a profession is performing, publishing, and presenting research. However, in the Clinical Laboratory Science (CLS) profession, few manuscripts are submitted to the American Society for Clinical Laboratory Science (ASCLS) journal, *Clinical Laboratory Science*, on a regular basis. The problem is that perceptions regarding research, and the role of laboratory professional as researchers, held by ASCLS members may be contributing to the low number of manuscript submissions. To assess these perceptions, an anonymous Likert-scale survey was developed and delivered online using Survey Monkey. Members of ASCLS, with email addresses, were chosen to participate in this survey because they may be most likely to contribute manuscripts for a journal by their own society. About 10% of the 7,000 members who were invited by email chose to participate in this study. Most participants agreed that 1) there is important information to be gathered from research on clinical laboratory specimen results (99.6%), 2) research contributes valuable information to the body of CLS knowledge (99.2%), and 3) conducting research is one of the benchmarks of a profession (92.4%). The majority of participants felt that there are inadequate resources (68.8%) and not enough time (83%) available to conduct research in the clinical laboratory setting. Most participants recognize that many laboratory activities constitute research (86.2%), but only a few are willing to publish research findings on their own (29.2%). Those who are the most likely to publish research findings include men, university faculty, and members who are over 60 years old. University faculty are the most likely to assist others in the writing process. These results show an opportunity exists for ASCLS to foster collaborations between bench technologists and educators willing to assist with the publication process.

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INTRODUCTION

A profession is deemed so by many elements defining a profession. These elements include educational benchmarks, a defined scope of practice requiring discretionary judgment in decision making, a shared set of values, autonomy, and advancement of knowledge.[1] Advancement of knowledge occurs when professionals perform research and publish results for the good of the profession. Contributing research findings to this body of knowledge also promotes the CLS profession to the general medical and scientific communities. Current NAACLS standards for accreditation include research and development as a future responsibility of the CLS practitioner.[2] However, laboratory professionals reported that the time they spent in research activities was less than 2% for bench technologists and 5% for laboratory managers. The authors reporting this finding did not define what constituted research. Lab professionals may not have a good understanding of what constitutes research, therefore not recognizing the potential for professional expression through publication. [3]

Of the 288 university-based CLS faculty surveyed by Bamberg in 2004, 125 (43%) held doctoral degrees.[4] However,

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not many manuscripts are submitted to *Clinical Laboratory Science* for review and publication. In 2006, 43 articles were published in *Clinical Laboratory Science* (*CLS*) by 62 authors. Several articles had multiple authors. Seven authors each had published two articles in *CLS*, two had three, and one had four. In 2007, 40 articles were written by 63 authors. Six authors each had published two articles in *CLS*, four had three, and one had five. Seven authors published at least one article in both 2006 and 2007.

A professional society exists in part to encourage members to conduct research. The American Society for Clinical Laboratory Science (ASCLS) fulfills this purpose by providing grants and scholarships to researchers.[5] ASCLS also accepts submissions of research and other articles for publication in *Clinical Laboratory Science* and *ASCLS Today*. In spite of having these opportunities to fund and publish research, few members actually do apply for grants or contribute articles to ASCLS publications (personal communication ASCLS annual meeting).[6]

The problem this study addresses is that the leadership of ASCLS does not know how members perceive the importance of conducting research or their duty to the profession to do so. The purpose of this study was to assess the perceived importance of research among ASCLS members and to create awareness in members of research opportunities in their daily work.

METHOD

An online survey was developed and housed on the website Survey Monkey. The survey consisted of seven demographic questions and three Likert-type questions that assessed participants' views on 1) the importance of and opportunity for conducting research in the clinical laboratory setting, 2) what activities in the clinical laboratory constitute research, and 3) how likely they were to conduct and publish research. These questions appear in individual tables included in the results section of this article. All ASCLS members with current email addresses (approximately 7,000) were invited to participate in the survey. The survey remained available online for one month.

RESULTS

Of the 7,000 members invited, 762 members (about 10%) accessed the survey, and 758 completed it. A few participants chose to skip some demographic questions. Table 1 displays demographic questions and data. Question six, which asked participants to identify the State in which they practice, was not included for analysis. Bench technologists comprised the highest number of survey participants (38.2%). Most (81.4%) of participants hold CLS or MT certification. The bachelor degree is the highest degree held by 50.6% of participants. Female participants (83%) outnumbered male participants (17%). Most of the participants in this survey (39.7%) range in age from 50 to 59 years old. Most participants (70.6%) hold membership in states without licensure.

