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Abstract

Leadership development and succession planning are critical to ensure continued strength of academic pathology. The Association of Pathology Chairs developed the Pathology Leadership Academy to prepare future academic leaders. The purpose of this report is to describe: (1) Pathology Leadership Academy's development and curriculum, (2) how Pathology Leadership Academy has met leadership development needs for individuals and academic departments in its first 2 years, (3) Pathology Leadership Academy's future directions based on program feedback. Results were analyzed from pre- and postprogram needs assessment surveys of pathology chairs and from evaluations from Pathology Leadership Academy participants in the first 2 years. Pathology Leadership Academy curriculum was developed from topics identified as priorities in the chairs' survey. Twenty-eight (90%) of 31 responding participants were very satisfied/satisfied with Pathology Leadership Academy. Of the 18 responding chairs who sent a participant to Pathology Leadership Academy, 11 (61%) reported that Pathology Leadership Academy met their faculty development goal. Of all responding chairs, 13 (32%) of 41 reported uncertainty as to whether Pathology Leadership Academy is meeting chairs' goals. Chairs reported that Pathology Leadership Academy provided value to their faculty through preparation for a future leadership role, enhancing skills for a current role, and enhancing understanding of opportunities and challenges in academic medicine. Most chairs (27/43, 66%) said Pathology Leadership Academy should be offered again; 13 (32%) of 43 were uncertain, and 1 (2%) of 43 said no. Initial experience of Pathology Leadership Academy is positive and promising and provides opportunity for leadership succession planning in academic pathology. Pathology Leadership Academy will use participant and chair feedback for ongoing curricular development to ensure topics continue to address major needs of academic pathology.

Keywords

faculty development, career development, succession planning, diversity, retention strategies

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Introduction

A shortage of pathologists is looming, according to the College of American Pathologists. This prediction is based on many factors, including increasing health-care needs by the aging population in the United States, an aging pathologist workforce, forecasts of pathologist retirements over the next decade, a shrinking supply of pathologists due to a growing annual percentage of unfilled residency positions, new roles involving population health management, increased regulatory demands,

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and new technology.¹⁻³ This shortage will inevitably affect academic pathology, since one-third of all pathologists practice in an academic medical center.² Attracting and retaining pathologists to academic careers is important to the future of the specialty, as well as the entire house of medicine, since a vibrant pathology faculty is necessary to train future physicians, including future pathologists, and to create and apply the discoveries that will advance the field and improve the health of the nation. Succession planning and leadership development within academic pathology is, therefore, an important part of the specialty's strategy for the future.

To address the future of academic pathology, the Association of Pathology Chairs (APC) Council, the organization's governing body, appointed a Leadership Development and Diversity (LDD) committee in 2014. Leadership Development and Diversity committee was charged with creating programs that would aid in development of faculty leaders for departments of pathology and laboratory medicine, increase the diversity of faculty within the specialty, and enhance the functionality of diverse teams. To help fulfill these charges, the LDD created a Pathology Leadership Academy (PLA) which was cofounded and codirected by 2 of the authors (L.P.H. and D.S.Z.).

Pathology Leadership Academy was first offered in 2016 and is one of the first leadership programs offered by a major professional organization in pathology and laboratory medicine. The American Society of Clinical Pathology piloted their Leadership Academy in the same year and made it available to their general membership in 2017 (<https://www.ascp.org/content/learning/certificate-programs>, Accessed December 21, 2018). Other pathology organizations followed with programs in succeeding years. In addition to these pathology-specific programs, leadership training for academic medical faculty has been offered for many years through organizations such as Association of American Medical Colleges (AAMC), Drexel University, and Harvard's School of Public Health, though none of these are specialty-specific. Many universities and medical schools offer their own leadership training programs, though these are typically limited to participants internal to the sponsoring academic institution. A survey by the AAMC found that two-thirds of academic health centers offer formal leadership training programs, though content varies widely.⁴ Table 1 summarizes leadership programs currently open to aspiring leaders in academic pathology. Pathology Leadership Academy clearly fills a unique niche since it intentionally provides content focused on the specialty of pathology and laboratory medicine that is delivered within the context of academia. This dual focus is designed to meet the workforce and succession needs of academic pathology.

The purpose of this report is to: (1) describe the PLA's development, curriculum, and evaluations from its first 2 years; (2) illustrate how the program has met leadership development needs of academic pathology departments and individual faculty participants; and (3) share how experiences to date could be used to improve the PLA, as well as benefit other leadership programs.

Materials and Methods

Pathology Leadership Academy: Program Description

Development of the PLA curriculum was informed by findings from a needs assessment survey of department chairs conducted in 2014 and described in the Methods and Results sections. Drexel University's Executive Leadership Program in Academic Medicine (ELAM) served as a major inspiration for the PLA (<https://drexel.edu/medicine/academics/womens-health-and-leadership/elam/>, Accessed December 20, 2018).⁵⁻⁸ Executive Leadership Program in Academic Medicine is specifically designed for development of women leaders in academic medicine and has a strong track record of success. Executive Leadership Program in Academic Medicine alumnae include many women pathology chairs, including the 2 PLA cofounders and coauthors of this report (L.P.H. and D. S. Z.). As a year-long longitudinal program, ELAM is more extensive than PLA and includes distance learning and an institutional action project in addition to 2 week-long off-site sessions. Though PLA is shorter, many of its curricular topics and learning approaches were modeled from ELAM, including the mix of lectures, interactive sessions, mentoring, and networking opportunities.

