jaccp Journal of the American College of Clinical Pharmacy

Letters of reference for PGY1 pharmacy residency candidates: A survey of residency program directors and opinion statement

Lee P. Skrupky Pharm.D.[1] ⬤ | Eliza A. Dy-Boarman Pharm.D.[2] |
Holly E. Gurgle Pharm.D.[3] | Alex N. Isaacs Pharm.D.[4] |
Erin K. McCreary Pharm.D.[5] ⬤ | Sarah A. Nisly Pharm.D., FCCP[6] ⬤ |
Frank Paloucek Pharm.D.[7] | David M. Peterson Pharm.D.[8] |
Andrew Smith Pharm.D., FCCP[9] | Garrett E. Schramm Pharm.D., FCCP[1] | The Education
and Training Practice and Research Network

[1]Department of Pharmacy, Mayo Clinic, Rochester, Minnesota

[2]Department of Clinical Sciences, Drake University College of Pharmacy and Health Sciences, Des Moines, Iowa

[3]Health and Wellness Department, ARUP Laboratories Family Health and Wellness Center, Salt Lake City, Utah

[4]Department of Pharmacy Practice, Purdue University College of Pharmacy, Indianapolis, Indiana

[5]Department of Pharmacy, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania

[6]Wingate University School of Pharmacy, Wingate, North Carolina

[7]Department of Pharmacy Practice, UIC College of Pharmacy, Chicago, Illinois

[8]Drug Information Service, University of Utah Health, Salt Lake City, Utah

[9]Division of Pharmacy Practice and Administration, UMKC School of Pharmacy, Kansas City, Missouri

Correspondence
Lee P. Skrupky, Pharmacy Education Manager, Mayo Clinic, 200 First Street SW, Rochester, MN 55905.
Email: skrupky.lee@mayo.edu

Abstract

Introduction: Although letters of reference (LORs) are required for postgraduate year one (PGY1) residency applications and used to distinguish between candidates, an evaluation of residency program director (RPD) perceptions and values surrounding LORs has not been described.

Objective: The aim of the study was to describe PGY1 RPDs' processes, values, and perceptions surrounding LORs.

Methods: This was a cross-sectional descriptive survey. After assessing content validity, the Education and Training Practice and Research Network (PRN) taskforce sent a 25-item electronic survey to 1266 PGY1 RPDs. Survey questions captured program demographics, LOR requirements, processes for LOR review, and perceptions about the value of LORs. Two open-ended questions solicited suggestions for LORs and the existing standardized form; responses were evaluated via thematic analysis.

Results: A total of 291 (24%) programs completed the survey. LORs were rated as extremely or quite valuable by 82% of respondents and moderately valuable by 16% of respondents. Scoring rubrics for LOR evaluation were used by 79% of programs, and performance ratings were reported to impact interview consideration by a majority of programs. Accuracy, detailed comments, and inclusion of specific candidate strengths and areas for improvement were rated as extremely or quite important characteristics by 90% or more of respondents. Specific strengths were reported to be present in LORs more than half of the time by 81% of programs; however, accuracy, detailed comments, and inclusion of specific areas for improvement were only reported to be present about half the time or less by 41%, 63%, and 63% of respondents. Among 207 suggestions submitted to improve LOR utility, common themes included a desire for LOR authors to have candid discussions with candidates prior to

letter writing, to contextualize their relationship with the candidate, and provide honest and specific assessments.

Conclusion: LORs remain highly valued by PGY1 RPDs during application review. Several notable findings were observed, resulting in recommendations for LOR authors, residency applicants, and the standardized LOR form.

KEYWORDS

letter, residency, survey, pharmacy

1 | INTRODUCTION

Interest in pharmacy residency training has increased in recent years, outpacing the growth of available postgraduate year one (PGY1) residency training programs. Between 2014 and 2020, the number of applicants enrolled in the PGY1 pharmacy residency match program increased from 5140 to 7535, while the number of PGY1 positions offered fell far short of this increasing from 2862 to 3924.[1] This trend is likely to continue, given the emphasis on additional training through completion of pharmacy residencies within the profession of pharmacy.[2,3]

Most pharmacy residency training programs in the United States utilize the Pharmacy Online Residency Centralized Application Service (PhORCAS).[4] Application through PhORCAS requires completion of four core sections: personal information, academic history, supporting information, and program materials. Included within the supporting information section of PhORCAS are references, commonly known as letters of reference (LORs). Applicants are required to request at least three LORs, and some programs have additional requirements for the type of reference requested (eg, an individual that has observed the applicant in a clinical setting). LORs are submitted to PhORCAS directly by the writer, and the applicant waives the right to review this information.

