

RESEARCH ARTICLES

Enhancing Professionalism of Pharmacy Students: Results of a National Survey

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Objectives. The purpose of this survey was to identify the degree to which colleges and schools of pharmacy have adhered to the Recommendations for Educators as described in the White Paper on Pharmacy Student Professionalism and to describe the efforts made by colleges and schools of pharmacy in cultivating the professional development of pharmacy students.

Methods. Eighty-three colleges and schools of pharmacy in the United States were surveyed using a 62-item questionnaire based on the Recommendations for Educators as described in the White Paper. Questions were designed to address the 4 phases of a school's professional development plan – recruitment, admissions, educational programs, and practice.

Results. The survey response rate was 63% (52/83 schools). Of the 52 schools responding, 36 (69%) represented public institutions and 14 (27%) represented private institutions. A white coat ceremony, distribution of the Oath of the Pharmacist, and student involvement in professional organizations were components of the professionalization process in > 90% of the responding schools. Less than 50% of those surveyed engaged students in a formal mentoring program, required the maintenance of professional portfolios, offered a sole course on professional development, or provided scholarships to students in recognition of professionalism.

Conclusions. The results of this survey offer information on the efforts made by colleges and schools of pharmacy in the United States to enhance the professionalism of pharmacy students. The results suggest a need for a consensus-based definition of professionalism and the development of standardized instruments by which professionalism can be assessed.

Keywords: professionalism, pharmacy students, survey

INTRODUCTION

In 2000, publication of the *White Paper on Pharmacy Student Professionalism*¹ prompted many colleges and schools of pharmacy to re-examine their educational programs with a focus on the affective domain of learning. This hallmark paper provided a summary of the 5-year effort by the American Pharmaceutical Association Academy of Students of Pharmacy (ASP)-American Association of Colleges of Pharmacy (AACP) Council of Deans Task Force on Professionalism to study and promote pharmacy student professionalism. Professional socialization was defined in the White Paper as “the process of inculcating a profession’s attitudes, values, and behaviors in a professional.”¹ Pharmacy educators were reminded of their instrumental roles in the initiation of this process and in fostering the professional development of students throughout the educational program. Schools

were strongly advised to “plan and execute a structured program of professionalism”¹ with attention to 4 phases of the process: recruitment, admissions, educational programming, and practice. (Refer to Appendix 1 for an excerpt from the *White Paper on Pharmacy Student Professionalism; Recommendations for Educators*.)

At the Massachusetts College of Pharmacy and Health Sciences in Boston (MCPHS-Boston), several efforts have been made since publication of the White Paper to reaffirm the School of Pharmacy’s commitment to the professional development of its students. In 2002, a survey of the student body was conducted to identify the student’s level of appreciation for professional development. When asked to respond to statements such as, “A good practitioner is caring,” and “My profession involves a unique set of responsibilities,” 60% to 100% of students in each year of study responded in agreement. Students also universally agreed that the School of Pharmacy (SOP) had a responsibility to teach them how to become professionals. Toward achieving this end, students were receptive to participating in a white coat cer-

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emony, engaging in interactive seminars and collaborative learning exercises to improve their communication skills, and completing a sole course on professionalism in the pharmacy curriculum.

Since receipt of the results of the student survey, the MCPHS-Boston SOP has instituted a white coat ceremony and introduced professional portfolio development in the second professional year of the PharmD program. In 2002, a Professional Affairs Committee comprised of faculty members, administrators, alumni, and students was developed and charged with the further development and evaluation of our professionalization program. To meet this charge, a comprehensive literature search was performed to identify methods by which other SOPs have addressed the professional socialization process. Several published papers have addressed specific components of this process, such as the institution of white coat ceremonies,² a course³ or course sequence⁴ on professionalism, and mentoring programs⁵; however, none of the published literature described a continuous professionalization program that addressed the 4 phases of recruitment, admissions, educational programming, and practice. To better identify the composition of other schools' professionalization programs, a national survey of the SOPs was developed. The survey instrument was designed so that the collective results would answer 3 specific questions:

1. Have the recommendations for pharmacy educators as provided in the White Paper on Student Professionalism been addressed by SOPs?
2. How have the SOPs addressed the 4 phases (ie, recruitment, admissions, educational programs, practice) in their professional development plans?
3. Has the effectiveness of the professionalism programs in SOPs been assessed? If so, how?

METHODS

A survey was developed to measure the extent to which SOPs have adhered to the Recommendations for Educators as provided in the *White Paper on Pharmacy Student Professionalism*. The Recommendations for Educators that were most amenable to query using a multiple choice or yes/no design were chosen for inclusion in the survey instrument. The survey instrument consisted of 62 questions: 60 questions were multiple choice or yes/no in design and 2 were open-ended. The survey instrument had 7 sections: basic demographics of the institution (8 questions); general aspects of the SOP's professional development program (9 questions), recruitment phase (2 questions), admissions phase (5 ques-

tions), educational programming (26 questions), and practice phase (10 questions), and a narrative section (2 questions). The 2 open-ended questions in the narrative section referred to the definition of a "professional course" by the SOP and the method by which the SOP has assessed the effectiveness of the professionalization program.

