RESEARCH ARTICLES

State Boards of Pharmacy Regulation of the Supervision of Pharmacist Interns

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Objectives. To compare the regulations of state boards of pharmacy for pharmacist intern supervision and review publications of service-learning experiences in pharmacy curricula for methods of supervision.

Methods. Online state pharmacy statutes and board of pharmacy regulations were searched to characterize which states' regulations included provisions for the supervision of pharmacist interns, permitted nonpharmacist supervision for student volunteers, and included provisions on interns participating in the practice of pharmacy. Additionally, a PubMed search was conducted for articles describing the supervision of service-learning experiences of pharmacy students at various colleges and schools of pharmacy.

Results. The state boards of pharmacy in all 51 jurisdictions included regulations for the supervision of pharmacist interns. Regulations specifically permitted only pharmacist supervision of interns in 45 (88%) jurisdictions, and 3 (6%) states included provisions allowing nonpharmacist supervision of pharmacist interns. Provisions allowing nonpharmacist supervision on a case-by-case basis existed in 6 (12%) jurisdictions. Among the 32 identified reports of service-learning experiences offered in pharmacy curricula, 14 contained the words "supervision" or "supervise," and 9 indirectly described methods of student supervision.

Conclusions. State boards of pharmacy regulations largely prohibited nonpharmacist supervision of pharmacy students, and reports of pharmacy student service-learning experiences frequently omitted descriptions of student supervision. Boards of pharmacy should consider revising existing regulations to address the growing need for service-learning in pharmacy curricula.

Keywords: service-learning, pharmacy intern, law, preceptor, experiential education, boards of pharmacy

INTRODUCTION

Learning which is centered on activities that meet the needs of a community and address health disparities is an excellent service-learning opportunity. Service-learning opportunities exist in free medical clinics, wellness centers, and other community-based health care centers. Pharmacy students volunteer at approximately 20% of free clinics throughout the United States to provide medication-related services.¹⁻² Certain states require pharmacy students to register as pharmacist interns with the

state board of pharmacy for their experiential training to be accepted toward fulfilling licensure requirements. Pharmacist interns typically must be supervised by a licensed pharmacist when providing medication-related services. An American Association of Colleges of Pharmacy (AACP) task force on caring for the underserved recommended that pharmacy students participating in service-learning may not need the direct supervision of a pharmacist.³ The task force suggested that the availability of pharmacists to supervise these learning experiences may limit service learning opportunities, and that other health care providers may be suitable alternatives, provided that the pharmacy care provided is within their scope of practice. However, this position may be inconsistent with current state laws concerning the supervision of pharmacist interns.³ Schools and colleges may need to

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request special permission from boards of pharmacy to allow students to earn internship hours or course credits for practice experiences when only nonpharmacist supervisors are present.

Prior to publication of the AACP task force recommendations, one author met with the Kentucky Board of Pharmacy to request clarification of a regulation specific to pharmacist interns and their supervision, and regarding student volunteering at the University of Kentucky Salvation Army Clinic (UKSAC) in Lexington, Kentucky. The statutes of the Commonwealth and Board of Pharmacy regulations recognize that nonpharmacists may on occasion perform activities of a pharmacist (eg, provide drug information) as they act within the statutory scope of their practices.⁴ However, nonpharmacists are not permitted to supervise pharmacist interns when the interns are performing activities of a pharmacist.⁵ The Board stated that students are “allowed to volunteer at the University of Kentucky Salvation Army Clinic as long as they do not engage in the practice of pharmacy and the physician at the Clinic understands that the students are not to engage in the practice of pharmacy.”⁶ In accordance with the ruling of the Board, students volunteering at UKSAC must be supervised directly by a pharmacist when they are engaged in the practice of pharmacy. Thus, in Kentucky, pharmacist participation is a prerequisite to student participation in service-learning in all settings, including free clinics when the activities there include the “practice of pharmacy.”