LORs are perceived to be a highly valuable component of a pharmacy residency application and many, but not all studies on this topic, have reported that LORs influence the perceptions of residency program directors (RPDs) and offer for interviews.[5-14] However, an assessment of RPD perceptions about the value of the various LOR components and the process that programs utilize to review LORs has not been performed. As applications to residency programs continue to increase, it has become increasingly difficult to distinguish among candidates, underscoring the need for specific and high quality LORs. An increased interest in residency training also carries an increased demand on pharmacy faculty, preceptors, and other clinicians to provide LORs on behalf of applicants. LOR writers may have varying understanding of the role LORs play in applicant selection and what information would be most helpful to residency programs. A better understanding of program preferences would also help applicants select ideal LOR writers to highlight these skills. Finally, this information may help inform potential changes to the standardized form to further improve the supporting infrastructure. To address these gaps,

the American College of Clinical Pharmacy (ACCP) Education and Training Practice and Research Network (PRN) Task Force was formed to better understand PGY1 RPD perspectives on LORs.

2 | METHODS

This was a cross-sectional descriptive survey of PGY1 RPDs. To establish content validity, questions were developed after review of existing literature by two authors (LPS, GES) with experience in the residency selection process as well as authoring and reviewing LORs. Questions were subsequently reviewed by eight additional pharmacists with subject-matter expertise, and edits were made to improve content focus and clarity. The Mayo Clinic Survey Research Center then evaluated question structure, clarity, consistency, and overall survey length. Finally, each author completed the survey independently to provide final feedback and estimates of time for completion (approximately 10 minutes), resulting in the final 25-item survey.

Twenty-three questions were categorical in nature and focused on program demographics (n=5), RPD details (n=2), LOR requirements and review process (n=7), and perceptions surrounding LOR value and its components (n=9). Two questions were open ended and asked for suggestions to improve LOR value. For questions pertaining to perceptions of value, a five-point Likert scale with the same terminology was used consistently for all questions ranging from (1) Not at all valuable (or important) to (5) Extremely valuable (or important). Descriptive statistics were used to report the frequencies and proportions of responses to these questions.

Responses to the two open-ended questions, "What additional suggestions do you have for reference authors to improve the usefulness of letters of reference in distinguishing between residency candidates?" and "What changes to PhORCAS recommendation/reference forms would help you discriminate residency candidate quality?" were qualitatively analyzed using thematic analysis. Responses were first coded by three investigators (EDB, ANI, SAN) to facilitate categorization. Descriptive codes were established independently by these three investigators, and a final code book was established through consensus. The two principal investigators (LPS, GES) independently reviewed the code book to identify any issues and resolve disagreements. Using these defined codes, all responses were then coded independently by the three investigators, and disagreements were

resolved through majority consensus. Three investigators examined patterns in the codes to identify themes for each question. Themes were finalized through consensus, and the principal investigators reviewed the themes to ensure consistency with the data.

An electronic survey instrument (Qualtrics, Provo, UT) was used to distribute the survey and collect responses anonymously. PGY1 RPDs for accredited programs were identified using a publicly available online directory maintained by the American Society of Health-System Pharmacists (ASHP), and a unique link allowing only one completion was sent to each RPD. RPDs were allowed to have a designee responsible for evaluating LORs complete the survey on their behalf. The survey remained open from 1 October 2018 to 31 October 2018 and three reminder emails were sent throughout this time. Programs in pre-candidate status or existing <1 year were excluded. The study was reviewed by the Mayo Clinic Institutional Review Board and deemed exempt.

3 | RESULTS

The survey was sent to a total of 1266 PGY1 RPDs. Among those, 1 duplicate recipient was identified, and 43 were unable to be reached, producing a final sample of 1222 RPDs. From this sample, 291 responses were received for a response rate of 23.8%. Eleven participants were from programs in pre-candidate status or with <1 year of existence and were excluded. Three participants did not answer questions beyond the program demographics, leaving 277 evaluable responses for inclusion in the analysis.

Residency program and RPD demographics are listed in Table 1. The three most common practice settings represented were nonacademic medical centers, academic medical centers, and federally funded healthcare systems, making up a combined 82% of responses. Sixteen percent of programs reported that a typical number of applications received per cycle was more than 100, whereas 15%, 17%, and 30% reported receiving 61 to 100, 41 to 60, and 21 to 40 applications per cycle, respectively.

Seventy-nine percent of programs reported use of a dedicated scoring rubric to evaluate LORs, and 25% of programs required LORs from specific sources (Table 2). Nearly 80% of respondents reported that they rarely or never contacted LOR authors for additional information, whereas 19% reported sometimes frequently contacting LOR authors.