Three pharmacy educators outside of MCPHS-Boston and one internal faculty member reviewed the survey. During this pilot study, the survey was assessed relative to its readability, accuracy in reflecting the intent of the Recommendations for Educators, and time required for its completion. The survey was subsequently revised based on feedback from the pilot study, then submitted to the MCPHS Institutional Review Board for approval. Following its approval in February 2003, the survey was sent in March 2003 via direct mailing to the deans of the 83 colleges of pharmacy listed in the 2003 AACP roster. The mailing also included a cover letter and a 1-page summary of the Recommendations for Educators as provided in the White Paper. The respondents were instructed to return the completed survey to the investigator via United States mail by April 1, 2003. Responses to the survey were anonymous and voluntary. In mid-April 2003, the survey was re-sent to all deans of colleges and schools of pharmacy as an e-mail attachment. All surveys returned by May 15 were included in the analysis.

Responses to the survey were tabulated using Microsoft *Excel 2000*. Descriptive statistics, including frequencies and percentages, were calculated using the *Excel* program. The number of SOPs responding to each question is provided in the series of tables describing the results.

RESULTS

A total of 52 of the 83 surveys mailed to the SOPs were returned for a response rate of 63%. Of those responding to the survey, 69% ($n = 36$) of the SOPs represented public institutions and 27% ($n = 14$) represented private institutions; 2 SOPs did not provide such a distinction. Two of the SOPs (3.85%) were established within the last 5 years. Additional demographics of the respondents are provided in Table 1.

Three of the demographic questions addressed the size, age-based representation, and educational background of the student body in an attempt to gather data for determining whether these factors influenced the design of the SOP's professionalization program. Forty-eight percent ($n = 25$) of the SOPs reported a class size of 100 or fewer students in the first professional year of the program,

Table 1. Demographics of the Responding Institutions

| Characteristic | n (%) |
|--|------------|
| Person responsible for completing the survey (n=50) | |
| Dean | 18 (36) |
| Associate Dean | 15 (30) |
| Division or Department Chair | 4 (8) |
| Chair, Curriculum Committee | 1 (2) |
| Other (Assistant Dean, Director of Student Affairs, Chair of Ad Hoc Professionalism Committee) | 12 (24) |
| Type of institution (n=50) | |
| Public/state supported | 36 (69) |
| Private | 14 (27) |
| Description of entry-level PharmD program (n=51) | |
| 6 year program; no prepharmacy requirements | 5 (9.8) |
| 5 year program; preprofessional study required | 1 (2) |
| 4 year program; preprofessional study required | 42 (82.35) |
| 3 year accelerated program; preprofessional study required | 3 (5.8) |
| Number of semester hours (or SH equivalents) in the Professional curriculum (n=52) | |
| 110 to 120 | 2 (3.8) |
| 121 to 130 | 8 (15.4) |
| 131 to 140 | 20 (38.5) |
| > 140 | 22 (42.3) |
| Number of students enrolled in the first professional year of PharmD program (n=52) | |
| 50 or fewer | 2 (3.8) |
| 51 to 75 | 9 (17.3) |
| 76 to 100 | 14 (27) |
| 101 to 150 | 18 (34.6) |
| > 150 | 9 (17.3) |
| Percentage of students who earned a prior degree or were active in another profession (n=52) | |
| < 10% | 5 (9.6) |
| 11% to 15% | 7 (13.5) |
| 16% to 20% | 11 (21.15) |
| 21% to 25% | 5 (9.6) |
| > 25% | 24 (46.15) |

whereas 52% ($n = 27$) reported more than 100 students per class. In 54% ($n = 28$) of the SOP, 25% or fewer of their students had earned a prior degree or were active in another profession prior to entering pharmacy school; 46% ($n = 24$) reported that more than 25% of their student body had earned a prior degree. When asked to categorize the majority of the student body as either traditional (ages 20 to 24) or nontraditional (age of 25 or greater), most respondents noted that they lacked the necessary data to make this distinction or were not familiar with such a distinction of their student body. Thus, for purposes of reporting the survey results, the data are presented as an aggregate sample and subcategorized based on the type of institution (public vs private). Where pertinent, the results are also described according to class size (ie, less than or equal to 100 students vs >100 students per class) and prior education/experience of the student body (ie, less than or equal to 25% of

the class having a prior degree or professional experience vs more than 25% having such a distinction). The survey initially asked the respondents to rank the priority at which each of the 4 phases—recruitment, admissions, educational programs, and practice—were being addressed in their professionalization program. Respondents were allowed to rank more than one phase as being the highest priority for their SOP. Sixty-three percent of the respondents reported that, since publication of the White Paper, the education phase was their highest or first priority, followed by the practice phase (29% of respondents), the admissions phase (19% of respondents), and the recruitment phase (17% of respondents). As their second-highest priority, the respondents consistently ranked the education and practice phases higher than the recruitment or admissions phases.

Table 2 provides a summary of the general aspects of the professionalization programs at the schools and col-