The PLA curriculum for both years also reflects topics identified in the 2014 chairs' survey and included speakers external to the APC, in addition to speakers who were active and former chairs and members of APC. Pathology Leadership Academy provided lunch programs with networking opportunities and informal table discussions with senior fellows (previous chairs of pathology departments) and active chairs. A dinner for participants, faculty, and the APC Council offered further opportunities to meet others and establish contacts. Participants in the PLA were also encouraged to attend the annual APC meeting that followed the PLA, to expand their education about important and emerging topics relevant to academic pathology.

Table 2 illustrates the curriculum provided in year 1 of the program. In year 2, the program was reduced from 1.5 days to 1 day (Table 3), based on preference of the APC Council, largely due to space and financial considerations at the 2017 APC annual meeting. To shorten the program, lectures were prioritized for elimination and reflected participant feedback that interactive sessions were preferred. Participants were required to submit a written application with support from their department chair. These were reviewed by the codirectors prior to acceptance.

In the first year of the PLA, there were 58 participants from 43 departments in 19 different states. Geographic diversity was broad and included 20 (46%) of 43 departments from the Northeast, 19 (44%) of 43 from the West (including Texas), 12 (28%) of 43 from the Midwest, and 7 (16%) of 43 from the Southeast. New York was the state most frequently represented, with 11 participants. The participants included all academic ranks, though assistant professors were most frequent; participants held a variety of leadership roles, including vice chairs, section and division chiefs, an interim chair, medical directors of

Table 1. Leadership Programs Focused on Pathology and Laboratory Medicine and/or Academic Medicine.

Name	Sponsor	Pathology-Specific?	Academia-Specific?	Length	Website (Accessed December 21, 2018)
Pathology Leadership Academy	Association of Pathology Chairs	Yes	Yes	1.5 days (off-site)	https://www.apcprods.org/pla
Leadership Certificate Program	American Society of Clinical Pathology	Yes	No	10 online on-demand courses (on-site)	https://www.ascp.org/content/learning/certificate-programs
Engaged Leadership Academy	College of American Pathologists	Yes	No	2.5 days (off-site)	https://www.cap.org/member-resources/engaged-leadership-academy
Leadership, Collaboration and Change: A Course for Emerging Leaders in Pathology	United States and Canadian Academy of Pathology	Yes	No	2 days (off-site)	https://interactive.uscap.org/courses/special-course-february-2-3-2018
Early Career Women Faculty Leadership Development Program	Association of American Medical Colleges	No	Yes	3.5 days (off-site)	https://www.aamc.org/members/leadership/catalog/323134/earlycareerwomenfacultyleadershipdevelopmentseminar.html
Mid-Career Women Faculty Leadership Development Program	Association of American Medical Colleges	No	Yes	3.5 days (off-site)	https://www.aamc.org/members/leadership/catalog/323118/mid-careerwomenfacultyleadershipdevelopmentseminar.html
Minority Faculty Leadership Seminar	Association of American Medical Colleges	No	Yes	3 days (off-site)	https://www.aamc.org/members/leadership/catalog/323116/minorityfacultyleadershipdevelopmentseminar.html
Mid-Career Minority Faculty Leadership Seminar	Association of American Medical Colleges	No	Yes	3 days (off-site)	https://www.aamc.org/members/leadership/catalog/452848/mid-careerminorityfacultyleadershipseminar.html
Graduate Medical Education Leadership Development Certificate	Association of American Medical Colleges	No	Yes	2 off-site modules and final presentation, on-site project and assignments	https://www.aamc.org/members/leadership/470170/gmeleadershipdevelopmentcertificateprogram.html
Organizational Leadership Program in Academic Medicine for New Associate Deans and Department Chairs	Association of American Medical Colleges	No	Yes	3.5 days off-site	https://www.aamc.org/members/leadership/catalog/323132/organizationalleadershipinacademicmedicine.html
Council of Deans Fellowship Program	Association of American Medical Colleges	No	Yes	One year: Off-site visits and attendance at Annual Meeting and Deans' Executive Development Seminar, on-site project	https://www.aamc.org/members/cod/451540/programguidelines.html
Executive Leadership Program in Academic Medicine	Drexel University	No	Yes	One year: 2 off-site sessions, on-site action project and activities	https://drexel.edu/medicine/academics/womens-health-and-leadership/elam/about-elam/
Leadership Development for Physicians in Academic Health Centers	Harvard University School of Public Health	No	Yes	2 weeks (on-site)	https://www.hsph.harvard.edu/ecpe/programs/leadership-development-for-physicians/
Program for Chairs of Clinical Services	Harvard University School of Public Health	No	Yes	2 weeks (on-site)	https://www.hsph.harvard.edu/ecpe/programs/program-for-chairs-of-clinical-services/

Table 2. Pathology Leadership Academy Curriculum: Year 1 (2016).

Day and Time	Activity
Day 1	
7:30 AM	Registration and breakfast
8:15 AM	Welcome and introductions
8:30 AM	Lecture: Why think about a leadership position? (Active department chair)
9:30 AM	Lecture: Surviving and striving in an academic environment (Guest speaker)
10:30 AM	Break
10:45 AM	Lecture: Pitfalls in the development of strategic plans (Active department chair)
11:45 AM	Lecture: Business development in academic pathology (Active department chair)
12:30 PM	Roundtable lunch with emeritus department chairs
1:30 PM	Lecture: Academic Pathology Finance 101: A whirlwind tour of a profit and loss statements, operating and capital budgeting, funds flow models, compensation and incentive systems, measuring productivity (Department manager)
2:30 PM	Lectures: Finance in motion: Applications in academic medical centers (Active department chair)
3:15 PM	Lecture: Unique leadership challenges in the research mission (Active department chair)
3:45 PM	Break
4:00 PM	Panel discussion: Preparing yourself for and finding the leadership position you seek (Active and emeritus department chairs)
6:00 PM	Faculty and participant networking dinner
Day 2	
7:30 AM	Breakfast, welcome and introductions
8:00 AM	Interactive workshop: A strategy for career success: effective negotiation and conflict management (Guest speaker)
9:45 AM	Break
10:00	Interactive workshop, continued: A strategy for career success: effective negotiation and conflict management (Guest speaker)
11:30 AM	Panel discussion: How you and your department can grow future leaders in pathology (Active department chairs)
12:15 PM	Graduation lunch

Table 3. Pathology Leadership Academy Curriculum: Year 2 (2017).