Regarding RPD ratings for the importance of information about LOR authors (Table 3), items describing the relationship and interactions between the author and the student were of greater importance to respondents than the professional attributes of the LOR author. The nature of contact between the LOR author and candidate, a description of the student's assigned responsibilities, and duration of their relationship with the candidate were rated as quite or extremely important by 88%, 78%, and 57% of RPDs, respectively. The LOR

TABLE 1 Residency program and participant demographics

Program characteristic	Results, n (%)
Practice setting	
Nonacademic medical center/community hospital	111 (40.1)
Academic medical center	85 (30.7)
Federally funded healthcare system	31 (11.2)
Community pharmacy	26 (9.4)
Ambulatory clinic	11 (4.0)
Other	13 (4.7)
Geographic region[a]	
Midwest	86 (30.9)
Southeast	71 (25.5)
Northeast	54 (19.4)
West	40 (14.4)
Southwest	25 (9.0)
International	2 (0.7)
Program age in years[b]	
1 to 2	27 (9.6)
3 to 5	50 (17.9)
6 to 10	58 (20.7)
More than 10	145 (51.8)
Years survey respondent involved with reviewing LORs	
1 to 2	40 (14.4)
3 to 5	83 (29.9)
6 to 10	75 (27.0)
More than 10	80 (28.8)
Typical number of PGY1 applications received	
10 or less	13 (4.7)
11 to 20	47 (17.0)
21 to 40	83 (30.0)
41 to 60	46 (16.6)
61 to 100	43 (15.5)
101 to 150	24 (8.7)
151 to 200	13 (4.7)
More than 200	8 (2.9)

Abbreviations: LORs, letters of reference; PGY1, postgraduate year one.
[a]Midwest = Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Northeast = Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; West = Alaska, California, Colorado, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming; Southwest = Arizona, New Mexico, Oklahoma, Texas.
[b]Programs in precandidate status or with less than 1 year of existence excluded.

author's years of experience as a preceptor was rated as quite or extremely important by 31% and moderately important by 39%. In contrast, the LOR author's institution and the presence of an existing relationship between the LOR author and residency panel interview member(s) were rated as quite or extremely important by only 15% and 30% of RPDs, respectively.

LORs were considered to be quite or extremely valuable as a component of the application by more than 75% of respondents, and only slightly valuable or not valuable at all by 5% of respondents (Table 4). Considering specific aspects of the LORs, over 90% of RPDs rated accuracy, detail, inclusions of specific strengths, and inclusion of specific areas for improvement to be quite or extremely valuable. Specific strengths were reported to be present in LORs more than half of the time by 81% of programs; accuracy, detailed comments, and

TABLE 2 Residency program requirements and processes for LOR review

LOR requirements and processes	Results, n (%)
Scoring rubric used to evaluate LORs	
Yes	219 (79.1)
No	58 (20.9)
LOR required from specific source(s)	
Yes[a]	68 (24.5)
Rotation preceptor	63 (48.8)
Employer/supervisor	34 (26.4)
College faculty member	29 (22.5)
Other	3 (2.3)
No	209 (75.5)
Separate LOR required beyond PhORCAS	
Yes	13 (4.7)
No	264 (95.3)
Frequency of contacting LOR author(s)	
Frequently (contact ≥ 1 author for > 50% of candidates)	5 (1.8)
Sometimes (contact ≥ 1 author for 10% to 50% of candidates)	52 (18.8)
Rarely (contact ≥ 1 author for <10% of candidates)	156 (56.3)
Never	64 (23.1)
Reason(s) for contacting LOR author[b]	
Established relationship between author and program contact(s)	137 (34.3)
Specific question or concern identified from LOR	135 (33.8)
Presence of contradictory statement in LOR(s)	83 (20.8)
Not enough information provided in LOR(s)	41 (10.3)
Other	4 (1.0)

Abbreviations: LOR, letter of reference; PhORCAS, Pharmacy Online Residency Centralized Application Service.
[a]If LOR required from specific source(s), then 1 or more option could be selected.
[b]Respondents could select 1 or more option. Denominator for n (%) = 400.

inclusion of specific areas for improvement were reported to be present about half the time or less by 41%, 63%, and 63% of respondents, respectively. Ninety percent of respondents agreed that constructive comments from one LOR author did not diminish that candidate's chance of receiving an on-site interview.

The reported values of the 13 required elements and 2 additional elements commonly commented on (knowledge base and confidence) in the PhORCAS LOR form are summarized in Figure 1. Soft skills such as time management, dependability, ability to work with peers, independence, acceptance of constructive criticism, maturity, and professionalism tended to be more commonly rated as quite or extremely valuable as compared with valuations of writing skills, confidence, leadership skills, and knowledge base. LOR author evaluations of candidate performance on the required elements were noted to impact the likelihood of receiving an interview offer by 95% of respondents (Table 5). "Exceeds" or "Appropriate" selections were reported to have a favorable impact, while "Fails to meet" selections negatively impacted the likelihood of an interview offer. Similarly, approximately 87% of respondents reported that the overall recommendation for a candidate impacted interview consideration.