Table 2. General Aspects of a Professionalism Program, n (%)

| Characteristic | Total n=52 | Type of Institution | | Class Size | | Prior Degrees | |
|---|---------------|---------------------|-----------------|---------------|---------------|---------------|---------------|
| | | Public n=36 | Private n=14 | ≤ 100 n=25 | > 100 n=27 | ≤ 25% n=28 | > 25% n=24 |
| The SOP mission statement refers to the professional development of the student | 37 (71) | 25 (69) | 11 (79) | 14 (56) | 23 (85) | 20 (71) | 17 (71) |
| The SOP distributes a student handbook that defines professional knowledge, attitudes and behaviors | 44 (85) | 30 (83) | 12 (86) | 19 (76) | 25 (93) | 21 (75) | 23 (96) |
| A dress code is required in the professional years of the PharmD program | 34 (65) | 26 (72) | 8 (57) | 17 (68) | 17 (63) | 19 (68) | 15 (63) |
| The SOP has an Office of Student Professional Development (or comparable office) | 21 (40) | 12 (33) | 8 (57) | 7 (28) | 14 (52) | 7 (25) | 14 (58) |
| The SOP has an Advisory Committee on professionalism | 9 (17) | 6 (17) | 3 (21) | 1 (4) | 8 (30) | 2 (7) | 7 (29) |

leges surveyed. Seventy-one percent of the respondents noted that their SOP's mission statement included reference to the professional development of the pharmacy student. Of the 85% of SOPs that distributed a student handbook defining professional attitudes, behaviors, and expectations, 45.5% distributed the handbook upon the student's admission to the college, and 54.5% distributed the handbook during the student's first professional year in the program. Sixty-five percent of the SOPs had a dress code policy. Of these, 70.5% required professional dress only in the professional pharmacy practice laboratories and during the experiential program, 23.5% required professional attire only during the experiential program, and 6% required professional dress (including white lab coat) during attendance in all courses (didactic and experiential) in the professional program.

Forty percent of the responding SOPs had an office of student professional development or comparable office, whereas only 17% of the respondents had an advisory committee on professionalism. Of those SOPs having an advisory committee, 77% had representation by students, 11% involved alumni and local practitioners, 88% had representation by college administrators and faculty members, and 11% had representation by staff members from the school's or college's department of admissions or student affairs. An advisory committee and an office of student professional development were more commonly associated with private (vs public) institutions, SOPs with class size >100 students, and SOPs with >25% of students having a prior degree.

Table 3 provides a summary of the findings relative to the recruitment and admissions phases of a professionalization program. Career shadowing days and open house events have been offered to prospective students by the majority of the SOPs that responded to the survey,

and most distributed professional literature including information on professional pharmacy organizations to prospective students. These findings were consistent regardless of the type of institution, class size, or prior education of the students. With regard to the admissions process, the following groups had active representation on SOP admissions committees: students in 60% of the responding SOPs, pharmacy faculty in 96% of the SOPs, admission counselors in 71%, alumni/practitioners in 38.5%, and central administrators in 42% of the SOPs.

Seventy-five percent of the respondents indicated that during the admissions process, prospective students at their SOP were screened to determine their potential for professional development; however, only 26% ($n = 10$) of these SOPs used a standard instrument for this assessment. When asked to name or describe the instrument used to make these assessments, the SOPs reported the use of behavioral instruments designed by the institution or adapted for use by the institution and written essays focusing on a moral or ethical dilemma. Overall, 10% of the respondents reported that a student's potential for professional development was not considered at all in the admissions process (see Table 3).

Tables 4 and 5 provide the survey results relative to the many recommendations for professional development within the SOP's educational program. Sixty-nine percent of the respondents reported that the SOP designated specific required courses within the PharmD program as "professional courses." In most cases, professional courses were those courses offered during the professional years of the program and included both didactic and experiential coursework. As noted in Table 4, 83.3% of these SOPs included an assessment of the student's level of professionalism as part of the student's final grade in some, but not all, of these professional courses. Five of the respon-

Table 3. Recruitment and Admissions Phases of the Professionalism Program, n (%)

| Characteristic | Total (n=52) | Type of Institution | | Class Size | | Prior Degrees | |
|--|-----------------|---------------------|-------------------|-----------------|-----------------|-----------------|-----------------|
| | | Public (n=36) | Private (n=14) | ≤ 100 (n=25) | > 100 (n=27) | ≤ 25% (n=28) | > 25% (n=24) |
| Career shadowing days are offered to prospective students | 29 (56) | 22 (61) | 6 (43) | 14 (56) | 15 (56) | 16 (57) | 13 (54) |
| The SOP offers open house events to prospective students | 42 (81) | 27 (75) | 13 (93) | 15 (60) | 27 (100) | 21 (75) | 21 (88) |
| The SOP distributes literature specific to the professional aspects of pharmacy to prospective students | 45 (87) | 31 (86) | 12 (86) | 19 (76) | 26 (96) | 22 (79) | 23 (96) |
| Recruitment literature include reference to professional issues addressed in the <i>Oath of the Pharmacist</i> or <i>Pledge of Professionalism</i> | 15 (29) | 11 (31) | 4 (29) | 6 (24) | 9 (33) | 7 (25) | 8 (33) |
| The SOP distributes literature on professional organizations to prospective students | 29 (56) | 22 (61) | 6 (43) | 16 (64) | 13 (48) | 15 (54) | 14 (58) |
| The SOP holds 'Accepted Students Days' as part of the recruitment process | 25 (48) | 17 (47) | 7 (50) | 14 (56) | 11 (41) | 13 (46) | 12 (50) |
| Members of the academic community having active representation in the admission process | | | | | | | |
| Students | 31 (60) | 24 (66) | 5 (36) | 14 (56) | 17 (63) | 15 (54) | 16 (67) |
| Alumni/practitioners | 20 (39) | 16 (44) | 3 (21) | 8 (32) | 12 (44) | 14 (50) | 6 (25) |
| Faculty | 50 (96) | 36 (100) | 12 (86) | 25 (100) | 25 (93) | 28(100) | 22 (92) |
| Admissions counselors | 37 (71) | 24 (66) | 12 (86) | 15 (60) | 22 (82) | 17 (61) | 20 (83) |
| Central administrators | 22 (42) | 13 (36) | 9 (64) | 9 (36) | 13 (48) | 10 (36) | 12 (50) |
| A formal interview (either on site or telephone based) is required for admission. | 34 (65) | 24 (67) | 8 (57) | 15 (60) | 19 (70) | 15 (54) | 19 (79) |
| As part of the admission process, students are screened based on their potential for professional development. | 39 (75) | 29 (81) | 8 (57) | 21 (84) | 18 (67) | 19 (68) | 20 (83) |
| A standard instrument/tool is used to screen students for their potential for professional development. | 10 (26) | 9 (31) | 1 (13) | 6 (29) | 4 (22) | 4 (21) | 6 (30) |
| The extent to which the student's potential for professional development is considered in the admission process is best described as | | | | | | | |
| Minimally (such potential is based on a subjective assessment, only) | 15 (29) | 9 (25) | 4 (29) | 8 (32) | 6 (22) | 9 (32) | 6 (25) |
| Moderately (such potential is weighed equally with traditional measures such as admission test scores and grade point averages) | 32 (61) | 23 (64) | 9 (64) | 16 (64) | 17 (63) | 17 (61) | 15 (63) |
| Not at all; such potential is not assessed in the admissions process | 5 (10) | 4 (11) | 1 (7) | 1 (4) | 4 (15) | 2 (7) | 3 (13) |