Time	Activity
8:00 AM	Registration and breakfast
8:30 AM	Welcome and introductions
8:35 AM	Lecture: Leadership Styles (Guest speaker)
9:30 AM	Lecture: Finding and using your strengths as a leader (Active department chair/certified coach)
10:30 AM	Break
10:45 AM	Panel discussion: Pathways to leadership (Emeritus and active department chairs)
11:45 AM	Roundtable lunch with emeritus and active department chairs
1:15 PM	Interactive session: Negotiating for what you need (Guest speaker)
5:00 PM	Close
6:00 PM	Faculty and participant graduation and networking dinner

laboratories, program directors, and associate program directors. Years of practice experience ranged from 1 to 27 years, but 3 to 5 years was the most common range among the participants (24/58, 41%). Reasons provided on the application for attending the course included expanding knowledge related to job responsibilities and challenges; increasing understanding of the business and financial aspects of medicine; networking; mentorship; and enhancing skills in negotiation, consensus-building, conflict management, and strategic planning.

In the second year of the program, there were 37 participants from 22 departments in 17 different states. Geographic diversity was once again broad, though the distribution was different from the previous year. The regions with the most participants were from the Southeast and West with 11/37 (30%) each, followed by the Midwest (8/37, 22%) and the Northeast (7/37, 22%). Interestingly, region of participation did not fully reflect location of the meeting. The 2016 PLA took place in San Diego where participation from the Northeast was the highest, and the 2017 PLA took place in Washington DC where participation from the West was tied for highest and the Northeast was lowest. Once again, participants held a variety of leadership roles and came from all academic ranks. Assistant professors represented approximately half of the participants.

Surveys

Needs assessment survey of department chairs. In 2014, a survey of chairs of the APC's member departments was conducted by the LDD to assess perceived needs for leadership development of current and aspiring chairs and of other department-level leaders. The intent was to obtain data that would guide the design of new programming by the LDD, as well as to obtain baseline data to assess the impact of programming in future years. This survey was developed by the codirectors and members of the LDD and consisted of multiple-choice questions, which were administered via the online survey tool, Survey-Monkey. All 189 participating department chair members of the APC were invited to participate via an e-mail request, which included a link to the survey website. The APC membership includes departments at institutions affiliated with Liaison Committee on Medical Education (LCME)-accredited medical schools and/or those affiliated with graduate medical education programs accredited by Accreditation Council for Graduate Medical Education (ACGME). Reminder e-mails were sent to members at 1- and 2-month intervals, after the initial invitation to encourage survey participation. There were no opportunities to complete the survey by other means, such as regular mail or by telephone.

Follow-up survey of department chairs. In 2017, a survey was conducted to reassess perceived needs of department chairs regarding leadership development of current and aspiring chairs and of other department-level leaders, as well as to assess department chairs' perspectives on and experiences with the PLA. The 28-question multiple-choice survey repeated some questions from the original needs assessment, with added

Table 4. Demographics of Department Chair Respondents to Leadership Course Surveys.

	2014	2017
Percent (number) of respondents	26% (50/189)	23% (43/189)
Years as chair		
<2 years	18% (9/50)	34% (14/41)
2-5 years	22% (11/50)	15% (6/41)
6-10 years	20% (10/50)	27% (11/41)
11-15 years	18% (9/50)	5% (12/41)
16+ years	21% (11/50)	5% (12/41)
Gender		
Male	36% (18/50)	68% (29/43)
Female	10% (5/50)	30% (13/43)
Not reported	54% (27/50)	2% (1/43)
Geographic region		
Northeast	n/a	30% (13/43)
Southeast	n/a	23% (10/43)
Midwest	n/a	23% (10/43)
West	n/a	16% (7/43)
Canada	n/a	2% (2/43)
Other	n/a	1% (1/43)

Abbreviation: n/a, not applicable.

questions that evaluated chairs perceptions of the 2 PLA sessions. The SurveyMonkey tool, e-mail invitation to participate, and reminder e-mails were similar to those employed in the original survey described above.

Program evaluation survey of pathology leadership academy: Participants. In 2016, participants received hard-copy paper evaluations at the course. These were collected at the course's conclusion. Questions were multiple-choice style and were unique to this program. In 2017, PLA evaluation was integrated into the same online form used for other programs at the annual APC meeting and utilized the same questions as those used for other programs. Participants received e-mail reminders to complete the evaluations for several weeks after the PLA concluded.

Results

2014 and 2017 Surveys of Department Chairs: Needs Assessment

In 2014 and 2017, 50 (26%) of 189 and 43 (23%) of 189 chairs responded to the survey, respectively. Respondents did not answer all survey questions. Demographics of the respondents appear in Table 4.