Responses to the two open-ended questions soliciting suggestions for LOR authors and the existing PhORCAS form produced an 8909-word document for analysis. For these data, 16 and 12 unique codes were identified for the two questions, respectively. Six total themes (three for each question) resulted, as presented in Tables 6 and 7, and discussed further in the recommendations and opinion section.

4 | DISCUSSION

Our survey findings suggest that LORs remain highly valued during residency application review and shed further light into the importance of specific LOR components and processes used for review. Indeed, more than three-quarters of respondents stated LORs are extremely or quite valuable in their assessment of potential pharmacy residents. Furthermore, the overall recommendation and evaluations of specific characteristics by LOR authors were reported to influence the likelihood of interview offers. These findings are consistent with multiple prior studies focused on pharmacy residency programs, which have reported the LOR to be considered one of the most important components of an application.[5-8] As programs evaluate large numbers of applications and attempt to gain an overall assessment of each candidate, the LOR can provide important insights across many domains and its contents have been reported to impact program directors' perceptions and interview offers.[7-10] This has also been noted among evaluations of medical training programs.[15] Taken together, these findings suggest it is important to understand which LOR components are most valued among RPDs and how often these components are included in LORs received.

With respect to general LOR components, RPDs reported that accuracy, detailed performance descriptions, and inclusion of specific candidate strengths and areas for improvement are all highly valued. An understanding of key details about the LOR author and their

TABLE 3   Importance of information about LOR authors

Question	Not important at all	Slightly important	Moderately important	Quite important	Extremely important
Duration of relationship with candidate	1 (0.4%)	27 (9.7%)	92 (33.2%)	107 (38.6%)	50 (18.1%)
Nature of contact between letter of reference author and candidate (eg, preceptor, course instructor)	0 (0.0%)	5 (1.8%)	28 (10.1%)	126 (45.5%)	118 (42.6%)
Years of experience as a student or resident preceptor	15 (5.4%)	68 (24.5%)	108 (39.0%)	75 (27.1%)	11 (4.0%)
Author's institution	43 (15.5%)	91 (32.9%)	101 (36.5%)	34 (12.3%)	8 (2.9%)
Description of student's responsibilities	2 (0.7%)	11 (4.0%)	48 (17.3%)	131 (47.3%)	85 (30.7%)
Existing relationship between letter of reference author and residency interview panel member(s)	52 (18.8%)	72 (26.0%)	70 (25.3%)	60 (21.7%)	23 (8.3%)

Abbreviation: LOR, letter of reference.

TABLE 4   Perceived value and frequency of LOR component inclusion

Value rating of PhORCAS application components					
	Not valuable at all	Slightly valuable	Moderately valuable	Quite valuable	Extremely valuable
LOR	2 (0.7%)	13 (4.7%)	52 (18.8%)	94 (33.9%)	116 (41.9%)
Curriculum vitae	0 (0.0%)	7 (2.5%)	44 (15.9%)	97 (35.0%)	129 (46.6%)
Academic record	1 (0.4%)	38 (13.7%)	98 (35.4%)	95 (34.3%)	45 (16.2%)
Cover letter/letter of intent	3 (1.1%)	10 (3.6%)	47 (17.0%)	110 (39.7%)	107 (38.6%)
What is the value of LOR components?					
	Not important at all	Slightly important	Moderately important	Quite important	Extremely important
Accuracy (comments reflect actual performance)	0 (0.0%)	0 (0.0%)	5 (1.8%)	80 (29.2%)	189 (69.0%)
Detail (specific and/or detailed comments included in majority of PhORCAS characteristics evaluated)	1 (0.4%)	5 (1.8%)	21 (7.7%)	112 (40.9%)	135 (49.3%)
Inclusion of specific candidate strengths	1 (0.4%)	0 (0.0%)	14 (5.1%)	110 (40.1%)	149 (54.4%)
Inclusion of specific areas for improvement	0 (0.0%)	1 (0.4%)	10 (3.6%)	100 (36.5%)	163 (59.5%)
How frequently are these LOR components included?					
	Never	Less than half of the time	About half of the time	More than half of the time	All of the time
Accuracy (comments reflect actual performance)	1 (0.4%)	18 (6.6%)	92 (33.8%)	144 (52.9%)	17 (6.3%)
Detail (specific and/or detailed comments included i n majority of PhORCAS characteristics evaluated)	0 (0.0%)	38 (13.9%)	133 (48.7%)	91 (33.3%)	11 (4.0%)
Inclusion of specific candidate strengths	0 (0.0%)	4 (1.5%)	47 (17.2%)	143 (52.4%)	79 (28.9%)
Inclusion of specific areas for improvement	2 (0.7%)	80 (29.3%)	89 (32.6%)	81 (29.7%)	21 (7.7%)

Abbreviations: LOR, letter of reference; PhORCAS, Pharmacy Online Residency Centralized Application Service.

interaction with the candidate was also valued. Although candidate strengths and areas of improvement were both found to be similarly valued, strengths appear to be disproportionately included in LORs.