Under the doctrine of “police power,” the states have responsibility for enacting laws related to the public health, safety, and welfare, such as those regulating the training of preceptors and pharmacist interns.⁷ Regulations concerning the supervision of pharmacist interns may preclude pharmacy student participation in service-learning in other states, as they do in Kentucky. Internship statutes and regulations from 51 boards of pharmacy were reviewed to determine whether current regulations allow nonpharmacist supervision of pharmacist interns. Additionally, where applicable, the authors aimed to describe the circumstances under which pharmacist interns were permitted to volunteer without pharmacist supervision.

METHODS

An analysis of the statutes and regulations related to preceptors and pharmacist interns in the 50 states plus the District of Columbia was conducted. Using the listings of Web pages of boards of pharmacies in the United States at <http://www.nabp.net/>, statutes and regulations from each state, as well as the District of Columbia, were searched for provisions pertaining to pharmacist or pharmacy in-

terns, which were defined according to NABP. All relevant provisions were identified using the search terms *pharmacist intern*, *pharmacy student*, and *preceptor*, and were included in the analysis if the regulation described or referred to conditions under which students or interns were involved in the practice of pharmacy. Statutes and regulations meeting these criteria were collected and reviewed for the presence of provisions concerning supervision of interns, requirements of how supervision should be conducted (ie, direct or indirect), and exceptions for volunteering in free medical clinics, wellness centers, health fairs, “brown bag” events, and other voluntary pharmacy services. Descriptive statistics were used to report the positions of each board of pharmacy. Stata (StataCorp LP; College Park, TX) statistical software was used to create a map of the continental United States.

PubMed was searched to identify service-learning publications pertaining to pharmacy students. The identified publications were searched for the terms *supervision* and *supervise*, and for description of the role of students in service-learning and methods of preceptorship. Pertinent cases were reported and described. Additionally, each report was assessed for student involvement in the practice of pharmacy and inclusion of the service-learning activity as an introductory or advanced pharmacy practice experience.⁸

RESULTS

Forty-five jurisdictions (88.2%) were found to have provisions specifically limiting supervision to pharmacists, often with a requirement that the individual had been engaged in practice for a minimum period of time, usually 2 years (Figure 1). In 3 jurisdictions (5.9%, Colorado, Georgia, and Michigan) the regulations provided for opportunities to perform internship rotations in research or industrial settings without specifying that the preceptor there be a pharmacist.

One state, Colorado, had several relevant provisions that on the surface appeared to be in conflict. The first provided that “A pharmacist shall oversee the practice of pharmacy of an intern and shall be responsible for the actions of such intern that pertain to the practice of pharmacy as defined.”⁹ A separate subsection of the same regulation, when addressing the definition of a preceptor, indicated that, “A preceptor is a pharmacist or *other authorized person* training an intern in compliance with the pharmacy laws, rules and regulations of a state” (emphasis added).¹⁰

Board of Pharmacy regulations in 6 jurisdictions (11.8%, Arizona, Idaho, Indiana, Kentucky, Michigan,

Figure 1. Board of Pharmacy Regulations on the supervision of pharmacist interns. Alaska and Hawaii are not shown and permit only pharmacist supervision (white).

and Washington) contained a provision indicating that nontraditional pharmacist internship rotations could be approved on a case-by-case basis, usually with prior approval by the Board. The regulations of no state board of pharmacy were found expressly prohibiting use of non-pharmacist preceptors. However, these regulations typically take the positive approach of stating what must occur rather than addressing what must not occur.