In the 2014 survey, 80% (40/50) of the respondents said that their department had had a leadership recruitment within their department during the past 4 years. Sixty-one percent (25/41) noted that necessary leadership experience or training was less than desired among candidates for the vacancy. The area in which chairs reported that applicants were most deficient was management experience (64%, 25/39). Seventy-nine percent (38/48) of responding chairs agreed with the survey statement that the APC should offer educational programming focusing on general and

pathology-specific leadership topics. Other deficiencies in applicants' skills included budgeting (54%, 21/39), contract negotiation (49%, 19/39), hiring/human resources (41%, 16/39), knowledge of pathology billing and revenue cycle (41%, 16/39), productivity/benchmarking (41%, 16/39), lab management (38%, 15/39), and change management (38%, 15/39).

Chairs were asked to identify the top 5 topics for inclusion in a leadership program in both the 2014 and 2017 surveys (Figure 1). In 2014, the following were ranked highest by responding chairs: financial management (48%, 21/44), representing the department effectively (41%, 18/44), conflict resolution (39%, 17/44), characteristics of effective leaders (36%, 16/44), and evolving health-care system (36%, 16/44). In the 2017 survey, chairs selected some of the same topics, and other differing topics, for inclusion among the top 5 areas most useful for leadership development: organizational strategies (24/43, 55%), change management (23/43, 53%), financial management (21/43, 48%), conflict resolution (20/43, 47%), faculty evaluation, and feedback (17/43, 40%). Only conflict management and financial management ranked in the top 5 in both survey years. Preferred program length/cost reported by chairs was 1 day/\$1000 (15/43; 34%). The following proposed program length/cost both received 23% (10/43) of responses: 1.5 days/\$1500, 0.5 days/\$500, 2 days/\$2000, and "none of the above."

Chairs were queried in both 2014 and 2017 about the perceived value of having faculty participate in an APC-sponsored faculty development program, and responses were fairly similar in both survey years (Figure 2). Responses include preparation for a future leadership role (2014 = 43/45, 96%; 2017 = 37/42, 88%), enhancement of skills for a current leadership role (2014 = 39/45, 87%; 2017 = 32/42, 76%), enhancement of understanding of opportunities and challenges in academic medicine (2014 = 27/45, 60%; 2017 = 28/42, 67%), and faculty retention (2014 = 47%; 2017 = 18/42, 43%).

In both 2014 and 2017, chairs were surveyed about preferred choices for faculty participation in leadership development programs. The top 3 preferences were similar each year, though in slightly different order. Division or section chiefs were given highest preference by chairs in both years (2014 = 37/45, 84%; 2017 = 39/43, 91%). New chairs were ranked as second (35/45, 78%) in 2014, but third in 2017 (25/43, 58%). Conversely, associate professors were ranked by chairs second in 2017 (31/42, 72%), but third in 2014 (20/45, 55%). In 2014, 29% (13/45) respondents provided write-in comments suggesting that business and lab administrators within the department could also benefit from participation.

2017 Survey of Chairs Perceptions of and Experience With the Pathology Leadership Academy

Of the 42 respondents to the 2017 survey, 18 (42%) reported sending a faculty member to the PLA. Eleven (61%) of 18 reported that the PLA met the chair's goal, and 13 (32%)/41 said that they were uncertain/too soon to assess. Only 1 (2.4%) respondent said that the PLA did not meet the chair's goal.