Nearly two-thirds of respondents reported that specific areas for improvement and adequate details are provided about half of the time or less. Collectively, this suggests the need for increased transparency
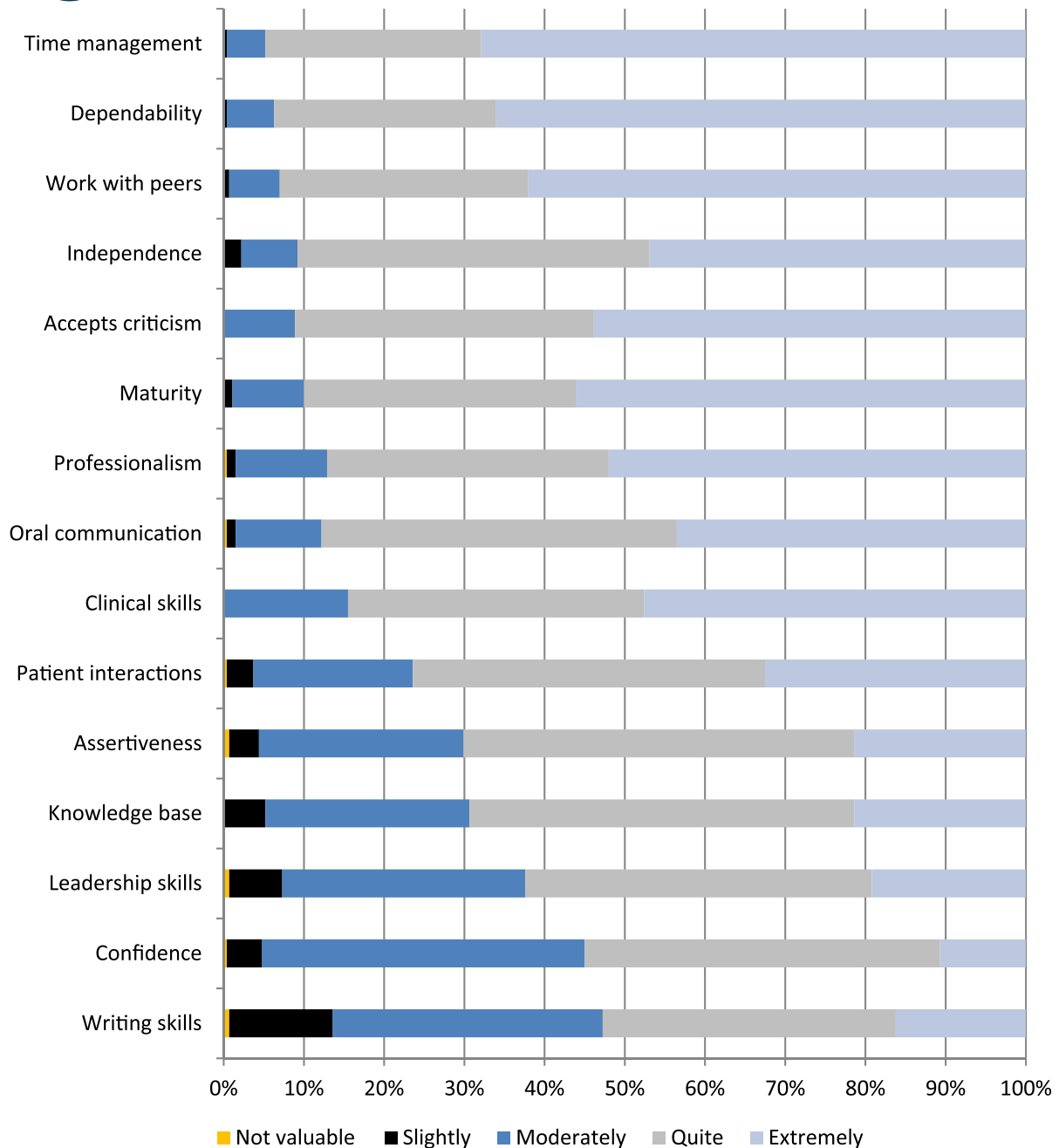
FIGURE 1   Value of LOR components. Confidence and knowledge base are not required components in the PhORCAS application. LOR, letter of reference; PhORCAS, Pharmacy Online Residency Centralized Application Service

in LORs from the RPD point of view. On the one hand, it is understandable that LOR authors may be fearful of the potential impact they perceive to result from inclusion of constructive comments. However, inaccuracies and lack of detail may hinder a program's ability to best assess each candidate and how their areas for growth and interests align with the program's own strengths and limitations. Furthermore, it is certainly possible to include constructive comments while still highly recommending a candidate. Nine out of 10 survey respondents indicated that inclusion of constructive comments in LORs did not negatively impact the chances of an on-site interview. Interestingly, this issue of overinflation of performance was identified

in a recent evaluation of 5923 LORs for PGY1 pharmacy residency applications to four large academic medical centers in which 91% of candidates were "highly recommended" and 74% of all applicant characteristic ratings "exceeded expectations."[13] This same issue has been reported in medical training programs.[16,17] Suggestions to address this issue, while avoiding any untoward negative impacts to the applicants, are discussed in the opinion section.

