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# Making the Case for SB 493

# Survey of California Pharmacists' Awareness of and Readiness for the New Authorities Granted by SB 493: A Pilot Study

By Clipper Young, PharmD; Kajua Lor, PharmD, BCACP; Gordon McCarter, PhD; and Robert Ignoffo, PharmD, FASHP, FCSHP

#### Abstract

The recent passing of Senate Bill (SB) 493 – effective on January 1, 2014 – addresses a primary care provider shortage in California by declaring pharmacists as health care providers and authorizing new roles for them in patient care. The aims of this pilot study were to examine California registered pharmacists' awareness and knowledge of the expanded authorities granted by SB 493 as well as to assess their perception of their own readiness to exercise these new authorities. A cross-sectional, observational study was designed, and a 40-question survey was administered electronically through Qualtrics to adjunct faculty, clinical faculty, and alumni of Touro University California College of Pharmacy. All participants were aware of this new legislation. Through their responses to Likert-scale questions, pharmacists' self-perceived readiness for each new authority was discovered. A Kruskal-Wallis test revealed no statistically significant difference among the three subgroups' self-perceived readiness to exercise most of the new authorities, except initiating and administering vaccinations independently to those older than three years old without a physician's collaborative practice protocol (p = 0.0123). The lower degree of self-perceived readiness to provide immunizations independently reported by adjunct faculty might have been due to not being certified as immunizers, reflecting the need to be educated on administration of vaccinations.

#### Introduction

ccording to the U.S. Department of Health and Human Services, there are currently 1,177 Health Professional Shortage Areas (HPSAs) in California, and about fortyfour percent of them (518 HPSAs) are in primary care.<sup>1</sup> The shortage of primary care physicians (PCPs) is a challenge to providing high-quality health care in California, and this shortage is anticipated to continue posing problems in the near future as the national health care reforms come into force. In addition, the Robert Graham Center projects that "California will need an additional 8,243 primary care physicians by 2030, a 32% increase compared to the state's current (as of 2010) 25,153 PCP workforce.<sup>2</sup>"

The recent passing of Senate Bill (SB) 493 attempts to tackle this provider shortage problem in California by declaring pharmacists as health care providers and authorizing new roles for them, optimizing the patient and pharmaceutical care provided for the public. Pharmacists are highly trained but under-utilized professionals on the health care team, who possess the knowledge and capabilities that can help alleviate the consequences of this primary care physician shortage in California. In addition to relieving the provider shortage problem, one of the goals of the pharmacy profession is to move "away from the distributive and business aspects and [move] toward meeting the needs of patients in their use of medications.<sup>3</sup>" For many years, pharmacists in California struggled to reach this goal, as they were not recognized as health care providers in statute until now.

This bill expands the types of pharmacy settings in which certain services can be performed, services that previously could only be performed in some specific care settings (e.g., inpatient). With the establishment of SB 493, pharmacists in California will be able to integrate pharmacy practices more efficiently and effectively into a multidisciplinary health care team with an increased access to health care records.<sup>4,5</sup> SB 493 provides a new platform for the advancement of the pharmacy profession in California and empowers pharmacists to provide more clinical services in conjunction with other health care providers. The following indicates the newly granted authorities in detail:4,5

- Administering prescribed drugs and biologics;
- Furnishing self-administered hormonal contraception (requiring additional training);
- Furnishing nicotine replacement products (requiring additional training);
- Furnishing prescription travel medications not requiring a diagnosis (following recommendations from the Centers for Disease Control and Prevention);
- Immunizing without a physician's protocol to those who are at least three years old (following guidelines from the Advisory Committee on Immunization Practices and Centers for Disease Control and Prevention);

- Ordering and interpreting lab results to ensure safety and efficacy of drug therapy;
- Reviewing patient progress in a multidisciplinary team with an increased access to patient medical records;
- Educating patients on drug therapies, disease management, and disease prevention.

In addition to granting new authorities to registered pharmacists, this bill also establishes a new category of pharmacists – Advanced Practice Pharmacists (APPs) – to recognize those who have met at least two of the following criteria:<sup>4,5</sup>

- Earning a certification relevant to pharmacy practice from an organization recognized by the Accreditation Council for Pharmacy Education or by the Board of Pharmacy;
- Completing a postgraduate residency program from an accredited postgraduate institution, including at least 50 percent of the time focusing on providing direct patient care service with an interdisciplinary team;
- Having provided clinical services for at least one year under a collaborative practice protocol associated with a physician, an advanced practice pharmacist, a drug therapy management pharmacist, or a health system.



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Since SB 493 provided all registered pharmacists across the state of California with new authorities starting January 1, 2014, no study has been done to reveal pharmacists' awareness of, knowledge about, and selfperceived readi-

ness for the new authorities. These newly granted authorities deal with many areas of pharmacy practice, providing California registered pharmacists more clinical responsibilities to serve the public. As a result, the goal of the study is to discover how well pharmacists have been prepared for their new responsibilities from their previous education. training, and work experience so that appropriate actions can be identified to assist pharmacists to execute the new tasks more confidently. The objectives for this pilot study were: (1) to examine California registered pharmacists' awareness and knowledge of their expanded authorities granted by SB 493; (2) to assess their perception of their own readiness to exercise these new authorities; and (3) to identify actions to further equip pharmacists to respond to SB 493.