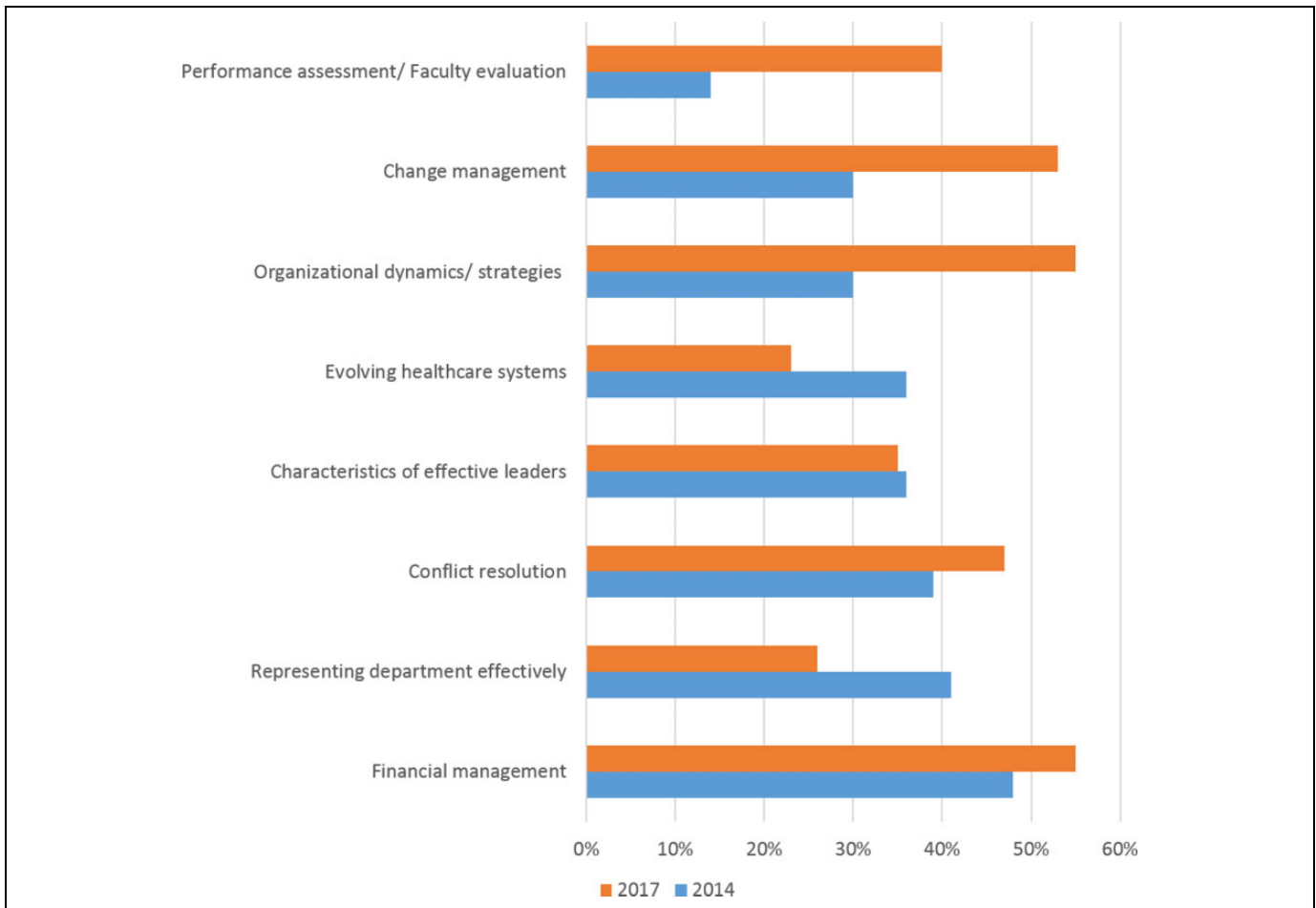


Figure 1. Chairs' top 5 preferences for leadership development topics.

Nineteen respondents provided responses regarding reasons why they did not send a faculty member to PLA. The most common reasons chosen were clinical coverage challenges (7/19, 37%) and faculty availability (4/19, 24%). Only 3 (15%) of 19 chose cost as a factor, and 3 (15%) of 19 indicated that they preferred other courses. None of the chairs reported geographic location to be a factor preventing faculty participation. A few written comments submitted by respondents indicated that the chair was not sufficiently aware of the course to have considered participation of a faculty member.

Sixty-six percent (27/43) of chairs responded that PLA should be offered again, 32% (13/43) were uncertain, and 1 (2%) said no. Chairs were queried about the other options for leadership training that they were likely to utilize for their faculty and were allowed to choose more than 1 response. A local course at the chair's own school/university was the most frequent option chosen (29/43, 67%), followed in frequency by an APC-sponsored course at another pathology society's meeting (58%) and an APC-sponsored course preceding the APC's annual summer meeting, like the current PLA (22/43, 51%). Other options did not receive a majority of responses from chairs, including courses offered by other professional societies or organizations (44%), distance learning courses offered by the APC (15/43,

35%) or other organizations (11/43, 26%), courses at other schools or universities (5/43, 12%), or an APC-sponsored course held before or after the Winter Council meeting (4/43, 9%).

Program Evaluation Survey of Pathology Leadership Academy Participants

In 2016, 31 paper evaluations were submitted by 58 participants (53% response rate) immediately following the program's conclusion. Not all respondents answered every questions. On a scale of 1 to 5, 24 participants gave the PLA an overall rating of 5 (very satisfied) and the remaining 7 rated the course 4 (satisfied); no lower ratings were provided. The participants were asked to rate the 15 PLA speakers on a scale of 1 to 5 (5 = highest) in the following areas: effectiveness of slides/method, knowledge of subject matter, enthusiasm, ability to answer questions, and overall quality of presentation. Six speakers received ratings exclusively of 4 and 5. Of the remaining 9 speakers, the most common ratings in each area was 3 (neutral), though some ratings of 2 and 1 (poor) were noted. The informal roundtable lunches with emeritus chairs were very highly rated. Of the 29 participants who provided ratings for this session, 26 rated the session as 5 (highest) or 4, and the remainder gave a neutral