dents reported that none of the courses designated as “professional” courses at their SOPs included an assessment of professionalism, while one respondent reported that all of the professional courses at their SOP included an assessment of professionalism as part of the student’s final grade. Table 4 provides the extent to which an assessment of professionalism (ranging from 10% to greater than 25%) contributed to the student’s final grade in these courses.

A stand-alone or single course focusing on the professional development of the student was offered by 27% (14) of the responding SOPs; this course was usually associated with SOPs that had larger class sizes and with private institutions. A total of 1 to 3 semester hours (or semester hour equivalents) of credit was allocated to this stand-alone course by 71.4% (10) of these SOPs. One SOP offered no academic credit for this course, and 3 SOPs (21.4%) allo-

Table 4. Education Phase of the Professionalism Program, n (%)

| Characteristic | Total | Type of Institution | | Class Size | | Prior Degrees | |
|---|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | | Public | Private | ≤ 100 | > 100 | ≤ 25% | > 25% |
| The PharmD curriculum includes required didactic courses designated as <i>professional</i> . | n=52 36 (69) | n=36 24 (67) | n=14 10 (71) | n=25 19 (76) | n=27 17 (63) | n=28 22 (79) | n=24 14 (58) |
| The number of semester hours of credit (or semester hour equivalents) allocated in total to required PROFESSIONAL courses is: | n=36 | n=24 | n=10 | | | | |
| 100 to 110 | 4 (11) | 1 (4) | 2 (20) | | | | |
| 111 to 120 | 2 (5.5) | 1 (4) | 0 (0) | | | | |
| 121 to 130 | 10 (28) | 7 (29) | 3 (30) | | | | |
| 131 to 140 | 7 (19) | 5 (21) | 2 (20) | | | | |
| > 140 | 13 (36) | 10 (42) | 3 (30) | | | | |
| The extent to which an assessment of professionalism is part of the student's final grade in required PROFESSIONAL courses. | n=36 | n=25 | n=10 | | | | |
| ALL professional courses include an assessment of professionalism | 1 (3) | 1 (4) | 0 (0) | | | | |
| SOME professional courses include an assessment of professionalism | 30 (83) | 21 (84) | 8 (80) | | | | |
| NONE of the professional courses include an assessment of professionalism | 5 (14) | 3 (12) | 2 (20) | | | | |
| Collectively, the percentage of a professional course grade that is determined by an assessment of professionalism is: | n=32 | n=23 | n=9 | | | | |
| < 10% | 11 (34) | 9 (39) | 2 (22) | | | | |
| 11% to 15% | 10 (31) | 6 (26) | 4 (44) | | | | |
| 16% to 20% | 6 (19) | 5 (22) | 1 (11) | | | | |
| 21% to 25% | 1 (3) | 0 (0) | 1 (11) | | | | |
| > 25% | 4 (13) | 3 (13) | 1 (11) | | | | |

cated more than 3 semester hours (or semester hour equivalents) of credit to this course. Fifty-seven percent of these SOPs ($n = 8$) offered the course during the first professional year of the program, 21% during the second professional year, and 14% prior to the first professional year of the program. One SOP (7%) offered the course during the third professional year of the program.

The majority of the respondents (87%) informed the students of the professional outcomes of the PharmD program prior to the student's entry into the experiential phase of the curriculum. Of these SOPs, the time at which these outcomes were introduced to the students differed substantially. Sixty-four percent of the SOPs informed the students during the first professional year of the program, 15.5% informed them in the preprofessional years of the program, and the remaining 20% of the SOPs informed the students during the second through fourth professional years of the program. Students were required to maintain professional portfolios at 23 of the SOPs (44%) responding to the survey. Of

these, 52% introduced the portfolio process to the students in the first professional year and 39% did so in either the third or fourth professional year of the program. Only one of the respondents noted that the portfolio process was introduced to students during the preprofessional years of the program.