Table 2 shows data for responses to question eight that asked participants to rate their level of agreement with statements about research. Nearly all participants agree or strongly agree that 1) there is important information to be gathered from research on clinical laboratory specimen results, 2) research contributes valuable information to the body of knowledge of CLS knowledge, 3) conducting research is one of the benchmarks of a profession. A lesser number, but still a majority, of participants agree or strongly agree that 1) opportunities exist to conduct research in the clinical laboratory setting, 2) research in the clinical laboratory setting contributes to improved patient care, and 3) laboratory professionals have a responsibility to conduct research as well as publish and present findings.

The majority of participants disagrees or strongly disagrees that 1) there are adequate resources available to conduct research in the clinical laboratory setting, and 2) there is adequate time available to conduct research in the clinical laboratory setting.

A high number of participants (75%-97.1%) agreed or strongly agreed that the following are clinical laboratory activities constitute research: determination of turn-around-times, patient/client satisfaction survey, method validation, investigation into the effects of pre-analytical variables, laboratory test development, correlation of laboratory data with patient outcomes, influence of different leadership styles on performance, institution / client needs assessment, assessment of patient outcomes, assessment of instructional methods, and case study synthesis. Table 3 shows data for these responses to question nine.

Table 4 shows data for responses to question 10 that asked participants how likely they were to publish and present research findings and assist other with publication. A high number (70.8%) of participants indicated that they are unlikely to publish research findings on their own, and 53.6% are unlikely to present findings at a national meeting. Over half responded that they were likely to publish research findings with the assistance of university faculty (51.9%)

and would be willing to assist others with writing.

Responses were compared between male and female participants. Males were more likely to publish research findings on their own (44.8%) than were females (26.3%). A chi square of 7.5 revealed that this is a significant finding (p=0.006) at an alpha of 0.05.

Responses were also compared between university-based and hospital-based educators. University-based educators were more likely to publish research findings on their own (53.5%) than were hospital-based educators (27.7%). A chi square of 13.6 revealed that this is a significant finding (p=<0.001) at an alpha of 0.005. Although not statistically significant, over three fourths (75.2%) of university faculty are willing to assist clinical laboratory professionals with scholarly writing.

Responses to question 10 were compared to various age groups. No significant differences were found, although the greater than 60-year-old age group was more likely to publish research on their own than other groups.

Table 1. Responses to demographic questions

Questions	Number responding
Question 1: What is your role in the clinical laboratory?	
Regional Manager	0.7% (5)
Laboratory Administrator	9.1% (69)
Section Supervisor	10.7% (81)
Bench Technologist/Technician	38.2% (289)
Educator hospital –based	6.2% (47)
Educator university-based	20.6% (156)
Other	18.6% (141)
Question 2: What are your credentials?	
CLS/MT	81.4% (614)
CLT/MLT	9.9% (75)
Diplomate	1.1% (8)
Specialist	10.3% (78)
Categorical	0.9% (7)
Other	7.8% (59)
Question 3: What is your highest earned degree?	
Associate	9.5% (71)
Bachelors	50.6% (380)
Masters	30.8% (231)
Doctorate	9.2% (69)
Question 4: What is your gender?	
Female	83.% (620)
Male	17% (127)
Question 5: What is your age range?	
20-29	16.4% (124)
30-39	11.9% (90)
40-49	17.4% (131)
50-59	39.7% (300)
>60	14.6% (110)
Question 7: Does your State require licensure?	
Yes	25.8% (195)
No	70.6% (534)
I don't know	3.6% (27)

DISCUSSION

The results of this study are not highly generalizable, because only approximately 10 % of ASCLS members who were invited actually participated in this study. In addition, not all laboratory professionals are members of ASCLS, and therefore did not have the opportunity to participate in this study. Those laboratory professionals who self-selected to respond to the survey may have more positive perceptions regarding research than those who chose not to participate.

The results of this study seem to confirm that most laboratory professionals are female with many nearing retirement age. In addition, the results of this study demonstrate that many bench technologists recognize the importance of conducting research and that many laboratory activities constitute research.

However, only a few are willing to publish research findings on their own unless they receive help. Men are significantly more likely than women to publish research findings on their own. University-based faculty are significantly more likely than hospital-based faculty to publish research findings on their own, and are willing to assist others with scholarly writing.