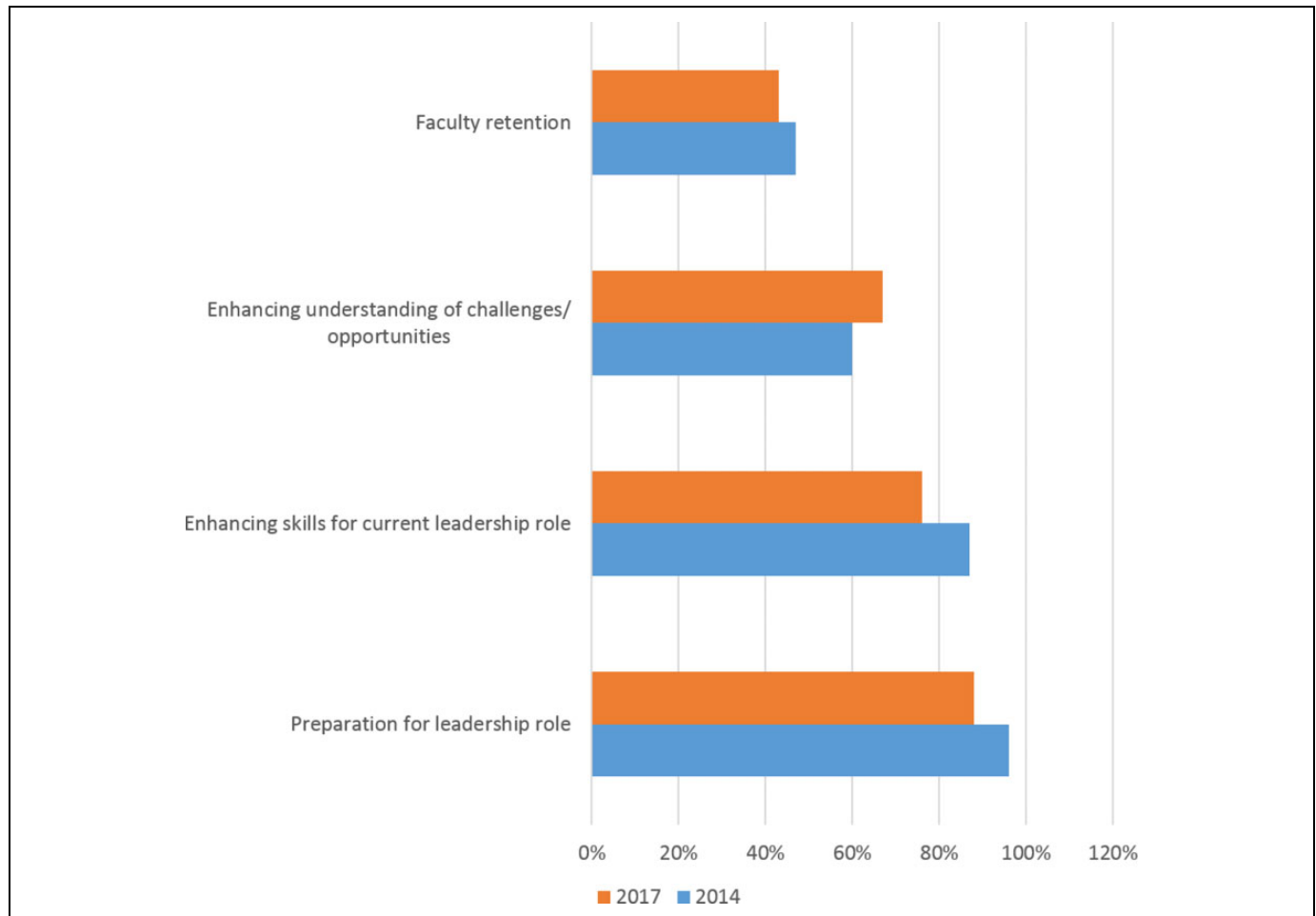


Figure 2. Chair's perceptions of the value of faculty participation in a leadership development course (2014, N = 45; 2017, N = 42).

rating of 3. Written comments regarding the session with emeritus chairs included “Emeritus faculty was so great. I liked the mix of current and retrospective.” “Strength was the availability of senior fellows and hearing the experiences that shaped their decisions.” Figure 3 and Table 5 provide other participant ratings from the evaluation and representative comments, respectively.

In 2017, the evaluation rate was lower, most likely reflecting the change in evaluation method and solicitation, with only 13 evaluations received from the 37 (35%) participants. Ratings remained high. Ten (77%) of 13 responded that the course exceeded expectations, and the remaining 3 (23%) indicated that the course fully met their expectations. All responded that they strongly agreed or agreed that the content was valuable, met their needs, and was applicable to their practice. All responded they would recommend the program to a colleague.

Discussion

The PLA is a new leadership development program for faculty in pathology and laboratory medicine. In PLA's first 2 years, 95 academic pathology faculty participated, a number that portends well for interest in leadership development by nonchair faculty in pathology departments. Participant satisfaction is an

important dimension of program evaluation and the high ratings received in PLA's first 2 years substantiate the program's successful launch. The PLA's strong evaluations fit with previously published reports that show that participants consistently rate faculty development programs highly and value the practical relevance and applicability of content, the higher perspective that the program provides of the institution or organization, and the opportunity for personal growth.⁷⁻¹² Financial support, and the implied personal support, from the department chair is also a key promoter of participation and satisfaction within a career development program.⁸ Department chairs also report satisfaction with their faculty's experience with the PLA, though chair response rate was low, and a third of the respondents felt it was too early to assess outcomes. Positive chair satisfaction may reflect the fact that the curriculum was specifically designed to meet chairs' top reported reasons for sending a faculty member for leadership training, which include preparing for a future leadership role, enhancing skills for a current leadership role, and enhancing understanding of opportunities and challenges in academic medicine, which were identified in the 2014 survey. Curricular topics also closely reflected deficiencies in skills among applicants for leadership positions, as identified by chairs in the 2014 survey.