White coat ceremonies and pinning ceremonies were conducted in 92.3% and 13.5% of the responding SOPs, respectively. The majority of the respondents offered the white coat ceremony either immediately prior to the first professional year of the program (48%) or during the first professional year of the program (46%). The separate pinning ceremony, offered by only 7 of the responding SOPs, was offered during the first professional year ($n = 4$), second professional year ($n = 1$), and third professional year ($n = 2$) of the PharmD program.

Seventy-five percent of the respondents reported that the SOP had an academic honor code and/or integrity policy. Of these, 100% noted that the integrity policy was made known to the students at the time of their

Table 5. Education Phase of the Professionalism Program Continued, n (%)

| Characteristic | Total | Type of Institution | | Class Size | | Prior Degrees | |
|---|-------------|---------------------|-------------|-------------|-------------|---------------|-------------|
| | | Public | Private | ≤ 100 | > 100 | ≤ 25% | > 25% |
| | n=52 | n=36 | n=14 | n=25 | n=27 | n=28 | n=24 |
| The SOP offers a sole course that focuses on the professional development of the pharmacy student/pharmacist | 14 (27) | 6 (17) | 6 (43) | 3 (12) | 11 (41) | 7 (25) | 7 (29) |
| Students are informed of the professional outcomes of the PharmD program prior to their entry into the experiential component of the curriculum | 45 (87) | 33 (92) | 11 (79) | 21 (84) | 24 (89) | 25 (89) | 20 (83) |
| Students are required to maintain portfolios of their professional work in the professional years of the program | 23 (44) | 14 (39) | 9 (64) | 11 (44) | 12 (44) | 15 (54) | 8 (33) |
| The SOP conducts a White Coat ceremony | 48 (92) | 34 (94) | 14 (100) | 22 (88) | 26 (96) | 26 (93) | 22 (92) |
| The SOP offers a separate Pinning ceremony | 7 (14) | 5 (14) | 2 (14) | 3 (12) | 4 (15) | 3 (11) | 4 (17) |
| The SOP reinforces professionalism through distribution of the <i>Oath of the Pharmacist</i> or a comparable pledge of professionalism | 48 (92) | 35 (97) | 12 (86) | 24 (96) | 24 (89) | 26 (93) | 22 (92) |
| Students, either individually or as a class, are required to develop their own professionalism oath or professional development goals | 8 (15) | 6 (17) | 2 (14) | 4 (16) | 4 (15) | 5 (18) | 3 (13) |
| The SOP offers a formal mentoring program for the professional development of students | 18 (35) | 14 (39) | 4 (29) | 8 (32) | 10 (37) | 9 (32) | 9 (38) |
| Students are assigned to professional advisors (ie, faculty having the same professional degree) in the professional years of the program | 36 (69) | 24 (67) | 12 (86) | 18 (72) | 18 (67) | 20 (71) | 16 (67) |
| The SOP has an academic honor code/integrity policy | 39 (75) | 30 (83) | 9 (64) | 19 (76) | 20 (74) | 22 (79) | 17 (71) |
| Service learning is a required component of the curriculum | 26 (50) | 19 (53) | 7 (50) | 15 (60) | 11 (41) | 14 (50) | 12 (50) |
| The SOP encourages student involvement in professional organizations | 52 (100) | 36 (100) | 14 (100) | 25 (100) | 27 (100) | 28 (100) | 24 (100) |
| The SOP provides financial support to students to attend professional organizations/meetings | 50 (96) | 36 (100) | 13 (93) | 25 (100) | 25 (93) | 27 (96) | 23 (96) |
| The SOP provides scholarships in recognition of student professionalism | 16 (31) | 14 (39) | 2 (14) | 9 (36) | 7 (26) | 8 (29) | 8 (33) |
| The SOP provides awards to students in recognition of professionalism | 32 (62) | 25 (69) | 7 (50) | 14 (56) | 18 (67) | 17 (61) | 15 (63) |

admission to the SOP, 49% involved students in the development of the academic integrity policy, and 61.5% involved students in the governance of the policy.

Student involvement in professional organizations was encouraged at 100% of the SOPs that responded to the survey, and 96% offered some level of financial support for students to participate in professional organizations and attend professional meetings. Service learning was a required component of the PharmD program in 50% of the SOPs that responded to the survey. Of the 26 respondents that did not have a formalized service-learning program, 25 (96%) reported that the SOP

offered opportunities for students to become engaged in community service.

Table 6 provides the results of the survey relative to the practice (experiential) phase of a professionalization program. Standard instruments or tools were used by 52% and 39% of the responding SOPs to assess the student's level of professionalism in the introductory and advanced pharmacy practice experiences, respectively. In the advanced pharmacy practice experiences (APPE), 47 of the 51 respondents (92%) reported that preceptors performed assessments of the student's level of professionalism. However, only 43 of the 52 respondents