Among the 13 specific characteristics that require an evaluation selection in PhORCAS, RPDs tended to place greatest importance on soft skills including time management, dependability, ability to work with peers, independence, acceptance of constructive criticism, and

TABLE 5 Impact of evaluation selections by LOR authors

Which of the following statements best describes how LOR author selections regarding a candidate's performance on 13 characteristics impact the candidate's likelihood of receiving an interview?	Results n (%)
Receiving a majority of characteristic evaluations as "Exceeds" positively impacts the candidate's likelihood of receiving an interview	61 (22.6%)
"Exceeds" and "Appropriate" selections have a similar impact on the candidate's likelihood of receiving an interview	71 (26.3%)
"Fails to meet" selections negatively impact the candidate's likelihood of receiving an interview	124 (45.9%)
The characteristic evaluations have minimal impact on the candidate's likelihood of receiving an interview	14 (5.2%)
Which of the following statements best describes your program's use of the overall recommendation provided by LOR authors when considering all reference authors for a given candidate?	
Candidates must have "highly recommend" selected by all reference authors to be considered for the interview	25 (9.3%)
Candidates must have at least one "highly recommend" selection to be considered for an interview	38 (14.1%)
Candidates with any combination of "highly recommend" and "recommend" selections will be considered for an interview	149 (55.2%)
Candidates with any combination of "recommend with reservation," "recommend," or "highly recommend" will be considered for an interview	22 (8.1%)
All candidates will be considered for an interview, regardless of the recommendation selections	36 (13.3%)

Abbreviation: LOR, letter of reference.

maturity. Writing skills, leadership skills, assertiveness, and patient interactions were less often rated as extremely or quite important, though still valued. Furthermore, performance ratings provided by LOR authors for these characteristics were reported to impact the likelihood of extending an interview offer. As objective assessments of these characteristics are elusive, and assessments of candidate performance in these areas cannot otherwise be determined from the application components, it is not surprising that RPDs identified these items as very important and desire detailed information. These findings align with previous assessments of desired residency applicant characteristics in which maturity, ability to learn, leadership skills, and ability to work with a team were highly valued.[5,7,9,18] However, Atyia and colleagues recently reported that LOR author ratings of applicant characteristics poorly correlated with program's rankings of applicants and interview offers.[13] It may be that the reason for such a discrepancy in findings is the assessment of perceived value versus observed predictive value, but further research is necessary to elucidate a deeper understanding of these issues.[14]

With respect to processes used to evaluate LORs, the vast majority of programs reported using a LOR scoring rubric, highlighting the importance that programs place on the information provided. One-quarter of programs required LORs to come from a specific source, the most common being a rotation preceptor. Among RPDs who reported contacting LOR authors, reasons were largely due to inadequately explained concerns, the presence of contradictory statements, or general lack of adequate information. This again suggests there may be opportunities to improve the quality and consistency of information provided in LORs.

Limitations to this survey should also be noted. First, we had a modest response rate. However, there was a good breadth of PGY1 programs represented in terms of geography, practice settings, and program experience. Second, there is a potential for experience bias in the qualitative analysis. However, multiple steps were taken to ensure a consistent approach achieved through consensus and applied independently by the investigators involved. Third, the study design did not allow for an analysis of the validity or reliability of LOR components and did not explore other factors that can impact LORs such as language, gender, and different backgrounds; additional investigations exploring these issues are warranted. Finally, while we report the prevailing values and perceptions across a broad cohort of PGY1 programs, each program will differ in their priorities and this does not imply universal agreement with select findings.

5 | OPINION STATEMENT AND RECOMMENDATIONS

This project has revealed compelling quantitative and qualitative data from respondents on how to improve LORs. The following opinions and recommendations will focus on three key stakeholders in the LOR process: authors (Table 6), the PhORCAS platform (Table 7), and residency applicants.