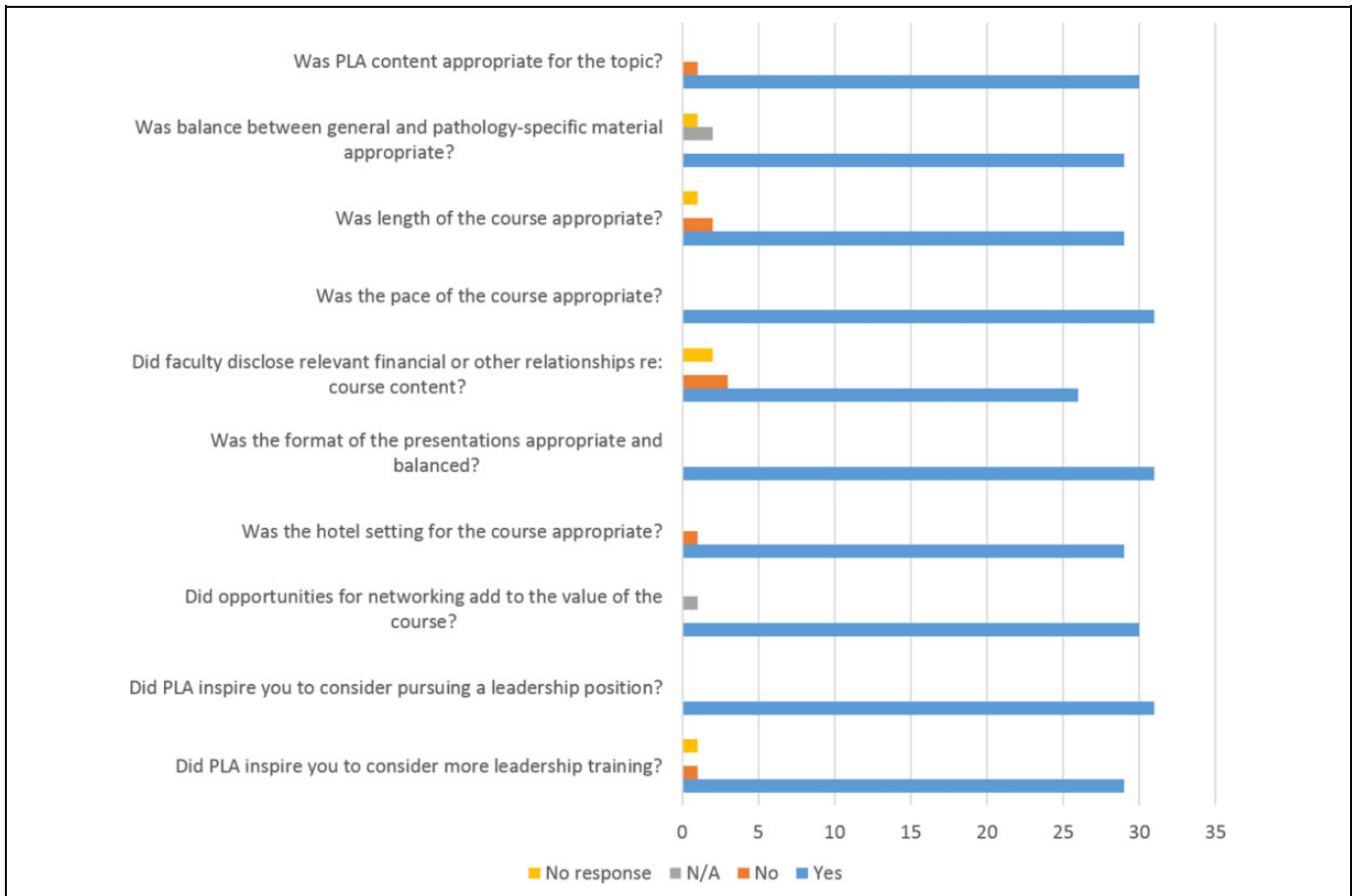


Figure 3. Evaluations of the 2016 pathology leadership academy experience: number of participant responses.

Table 5. Representative Comments From Participants, 2016 Pathology Leadership Academy.

Positive comments

- “Wonderful and inspiring program. It allowed opportunities for introspection.”
- “Truly unique in that we heard from numerous chairmen how they deal with real world issues.”
- “Very good advice; these are topics we never get training on.”
- “Highly valuable program, I highly recommend to people at the beginning of their leadership role.”
- “I’ve never attended a conference where I hung on each word of each lecture, and each lecture was better than the next. Wonderful opportunities to talk to people with lots of experience, committed to mentorship.”
- “Speakers on day 1 were very personal (informative and interesting). Day 2 speaker was spectacular. These topics need to be addressed annually.”
- “This is an excellent initiative by APC to develop future leadership in pathology.”

Negative comments

- “More workshop-style sessions with active learning”
- “Need more breaks and opportunities for interactions”
- “Often felt rushed”

As a program embedded in a professional organization focused on academic pathology, PLA offers several unique features that likely contribute to high satisfaction and distinguish it from other leadership programs. These unique features align with recommendations provided by the American Academy of Pediatrics (AAP) as “lessons learned” for other programs and are derived from the AAP’s experience with their own faculty career development program, the Educational Scholars Program.¹¹ The AAP’s first recommendation is that a career development program should have a focus that will measurably advance the central mission of the sponsoring organization. The PLA’s focus on providing skills necessary for future leaders in academic pathology is central to the APC’s role as the voice of academic departments of pathology in North America, as well as the APC’s mission to provide leadership and advocacy that enable academic departments to meet the demands of medical education, research, and practice. Case studies and discussion topics specifically use scenarios derived from academic pathology to illuminate the curriculum. Secondly, the AAP recommends that national networking should be an explicit facilitated goal of an effective career program, since networking is highly valued by participants. Likewise,

the networking component of the PLA is a popular and key component of the program and includes an unparalleled opportunity for networking with pathology chairs at a variety of institutions nationwide, as well as fellow participants, and the APC's senior fellows, who are former pathology chairs. This latter group is a unique and valuable asset providing broad perspective and a safe non-power-based source of advice. Thirdly, the AAP recommends drawing on volunteer talent within the organization for networks and diverse talent.¹¹ This is exactly the strategy for the APC's PLA program, which is largely given by the active and former pathology chairs, the latter of whom include chairs who have gone on to serve as deans or in other organizational leadership roles. The PLA, therefore, provides a level of expertise in academic leadership that few other programs can match.