Table 6. Practice Phase of the Professionalism Program, n (%)

| Characteristic | Total | Type of Institution | | Class Size | | Prior Degrees | |
|--|-------------|---------------------|-------------|-------------|-------------|---------------|-------------|
| | | Public | Private | ≤ 100 | 100 | ≤ 25% | > 25% |
| The number of TOTAL WEEKS allocated to the INTRODUCTORY PHARMACY PRACTICE EXPERIENCE (IPPE) component of the curriculum | n=50 | n=35 | n=13 | n=23 | n=27 | n=28 | n=22 |
| < 4 | 9 (18) | 7 (20) | 2 (15) | 3 (13) | 6 (22) | 7 (25) | 2 (9) |
| 4 to 8 | 13 (26) | 10 (29) | 3 (23) | 7 (30) | 6 (22) | 6 (21) | 7 (32) |
| 9 to 12 | 9 (18) | 4 (11) | 4 (31) | 3 (13) | 6 (22) | 5(18) | 4 (18) |
| 13 to 16 | 5 (10) | 4 (11) | 1 (8) | 2 (9) | 3 (11) | 3(11) | 2 (9) |
| > 16 | 14 (28) | 10 (29) | 3 (23) | 8 (35) | 6 (22) | 7(25) | 7 (32) |
| In the IPE program, an instrument/tool is used to assess the student's level of professionalism | 26 (52) | 17 (49) | 8 (62) | 12 (52) | 14 (52) | 12 (43) | 14 (64) |
| The number of TOTAL WEEKS allocated to the ADVANCED PHARMACY PRACTICE EXPERIENCE (APPE) component of the curriculum | n=50 | n=36 | n=14 | n=23 | n=27 | n=28 | n=22 |
| < 32 | 7 (14) | 5 (14) | 2 (14) | 2 (9) | 5 (19) | 4 (14) | 3 (14) |
| 32 to 35 | 9 (18) | 8 (22) | 1 (7) | 7 (30) | 2 (7.4) | 7 (25) | 2 (9) |
| 36 to 39 | 10 (20) | 4 (11) | 6 (43) | 4 (17) | 6 (22) | 4 (14) | 6 (27) |
| 40 to 43 | 15 (30) | 10 (28) | 5 (36) | 7 (30) | 8 (30) | 9 (32) | 6 (27) |
| > 43 | 9 (18) | 9 (25) | 0 (0) | 3 (13) | 6 (22) | 4 (14) | 5 (23) |
| In the APPE, a separate instrument/tool is used for the assessment of the student's level of professionalism | 20 (39) | 12 (33) | 8 (57) | 9 (39) | 11 (41) | 9 (32) | 11 (50) |
| In the experiential program, students perform self-assessments of their level of professionalism | n=51 | n=36 | n=14 | n=24 | n=27 | n=28 | n=23 |
| | 23 (45) | 15 (42) | 8 (57) | 11 (44) | 12 (44) | 12 (43) | 11 (48) |
| In the experiential program, students perform assessments of the level of professionalism of their preceptor | 26 (51) | 18 (50) | 7 (50) | 12 (50) | 14 (52) | 12 (43) | 14 (61) |
| In the experiential program, students perform assessments of their peer's levels of professionalism | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| In the experiential program, preceptors perform assessments of the student's level of professionalism | 47 (92) | 33 (92) | 12 (86) | 22 (92) | 25 (93) | 25 (89) | 22 (96) |
| In the experiential program, preceptors perform self-assessments of their level of professionalism | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| The percentage of the APPE grade that pertains to an assessment of professionalism is: | n=43 | n=30 | n=13 | n=19 | n=24 | n=24 | n=19 |
| < 10% | 10 (23) | 7 (23) | 3 (23) | 5 (26) | 5 (21) | 6 (25) | 4 (21) |
| 10% | 11 (26) | 7 (23) | 4 (31) | 5 (26) | 6 (25) | 3 (13) | 8 (42) |
| 11% to 15% | 13 (30) | 10 (33) | 3 (23) | 7 (37) | 6 (25) | 8 (33) | 5 (26) |
| 16% to 20% | 3 (7) | 3 (10) | 0 (0) | 1 (5) | 2 (8) | 2 (8) | 1 (5) |
| > 21% | 6 (14) | 3 (10) | 3 (23) | 1 (5) | 5 (21) | 5 (21) | 1 (5) |
| In the last academic year, the SOP offered a preceptor development program that focused on the professional development of the student | n=52 | n=36 | n=14 | n=25 | n=27 | n=28 | n=24 |
| | 24 (46) | 16 (44) | 8 (57) | 12 (48) | 12 (44) | 13 (46) | 11 (46) |
| In the last academic year, the SOP offered a faculty development program that focused on the professional development of the student | 18 (35) | 12 (33) | 5 (36) | 9 (36) | 9 (33) | 9 (32) | 9 (38) |

Table 7. Evaluating the Effectiveness of the Professionalism Program, *n*=10

| Method of Assessment | Frequency |
|---|-----------|
| Student self-assessments of professionalism at the end of each professional year (<i>n</i> =2) | 20% |
| Survey process to obtain feedback from preceptors, alumni, State Board members, students (<i>n</i> =4) | 40% |
| Review of reflective portfolios by faculty (<i>n</i> =1) | 10% |
| Review of the extent and nature of student involvement in student organizations, community service efforts (<i>n</i> =1) | 10% |
| Milestone objective, structured clinical examinations (OSCEs) (<i>n</i> =1) | 10% |
| Exit surveys and interim surveys of the student body (<i>n</i> =1) | 10% |

(82.7%) included an assessment of professionalism as a component of the student's grade in the APPE. The percentage of the total grade attributed to the student's level of professionalism ranged from less than 10% (23% of the respondents) to greater than 21% of the total grade (14% of the respondents). The majority of the SOPs performing these assessments (63%) reported that 10% to 20% of the total grade for the APPE was based on an evaluation of the student's level of professionalism.

Ten (19%) of the respondents stated that their SOP had measured the effectiveness of their professionalism program, whereas 81% stated that their SOP had not yet developed a method for systemically assessing the effectiveness of their efforts. Table 7 provides a summary of the methods by which those surveyed had assessed the effectiveness of their programs.