Table 2. Responses to question 8

Question 8 Please indicate your degree of agreement with the following statements:	Strongly Agree	Agree	Disagree	Strongly Disagree
There is important information to be gathered from research on clinical laboratory specimen results.	64.0% (484)	35.6% (269)	0.3% (2)	0.1% (1)
Research contributes valuable information to the body of knowledge of Clinical Laboratory Science.	66.3% (500)	32.9% (248)	0.8% (6)	0.0% (0)
Conducting research is one of the benchmarks of a profession.	45.4% (342)	47.0% (354)	7.2% (54)	0.4% (3)
Opportunities exist to conduct research in the clinical laboratory setting.	28.4% (213)	46.3% (348)	22.1% (166)	3.2% (24)
There are adequate resources available to (101) conduct research in the clinical laboratory. setting	6.9% (52)	24.3% (182)	55.3% (414)	13.5%
There is adequate time available to conduct (188) research in the clinical laboratory setting.	2.7% (20)	14.3% (107)	57.9% (434)	25.1%
Research in the clinical laboratory setting contributes to improved patient care.	45.0% (338)	50.5% (379)	4.1% (31)	0.4% (3)
As a laboratory professional, I have responsibility to conduct research.	16.7% (125)	49.0% (366)	29.9% (223)	4.4% (33)
As a laboratory professional, I have a responsibility to publish my research findings.	20.1% (150)	54.0% (404)	21.9% (164)	4.0% (30)
As a laboratory professional, I have a responsibility to present my research findings at professional society meetings.	19.4% (145)	53.1% (396)	24.1% (180)	3.4% (25)

Table 3. Responses to question 9

Question 9 The following laboratory activities constitute research:	Strongly Agree	Agree	Disagree	Strongly Disagree
Determination of Turn-Around-Times	25.7% (194)	49.3% (372)	23.6% (178)	1.5% (11)
Patient/Client satisfaction surveys	25.5% (191)	50.1% (376)	22.7% (170)	1.7% (13)
Method validation	39.1% (291)	47.2% (351)	12.4% (92)	1.3% (10)
Investigation into the effects of pre-analytical variables	48.4% (364)	48.7% (366)	2.4% (18)	0.5% (4)
Laboratory test development	52.4% (395)	44.3% (334)	3.3% (25)	0.0% (0)
Correlation of laboratory data with patient outcomes (data mining)	52.5% (396)	44.5% (336)	3.0% (23)	0.0% (0)
Assessing the influence of different leadership styles on performance	20.7% (155)	55.4% (415)	22.7% (170)	1.2% (9)
Institution/client needs assessment	19.4% (145)	58.1% (434)	21.2% (158)	1.3% (10)
Assessment of patient outcomes	40.7% (303)	50.1% (406)	9.0% (67)	0.3% (2)
Assessment of instructional methods (training outcomes)	32.1% (241)	54.1% (406)	13.2% (99)	0.5% (4)
Case study analysis/synthesis	37.3% (281)	53.0% (399)	9.4% (71)	0.3% (2)

Table 4. Responses to Question 10.

Question 10 Recognizing that laboratory professionals, in the clinical setting, engage in activities that constitute research: How likely are you to:	Likely	Unlikely
Publish your research findings on your own	29.2% (219)	70.8% (531)
Publish your research findings with help from university faculty	51.9% (388)	48.1% (360)
Assist clinical laboratory professionals with scholarly writing	52.3% (393)	47.7% (359)
Present research findings at a state or national meeting	46.4% (347)	53.6% (401)

In addition, those 60 years old or older (perhaps retired) are more likely to publish research findings on their own (33.3%) than members in other age groups (<30%).

CONCLUSION

Clinical laboratory professionals recognize the importance of conducting, publishing, and presenting research, although not all survey participants agreed that it was their responsibility to do so. Many participants feel that they lack resource and time to conduct research, even though many activities in the clinical laboratory constitute research. Many participants would publish the findings of their research if they had assistance with the publication process.

IMPLICATIONS

The establishment of collaborations between CLSs who have research data and those with the skills to write articles and create poster presentations would help to generate manuscripts that could be published. The results of this study suggest that collaborations between university faculty and bench technologists or hospital-based faculty may result in increased opportunities for publications. In addition, retired members may be able to mentor younger members in collaborative publication efforts. Fostering these collaborations is one way that ASCLS could begin again to fill its journal.

Clin Lab Sci encourages readers to respond with thoughts, questions, or comments regarding this article. Email responses to westminsterpublishers@comcast.net. In the subject line, please type "CLIN LAB SCI 22(3) RE MUNDT". Selected responses will appear in the Dialogue and Discussion section in a future issue. Responses may be edited for length and clarity. We look forward to hearing from you.

REFERENCES

1. Kasper, LM. Metaphors of learning and professionalism. Clinical Laboratory Science. 2001; 14:131-4.
2. Beck SJ, Doig K. CLS competencies expected at entry-level and beyond. Clinical Laboratory Science. 2002; 15:220-8.
3. Doig K, Beck SJ. Factors Contributing to the Retention of Clinical Laboratory Personnel. Clinical Laboratory Science. 2005; 18:16-27.
4. Bamberg R. Assessment of the Graduate Studies Background of CLS Faculty in University-based Programs. Clinical Laboratory Science. 2004; 17:221-2.
5. American Society for Clinical Laboratory Science. Awards and Scholarships. 2007. http://www.ascls.org/leadership/awards/.
6. American Society for Clinical Laboratory Science. Publications. 2007. http://www.ascls.org/publications/index.asp