The provisions in 3 states (5.9 %, Montana, Texas, and Washington) authorized use of nonpharmacist preceptors. In Montana, the definitions in the Board of Pharmacy regulations applicable to internship programs defined a preceptor as “a pharmacist or *other approved individual* who meets those requirements for the supervision and training of an intern” (emphasis added).¹¹ In the State of Washington, the general rule was that the preceptor must be a pharmacist but the laws of that state recognized “special internship programs” and that flexibility may be required for such situations.¹² The Texas State Board of Pharmacy regulations required that “The student internship shall be in the presence of and under the supervision of a *healthcare professional preceptor* or a pharmacist preceptor” (emphasis added).¹³ The distinction was addressed in the definitions section of the regulations:

Healthcare Professional Preceptor - A healthcare professional serving as an instructor for a Texas college/school-based internship program who is recognized by a Texas college/school of pharmacy to supervise and be responsible for the activities and functions of a student-intern or intern-trainee in the internship program.¹⁴

Pharmacist Preceptor - A pharmacist licensed in Texas to practice pharmacy who meets the require-

ments under board rules and is recognized by the board to supervise and be responsible for the activities and functions of a pharmacist-intern in an internship program.¹⁵

The state-by-state review of the statutes and regulations pertaining to preceptorship and internship also revealed other commentary. The South Dakota Board of Pharmacy has established goals and objectives for internship which include managing drug therapy, performing calculations needed for medication preparation and distribution, using drug information, and gaining understanding of the business procedures of a pharmacy.¹⁶ The regulations of the Oregon Board of Pharmacy specified that “Hours worked outside the United States do not count toward Oregon’s internship requirement.”¹⁷ In North Carolina the Board of Pharmacy incorporated some flexibility with a provision that specifies, “Practical experience shall be credited only when it has been obtained in a location holding a pharmacy permit, or a location approved by the Board for that purpose.”¹⁸ Also, Wisconsin adopted an approach that differentiates “academic” versus “non-academic internship.”^{19,20}

For comparison purposes a parallel review was conducted with the Model Pharmacy Act and Model Rules of the National Association of Boards of Pharmacy.²¹ A specific provision addresses the supervision of pharmacist interns and states that pharmacists are responsible for work done by pharmacy interns. Pharmacy interns should be allowed to practice pharmacy provided that it is under the supervision of a pharmacist. The supervising pharmacist must be in continuous contact with the intern and must provide instructions to the intern during the pharmacy practice experience. Additionally, the provision specifies that the pharmacist must physically review medication orders and the dispensed product before delivery to the patient.²² The NABP publication includes comments on each of the sections with the one for this provision acknowledging the desirability of flexibility. The comment specifies that in accordance with ACPE Accreditation Standards and Guidelines, licensed and qualified pharmacist preceptors must supervise most pharmacy practice experiences. As long as desired competencies are being met, NABP hopes that boards of pharmacy recognize experiences supervised by non-pharmacist preceptors because they can also provide valuable learning experiences.²³

The literature review identified 29 publications describing service-learning in pharmacy curricula.²⁴⁻⁵² The words supervision or supervise were found in 16 papers (55.2%),²⁴⁻³⁹ 4 described advanced pharmacy practice experiences (APPE),³⁵⁻³⁸ and 1 discussed a service-learning component of a required course in which students

participating in practices of pharmacy were not directly supervised.³⁹ In this latter report, students obtained medication histories and interviewed patients regarding medication-related financial concerns at county department of health pharmacies. Pharmacists were available to assist students, if needed. Among the other 13 reports (44.8%)⁴⁰⁻⁵² that did not include the words “supervision” or “supervise,” 1 paper described an APPE and 1 described an introductory pharmacy practice experience (IPPE) in which nonpharmacists supervised pharmacy students while participating in activities that could be described as practices of pharmacy.⁴⁰ In this report, students assisted visiting nurses with diabetes risk testing, patient interviews, and weighing patients. Overall, 6 of 29 service-learning detailed APPEs and IPPEs, and the other 23 reports discussed service learning experiences in curricula as a part of elective or required coursework and longitudinal service learning requirements. Lack of faculty interest, lack of support from community organizations, and inadequate funding were commonly cited barriers to widespread implementation of service-learning across pharmacy curricula.