DISCUSSION

Several forces stemming from the society at large and the practice of pharmacy have prompted SOPs to re-examine their curricula relative to the professional socialization of the pharmacy student. Declining social values and acts of incivility are increasingly witnessed in local communities, the workplace, and on streets and highways. During this same era of declining social values, the profession of pharmacy has embraced pharmaceutical care, a new model of practice that requires a high level of professionalism from each pharmacist and a commitment to individualized patient care. The combination of these forces, both societal and discipline-specific, has necessitated a re-examination of our roles as pharmacy educators in the professional socialization of our students.

In 1995 in a paper entitled, "The essential linkage of professional socialization and pharmaceutical care,"

Chalmers et al⁶ made the following statement: "Faculty should understand that catch-as-catch can learning experiences related to 'professional socialization' will not assure that students achieve the optimal benefits of this dimension of learning in their preparation to become providers of pharmaceutical care." Chalmers and others,⁶ in their final report of the Counsel of Faculties Committee on Changing the Culture Within Our Schools/Colleges of Pharmacy, stressed the need for a "consistent, broadly based professional socialization process." This recommendation for a comprehensive professionalism process was further described in the White Paper on Student Professionalism¹ to include 4 phases: recruitment, admissions, education, and practice. In this survey, an attempt was made to examine the extent of adherence by SOPs with the Recommendations for Educators as described in the White Paper. In this regard, the survey offers information on the current composition of professionalization programs in SOPs with an emphasis on the 4 stages of professional development.

Several of the findings from this survey are worthy of further discussion. In particular, >90% of the surveyed SOPs conducted a white coat ceremony, distributed the Oath of the Pharmacist or a comparable pledge of professionalism to students, encouraged student involvement in professional organizations, and offered financial support to students involved in professional organizations. On the other hand, 50% or less of those surveyed required service learning, engaged students in a formal mentoring program, required the maintenance of professional portfolios, or provided scholarships to students in recognition of professionalism. In a recent comprehensive review of student professionalism by Hammer, Berger, Beardsley, and Easton,⁷ the merits of mentoring programs, of instilling personal accountability via academic honor codes and portfolio development, and of recognizing students for their display of professionalism have been described in detail. As such, inclusion of each of these components of a professionalism plan should be considered by SOPs when re-evaluating their program.

An attempt was made in this survey to identify when and how a student's level of professionalism has been assessed in SOPs. As part of the admissions process, 75% (*n* = 39) of the SOPs screened applicants for their potential for professional development; however, only 26% of these SOPs (*n* = 10) used a standard instrument or tool for such assessment. The PharmD curriculum in 69% (*n* = 36) of those SOPs surveyed included didactic courses designated as professional courses. Of these, 32 SOPs reported the extent to which an assessment of professionalism was part of a student's final grade in a pro-

professional course. Only one SOP reported that an assessment of professionalism was part of a student's grade in all of the professional courses in the curriculum. Lastly, in the introductory and advanced pharmacy practice experience courses (IPPE and APPE), 52% and 39% of those surveyed, respectively, used a separate tool to assess the student's level of professionalism. In the APPE, the extent to which an assessment of professionalism contributed to the student's final grade widely varied from less than 10% to greater than 21%. These results suggest that there is an awareness of the need to assess professionalism at all stages of a student's development, from the time of admission and throughout the didactic and practice phases of the curriculum. However, these findings also suggest that there is a need for the development of standard instruments to assess the student's level of professionalism at each of these stages of development. The lack of use of standard instruments or tools for such assessments is not a surprising finding. As noted by Hammer et al,⁷ before one can measure professional behavior, such behavior must be defined. Thus, the immediate need appears to be the acceptance of a consensus-based definition of professionalism or agreement on the standard attributes of professional behavior. The fact that only 10 of the 52 responding SOPs currently have a method in place to assess the effectiveness of their professionalism program is also in keeping with the need for a standardized definition of professionalism.

In 92.5% of the responding SOPs, a white coat ceremony was conducted to symbolize the transition of the pharmacy student from the preprofessional to the professional years of their education. In a more comprehensive assessment of the prevalence of white coat ceremonies in SOPs in the United States, Brown and others² recently found that 51 of the 83 SOPs (61%) conducted a white coat ceremony in 2002 and another 10 schools (12%) had made a decision to offer their first ceremony in 2003. The fact that the white coat ceremony has become a ritual in many United States SOPs should be applauded because such ceremonies typically offer a meaningful opportunity for students to affirm an oath of professionalism as individuals and as peers. However, it bears repeating that these ceremonies need to be linked with other professional activities as part of a comprehensive professional development plan. In a recent perspective on "White Coats and Professional Development," Wear⁸ described a white coat ceremony within her profession of medicine. As she "marveled at the dignified solemn ceremony," she also questioned the effectiveness of the ceremony in addressing the development of a student's professional responsibility and appreciation for a dedication

to service. Wear⁸ proposed that service learning and community outreach should be established as new rituals woven throughout the medical curriculum to promote professional development. Belief in service to the public has been described as an attitudinal attribute of a profession^{9,10} and it may be cultivated through service learning projects and other community-based activities. In this survey, only 50% of the respondents reported that service learning was a required component of the curriculum. The potential impact of service learning and community outreach activities on a student's professional development is worthy of further study.