American Academy of Pediatrics also recommends leveraging the sponsoring society's periodic conference, since this provides an opportunity for face-to-face interaction with fellow participants and other members to enhance program effectiveness.¹¹ The PLA's strategic placement at the start of the annual APC meeting has been an intentional choice designed to provide PLA participants with first-hand exposure to the organization's goals and functions, to provide an opportunity to experience how the society collectively addresses hot topics to shape the future, and to increase networking and mentorship opportunities. Interestingly, survey responses from department chairs in 2017 indicated that they were most likely to utilize a local leadership course at their own school or university. This may mean that chairs preferred to minimize travel expense by keeping training local and/or reduce time away needed for traveling to a distant location. Preference for local programs may also be influenced by perceived advantages for leadership training within the context of local culture since familiarity and fit with organizational culture can directly affect a leader's success. Knowledge of a local program's quality and track record may also influence a chair's preference; a new "start-up" program like PLA may be seen as risky and less desirable. Local courses are readily available alternatives, as noted in a recent AAMC survey.⁴ Participation in PLA did not appear to demonstrate preference for minimizing travel expense, since the majority of participants in each of the 2 years were not from the immediate geographic region near the course location. Cost and geographic location was also not a substantial factor reported by chairs who did not send faculty to PLA, according to the 2017 survey responses. Chairs also showed little interest in distance learning leadership courses for their faculty, another cost-saving option. The APC offers a monthly webinar series, the Leaders Learning Series, which includes many leadership topics (<https://www.apcprods.org/m-webinars>, Accessed December 21, 2018). The webinars provide a nice supplement to current leaders and those who have completed PLA, but there is no formal curricular design, no formal certificate associated with the webinars, and no opportunity for mentoring or networking which are important elements to a successful leadership program. We speculate that the quality of PLA's content, the expertise of the faculty, and the opportunity to benefit

from interacting with others and learning from the APC annual meeting outweigh travel expense and current distance learning formats offered by APC. Other factors influencing choice of program are yet to be explored.

To our surprise, most chairs did not indicate faculty retention as a major reason for supporting a faculty member's participation in PLA; nonetheless, a substantial percentage (44%) provided this response on the survey. Career development programs have been shown to provide a significant retention advantage for women faculty.^{6,8,13} This retention benefit extends for as long as 8 years for early and midcareer women faculty, career phases that are most vulnerable for leaving the workplace, including leaving academic pathology altogether.⁶ Interestingly, the majority of the PLA participants were faculty at the assistant and associate professor levels. This may indicate chairs' desire to invest in high-potential faculty early in their careers. This long-term secondary benefit of enhanced retention may emerge over time.

Pathology Leadership Academy is not based on any specific conceptual model of faculty development. O'Sullivan and Irby recommend a model that emphasizes communities of practice and workplace learning and that uses a framework of cyclical inquiry borrowed from quality improvement programs.¹⁴ Pathology Leadership Academy provides 2 communities of practice: the transient community composed of participants, teachers, the program itself, and the organizational community which forms the context in which PLA takes place; that is, the APC's annual meeting. Pathology Leadership Academy does not currently provide a mechanism for a longitudinal experience to maintain connections among participants and build networks. This may be more easily possible in internal leadership programs⁴ or in larger programs with institutional support, such as the ELAM program (<http://drexel.edu/medicine/academics/womens-health-and-leadership/elam/>, Accessed December 21, 2018). Development of a longitudinal network for PLA participants is an area of consideration for future development.

A workplace learning component is also recommended in O'Sullivan and Irby's faculty development model, since the ultimate success of leadership training depends on organizational systems and workplace relationships, networks, and culture, as well as on the tasks and activities performed by the learner within their specific work environment.¹⁴ Pathology Leadership Academy does not currently require a mentored learning project for applied experiential learning. The action/learning projects associated with other career development programs provide benefits not only to program participants but also to the sponsoring organization. Learning projects from the Council of Emergency Medicine Residency Directors' Medical Education Research Certification program have led to national presentations and peer-reviewed publications that enhance the reputation of the program and benefit the specialty and its missions.¹⁴ Past-presidents of the AAP uniformly believe that their career development program and its required learning project enhances the AAP's reputation and prestige is an important part of creating leaders in both medical education and within the organization and elevates educational scholarship with more high-quality publications in pediatric

journals.¹¹ Expanding the learning experience with action projects and formal mentorship to strengthen the workplace community aspect of leadership development may be a component worthy of development, as a new element to PLA or as a separate or “level 2” program to maximize effectiveness of this initial experience.

Other future directions for the PLA will include using participant and chair feedback for ongoing curricular development, so that topics continue to address the major needs of academic pathology and to ensure that format is well-paced and sufficiently interactive. Additionally, there will be continued refinement of the program evaluation process to ensure that it is sufficiently comprehensive, measures appropriate outcomes, includes the view of multiple stakeholders, and achieves a larger percentage of participant feedback than the most recent survey. The program leaders, LDD committee, and APC leadership are interested in longitudinal follow-up to examine outcomes and leadership roles received by PLA participants. Ideally, evaluation should inform new interventions that will improve the program, prompting continued study and further evaluation.¹³ As Steinert notes in a recent commentary, evaluation of faculty development programs should demonstrate accountability, generate new insights and understanding, and support and guide program development.¹⁵

Limitations of this study include the relatively low response rate for each of these surveys, especially the 2017 survey, so findings may not be fully representative of the opinion of all chairs or participants. The self-reported nature of the data from the 2 surveys is also a potential limitation, because responses may include bias based on respondent perceptions or individual experiences. Memory, attribution, and exaggeration are also well-known as inherent sources of bias common to self-reporting and may, therefore, have created limitations in this study.

In summary, the initial experience with the APC’s PLA is promising and provides an important opportunity to meet succession planning and leadership needs of academic pathology. The positive evaluations from the first 2 years reflect a thoughtfully developed curriculum that intentionally leverages the unique assets of the APC to meet the needs and preferences of departments and their chairs. Ongoing program evaluation and input from chairs, participants, and other stakeholders will continue to shape the program going forward to ensure that it fully meets the needs of the academic pathology community and creates well-prepared academic leaders for the future.

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