5.1 | Recommendations for LOR writers

The most important characteristic of the LOR, according to RPD respondents, was an accurate representation of the applicant's performance. Writers of LORs are in a unique position that requires a thoughtful balance of positive and constructive comments. Writers have agreed to serve as an applicant reference, but they also have a professional duty to present an accurate and balanced summary of the applicant, including a detailed accounting of areas for improvement. According to our results, writers do a superb job of describing applicant strengths, but more work is needed in describing areas for improvement. This metric is still an encouraging finding for LOR writers, suggesting that significant alterations to the scope and content of the LOR are not needed. Instead, more subtle changes are necessary to improve the quality and value of LORs:

1. Prior to writing an LOR, have a candid discussion with the applicant to understand his or her goals. You may have to decline some

TABLE 6 Summary of recommendations to letter writers

Theme statement	Subthemes	Example supporting statements
Have candid discussions with candidates prior to writing a recommendation	Discuss goals for residency pursuit, and obtain candidate input on key characteristics for inclusion	"I would have the reference ask the candidate to give the writer a list of accomplishments they fell [sic] they made during their time with the reference writer this way they can be included in the letter."
	Refuse to serve as a reference and tell the candidate if you are unable to recommend or highly recommend	"If they like a candidate, they either need to be able to mark highly recommend or do them a favor and not evaluate them if unable to mark highly recommend." "Authors should refuse to write a LOR for a candidate rather than submit a negative one." "Be honest with a student if you are not the best person to write their letter…"
Contextualize your relationship with the candidate and their performance	Outline the writer-candidate relationship	"I must detect a solid relationship between letter writer and student (known student a long time, had enough contact to understand student, relationship relevant to residency)…" "… the author truly knows and spent time with the candidate will outweigh one with limited information."
	Compare the candidate to peers and/or past candidates	"References that includes comparisons of the applicants to previous students is helpful." "Include comparisons to other learners. Is the candidate on par with other 4th year pharmacy students- above what you would expect at this stage…?"
	Answer the question: "Would you want them in your program?"	"The ultimate litmus test is whether the reference author would strongly consider the candidate for their own training program." "Address candidate values and interests in narrative form. Fit is so important."
Provide an honest and specific assessment of the candidate	Provide specific examples, globally or detailed, on specific characteristics desired	"For those clinical evaluations, I would like to see specifics on the day to day activities. How they handled those, do you trust them alone, etc. Were they late to rotation, did they follow up appropriately without you reminding them to complete something 3 times?" " …programs need specific examples about the student's performance. We understand they [are] still students, but we need to be able to ascertain what is their current level and where do they need improvement." "Provide specific examples of excellent work, characteristics, or concerns."
	Avoid overinflation of performance or characteristics	"…do not 'sugar coat' anything for fear of the candidate not getting an interview" "It seems like practically every candidate is rated as 'among the top 5% of students that I've precepted over 20+ years' or something along those lines. It would be helpful for reference writers to uniformly be more truthful; clearly not every applicant is the best student ever." "Be honest. It often feels sometimes that EVERY candidate is going to be an exceptional resident." "Recommend letter writers to not over inflate the assessment scale. Not every candidate can exceed on everything."

TABLE 7 Summary of recommendations for PhORCAS

Theme statement	Subthemes	Example supporting statements
Provide more guidance for recommendation writers.	Provide more guidance and answers to frequently asked questions (FAQ).	"I think individuals who right [sic] LORs need access to a FAQ or some document to help to shed light on the type of information to include." "No recommendations for the forms, but I think having training for recommenders would be helpful."
	Define and/or standardize the current assessment scale.	"Provide guidance on 'Highly Recommends and Recommends' as highly seems extremely overused." "I think the PhORCAS form needs to be more clear of the criteria to be utilized when assessing a characteristic. A definition or recommended rubric of what it means to be 'exceeds', 'appropriate', 'fails to meet', would create better consistency and hopefully decrease the over-use of 'exceeds' for each characteristic." "Have the following summative scale: rank the candidate using the following scale: Outstanding (96-100%) Superior (91-95%) Good (81-90%) Somewhat above average (71-80%) Average (51-70%) Below average (lowest 50%). (instead of recommend, highly recommend, etc)"
Make adjustments to the existing format to ensure that programs receive key details from the most valued components of the form	Streamline and simplify PhORCAS form.	"The scales are not that helpful. Too many questions seem similar and they are pretty long." "It is too many characteristics to score and provide comments. There should be a better balance between the characteristics, providing details on at least three of them and the strengths and weaknesses sections…" "Remove some of the less useful criteria (maybe the ones that you identify through this questionnaire) so that the author can focus more time and energy filling out the more important details."
	Force grid and open-ended responses.	"Requiring the areas for improvement separate and required!" "Force writers to fill in narrative boxes for Exceeds, Needs Improvement and fails to meet choices." "Increase the minimum number of required general characteristic fields to complete for each candidate. Three out of thirteen is insufficient."
Allow programs to customize and request additional material if desired.	Allow programs to customize recommendation requirements (eg, characteristics, soft skills, peer comparison).	"Allow programs to highlight which areas are required or emphasized in their selection process." "For any program that has specific requirements or additional information requested, it would be nice to have the option of inserting that into the PHORCAS application as program-specific."
	Allow programs to request uploading of additional supporting documents.	"Provide a way for preceptors/references to upload examples of a student's work (e.g., manuscript, patient workup, lecture development, research)."