A consideration when interpreting the results of this survey is the response rate of 63% ($n = 52$). Although a larger sample size would have been preferred, the representation of the survey sample with regard to public (69%) vs private SOPs (27%) closely mimics the current distribution of all SOPs in the United States.¹¹ A secondary consideration is that SOPs that had established a professionalization program may have been more likely to respond to the survey. Another limitation to the survey is that it did not evaluate all of the Recommendations for Educators as provided in the White Paper. The length of the survey tool and the time required for completion were considerations in its development. Thus, several of the Recommendations for Educators, such as those relating to aspects of course design (ie, extent of team exercises, development of critical thinking skills) and the role of the faculty member and preceptor in the student's professional development process were not fully assessed. It has been argued that the role modeling offered by faculty members and preceptors, and specifically their teaching behavior, provides the "clearest signal to students about what a professional is and does."⁸ In future work, more attention should be given to the influence of the educator, his or her teaching behavior, and the course design on the professional socialization process.

The intent of this survey was to provide information on the degree/extent to which the Recommendations for Educators have been addressed by SOPs in the design of their professionalization programs. Since publication of the White Paper on Pharmacy Student Professionalism, SOPs have focused their attention and efforts primarily on the education and practice phases of the pharmacy student's professional development. The results of this survey suggest that SOPs are actively engaged in the professional socialization of students; however, this survey was not designed to address the qualitative aspect of any component of a SOP's professionalization program. As such, further study is needed to qualify the findings by providing answers to several questions including:

What methods are being used to measure the effectiveness of the professionalization process? What instruments have been used and what is the reliability and validity of these instruments? What outcomes are being measured as indicators of professional socialization?

CONCLUSIONS

This survey offers information on the current composition of the professional development process at SOPs. Since publication of the White Paper on Student Professionalism in 2000, SOPs have re-evaluated the process by which students are professionally socialized with attention to the 4 phases of professional development: recruitment, admissions, education, and practice. Only 10 of the 52 responding SOPs had assessed the effectiveness of their professionalism program. Based on the results of this survey, SOPs would benefit from the development of a consensus-based definition of professionalism and further study of the use of standardized instruments to measure professional development.

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Appendix 1. Excerpt from the APhA-ASP/AACP-COD Task Force on Professionalism. White Paper on Pharmacy Student Professionalism. *J Am Pharm Assoc.* 2000;40(1):96-102. Reprinted with permission from the American Pharmacists Association.

Recommendations for Students:

- (1) Students be informed and reminded of the importance of professionalism and that they develop their own plan of action for professional development;
- (2) Plans should consist of measurable outcomes, and may include scholarly achievement, participation in professional associations and activities, and participation in community service activities;
- (3) These concepts [should be] introduced the first day of the professional program, and students should be made aware of their own professional development on a continuous basis thereafter.
- (4) Students should develop and maintain a professionalism portfolio throughout their pharmacy career.

Recommendations specific to Recruitment:

Schools/colleges are encouraged to:

- (1) Sponsor informational programs, such as career shadowing days and open house events for prospective students, that emphasize the professional roles and responsibilities of pharmacists.
- (2) Incorporate into their recruitment literature the concepts and issues addressed in the Oath of a Pharmacist and Commentary, Pledge of Professionalism, and Pharmacist's Code of Ethics.
- (3) Inform high school and college career counselors and advisors of the character and academic traits that demonstrate strong professional potential.
- (4) Encourage pre-pharmacy students to join professional organizations.

Recommendations specific to Admissions:

- (1) Adopt admission criteria that are based on professional outcomes desired upon graduation.
- (2) Assess admissions screening processes for their ability to select students with a high level of professionalism or professional potential.
- (3) Evaluate candidates' humanistic qualities that will be predictors of success in student-centered, problem-based learning and patient-care activities at the same time that they are evaluating traditional objective criteria such as college admission test scores and grade point averages
- (4) Utilize instruments such as interviews and essays that assess professional qualities
- (5) Involve current professional students and practitioners in the admissions process.

Recommendations specific to Education Programs (pertaining to didactic education)

Schools/Colleges are encouraged to:

- (1) Establish faculty consensus on the definition of desired professional educational outcomes and on methods that leads to those outcomes.
- (2) Recognize the mentor role of classroom instructors.
- (3) Introduce students to desired professional outcomes in the initial days of the educational process.
- (4) Solicit support for reinforcement of the professional attitudes and behaviors of spouses, parents, family and friends of students.
- (5) Incorporate the early use and frequent enforcement of the Pharmacist's Code of Ethics, Oath of a Pharmacist and Commentary and Pharmacist's Pledge of Professionalism.
- (6) Incorporate interdisciplinary teamwork, communication, leadership, critical thinking and listening skills into the curriculum.
- (7) Identify and discuss timely professional issues in shadowing programs, small group discussions, role-playing, case studies and other exercises.
- (8) Encourage student involvement in state, local, and national professional organizations.
- (9) Encourage appropriate community service and professional activities.
- (10) Recognize professionalism with scholarships and/or awards.
- (11) Encourage academic integrity via the use of honor codes.

Recommendations specific to Practice (pertaining to the experiential component of education)

- (1) Involve preceptors in the formation of professional development outcomes and methods to achieve these outcomes.
- (2) Implement preceptor training programs that reflect on professional issues.
- (3) Require preceptor adherence to professional standards.
- (4) Encourage preceptors to maintain a professional portfolio.
- (5) Solicit student feedback on the professionalism of preceptors.
- (6) Give preceptor awards and site development grants to recognize professionalism in practice.