DISCUSSION

Because service-learning is an important aspect of pharmacy education, schools and colleges of pharmacy are currently designing, implementing, and assessing new practice experiences for pharmacy students. As of 2004, about half of pharmacy curriculums required service learning for students, and that number is increasing.^{53,54} AACP task force recommendations on caring for the underserved reflect a growing effort for academic institutions to impart civic and cultural competencies in their students. On the whole, pharmacy students benefit more from practice experiences under the supervision of trained pharmacist preceptors who use a student-centered approach to teaching than from experiences under non-pharmacist supervisors. Further, service-learning activities also qualify as IPPEs if the requirements are met.⁵⁵

Accordingly, to ensure appropriate training of tomorrow's pharmacists, and to protect the public, all 51 state boards of pharmacies have created regulations for pharmacist intern supervision. Board of pharmacy regulations in 45 states (88%) require students to be supervised directly by a pharmacist when engaged in the practice of pharmacy. Exceptions for nonpharmacist supervisors exist in 8 states (Figure 1). Overall, pharmacy student volunteer activities without pharmacist supervision are limited to administrative and technical duties.

While the National Association of Boards of Pharmacy specifically acknowledges the value of nonpharmacist supervisors, most jurisdictions do not. NABP clearly

expresses its desire for flexibility in the supervision of pharmacist interns, yet 84.3% of boards of pharmacy allow only pharmacist supervision. The ultimate responsibility lies with the provider, and it seems that students may be able to *assist* in the provision of pharmacy services under appropriate supervision, including nonpharmacist preceptors as noted by NABP.^{22,23} Similarly, the AACP task force recommends that it is permissible for students who volunteer for service learning experiences to meet with preceptors within a reasonable amount of time following the learning activity to discuss and reflect on the experience, and address unanswered questions from patient encounters.³

Reports of pharmacy students participating in service-learning infrequently described the methods by which students were supervised in a direct, clear manner. Greater transparency in the oversight provided by colleges would be valuable in assisting new schools in the development of service-learning and would demonstrate the growing need for boards of pharmacy to expand provisions for pharmacist intern supervision. Additionally, authors of reported service-learning experiences frequently cited limitations in providing more comprehensive service-learning with pharmacist supervision. Much like the populations that are being served, service-learning programs also lack needed resources in pharmacy curricula and support from state boards.

Colleges and schools of pharmacy face challenges in expanding service-based practice experiences and adhering to existing laws of state boards of pharmacy. With the projected shortage of residency-trained faculty, institutions may be unable to or uninterested in developing and implementing service-learning, which would require faculty preceptors in most states.⁵⁶ Paradoxically, the economic crisis may limit new educational programs in this area while health care disparities among the underserved are growing.⁵⁷ On the other hand, the vast majority of boards of pharmacy make no exception for students volunteering under the supervision of health care professionals who routinely engage in the practice of pharmacy, as defined by most state laws. This absolutist view is not conducive to increasing pharmacy care for the millions of uninsured Americans who receive health care at free medical clinics, wellness centers, and other accessible, non-discriminatory sites.

A complete discussion of the advantages and disadvantages of nonpharmacist supervision of pharmacy students is beyond the scope of this investigation. However, without continued investment from academic institutions and revision of current regulations by boards of pharmacy, the optimal role of pharmacy services in resource-limited practice settings will not reach fruition.

One example of this disparity is in free medical clinics. Pharmacists volunteer in only 3% of the more than 500 free medical clinics in the US, and pharmacists are employed in fewer than 1% of clinics.² However, over 80% of clinics are involved in the practice of pharmacy. Pharmacists are positioned to provide public health services because of greater accessibility and availability of drug information.⁵⁸

CONCLUSION

Most state boards of pharmacy regulations narrowly limit the supervision of pharmacy interns to pharmacists in contrast to NABP, which recognizes a role for non-pharmacist supervisors. As a result, service-learning pharmacy practice experiences generally require pharmacist supervision but most reports in the literature infrequently describe the methods for supervision of students and interns participating in these learning experiences. The expansion of existing provisions allowing nonpharmacist supervision for pharmacy interns may facilitate the development and implementation of service-learning experiences that promote community service and help reduce health disparities.

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