LOR requests due to a lack of experience with the candidate, or because you deem the candidate unqualified. If you cannot honestly and accurately provide a favorable reference for the applicant (ie, recommend or highly recommend), be transparent; it may be in the best interest of all parties to deny the request.

2. Provide context for your relationship with the applicant, the environment in which you observed their performance, and your ultimate recommendation. Providing contextual details helps the RPD understand the types of situations under which you have observed the applicant's performance and whether you have known the applicant long enough and have had enough interactions with the applicant to provide a thorough and accurate assessment. It is also helpful to relate performance to others at a similar level of experience (ie, "student is above average

compared with peers") and consider a statement of whether the applicant would be an asset to the residency program in question.

3. Be honest and specific including specific examples of strengths, especially for "soft skills," as well as detailed areas for improvement. Do not overinflate performance. In the competitive environment of the residency application process, you may fear that including areas for improvement may adversely affect the applicant's chances of obtaining an interview and choose not to include or fully address them. Not only are these details about the applicant required in the PhORCAS application, but they are also expected and highly valued by RPDs. Specific programs will suit different candidates, and professional growth is expected during PGY1 residency. Therefore, an honest description of strengths and areas for improvement helps RPDs identify candidates likely to be successful in their program. Provision of specific examples can help to authenticate and individualize the LOR, making it clear that the LOR was tailored to the applicant rather than just being a generic LOR used for multiple applicants. When considering specific examples to address in an LOR, it may be helpful to reflect on the applicant's attributes that are most important to RPDs (Figure 1) and performance ratings that are at either end of the spectrum.

5.2 | Recommendations for PhORCAS

Prior to the implementation of PhORCAS in 2013, LORs for residency applications were neither mandated nor standardized. At that time, ASHP provided a suggested and often used nonelectronic template that was later adapted for use in PhORCAS. The qualitative responses provided suggestions for further improvement with the PhORCAS system:

1. PhORCAS should consider providing more guidance to LOR writers, either in the form of tutorials containing specific examples, or a frequently asked questions page on expectations. This may assist writers who have questions about how their LORs will compare with those of other LOR writers. A rubric for recommendation and rating levels (ie, highly recommended vs recommend) would also foster more standardization that would assist both LOR writers and RPDs.

2. PhORCAS should consider allowing customization of the LOR by individual programs. Survey respondents noted interest in custom features such as requiring comments on certain characteristics that are most important to them (eg, soft skills) or the ability to require certain documents be uploaded as part of the application. This would allow RPDs to collect the materials that are most helpful to their decision-making process as they seek candidates who are the best fit for their programs.

3. PhORCAS should consider modifications to the currently existing LOR format to help ensure programs receive information for the most valued components. Currently, LOR writers are only required

to comment on 3 of 13 characteristics; RPDs would like to consistently see a higher number, particularly for those characteristics rated as exceeding or failing to achieve expectations. LOR writers may also benefit from a streamlined LOR form which would allow for richer, more-detailed responses to the questions that matter most to RPDs.

5.3 | Recommendations for residency applicants

This survey was not directed at residency applicants; however, there are some significant takeaways for this group as well. First, it is important to select LOR writers thoughtfully. RPDs want LORs from people who have a strong relationship and can comment on various aspects of an applicant's performance, including areas of improvement. Therefore, prior to requesting an LOR, the applicant should consider if the person they are asking has the required experience to include a discussion of their skills including "soft skills." Second, applicants need to be prepared to have a candid discussion with LOR writers and explain their goals and how the particular program will help them achieve their goals. Lastly, the applicant should be prepared that all letters should include areas for improvement. As such, they should prospectively identify their areas for improvement and be prepared to address these in interviews.

6 | CONCLUSIONS

This survey of accredited PGY1 programs revealed that LORs remain a highly valued component of a residency application and are utilized by programs to distinguish between candidates. Although programs will vary in their unique perspectives, insights into the most valued LOR components were identified, resulting in recommendations for LOR authors, potential adjustments to the PhORCAS LOR form, and residency applicants. These recommendations may help guide LOR writers toward the critical information that RPDs value most while avoiding detrimental effects to the applicant and suggest ways to enhance the standardized form to best meet program needs.

ORCID
Lee P. Skrupky https://orcid.org/0000-0003-4138-7769
Erin K. McCreary https://orcid.org/0000-0001-6705-2225
Sarah A. Nisly https://orcid.org/0000-0002-1370-4694

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