## Methods

A cross-sectional, observational study design was implemented, employing a 40-question survey. This survey was developed using the Qualtrics web-based survey program. Survey items included demographic characteristics, awareness and knowledge of the new authorities and provisions of SB 493, interest in becoming an Advanced Practice Pharmacist, readiness for new authorities provided by SB 493, and thoughts on barriers to of implementing SB 493. In addition, an open-ended comment section was provided to collect study participants' thoughts and ideas on this new law that were not captured by the survey tool (See Appendix: *Survey Instrument* for the complete survey). This survey tool, including informed consent, has been approved by the Touro University California Institutional Review Board.

This pilot survey was distributed electronically in January and February of 2014 to adjunct faculty, clinical faculty, and alumni of the Touro University California College of Pharmacy, who were also reg-

#### **Table 1. Demographic Characteristics**

	Adjunct Faculty	<b>Clinical Faculty</b>	Alumni	All
Ν	28	15	8	51
Average Years of Pharmacy Practice Experience (% Responding)	20.9 (89%)	11.7 (100%)	1.2 (100%)	11.3 (94%)
Practice Sites	·	·		·
		070/		0.0/
Academia	-	27%	-	8%
Ambulatory Care	18%	33%	13%	
Community Pharmacy	14%	20%	25%	18%
Inpatient Pharmacy	43%	20%	50%	37%
Other	25%	-	13%	16%
Highest Level of Pharmacy Education & Training				
Earned a PharmD and/or obtained post-PharmD training	96%	100%	100%	98%
Earned a BS degree in pharmacy	4%	-	-	2%
Geographical Regions				
Northern California	75%	100%	88%	84%
Central California	7%	-	-	4%
Southern California	18%	-	13%	12%

istered pharmacists in California. After meeting the aforementioned inclusion criteria, study participants had to complete the survey to its entirety. All study participants joined this pilot study voluntarily without any form of compensation.

The new authorities granted by SB 493 encompass various areas of pharmacy practice. To assess pharmacists' self-perceived readiness, a series of two to three Likert-scale questions was written, originating from each new authority.

Both qualitative and quantitative data were collected and downloaded to an Excel spreadsheet. Data analysis was focused on quantitative data, as quantitative data characterized the outcome measures from this study. To be more specific, the Likert-scale scores (1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree) were the primary outcomes indicating pharmacists' self-perceived readiness for each new authority. A Kruskal-Wallis test, a nonparametric oneway ANOVA test examining more than two unmatched groups, was employed to examine Likert-scale scores (non-parametric data) among the three subgroups [degrees of freedom (df) = 2] via the STATA 13® statistical package. Performing a Kruskal-Wallis test on the Likertscale data through the indicated software generated a critical value (H) and a p-value for each question. Secondary outcomes included participants' responses relating to the survey questions on pharmacists' awareness and knowledge of the new authorities.

In our survey, some pre-identified values that SB 493 might provide for the pharmacy profession were listed, and participants were asked if they agreed with such statements. The pre-identified values were:

- Expanding the scope of practice;
- Enhancing the value of services provided by pharmacists;

- Compensating for a shortage of PCP;
- Maintaining sustainability;
- Providing more job satisfaction.

In addition, pre-identified barriers that the profession might encounter while implementing SB 493 were also listed, and study participants were then again asked if they agreed with such statements. The pre-identified barriers were:

- Reimbursing for new services;
- Accessing patients' medical records;
- Integration of SB 493 into current pharmacy practice;
- Additional staffing to provide new services;
- Additional training needed;
- Change in community pharmacies' focus.

## Results

Invitations were sent to potential 681 participants; 62 responses were

#### Table 2. Pharmacists' Self-Perceived Readiness for New Authorities.

Survey Items⁵	Critical Value (H)	p value
Administration of prescribed injectable drugs and biologics		
I have received adequate training that allows me to confidently administer drugs for patients via oral and topical routes.	0.564	0.7545
I have received adequate training that allows me to confidently administer drugs and biologics for patients via injections.	2.144	0.3423
Provision of consultation, training, and education about drug therapy, disease managen prevention	nent, and disea	ase
I have received adequate training that allows me to provide consultation, training, and education about drug therapy confidently.	2.469	0.291
I have received adequate training that allows me to provide consultation, training, and education about disease management confidently.	5.692	0.0581
I have received adequate training that allows me to provide consultation, training, and education about disease prevention confidently.	3.982	0.1366
Participation in review of patient progress in a multidisciplinary team		
I am ready to participate in reviewing the patient's progress in a multidisciplinary team.	0.13	0.9369
I prefer verifying and dispensing medications over participating in review of patient progress in a multidisciplinary team.	4.426	0.1094
I feel I need more training to develop my skills in reviewing patient progress in a multidisciplinary team.	3.342	0.188
Furnishing self-administered hormonal contraceptives (the pill, the patch, and the ring)	with a statewi	de protocol
I feel I have acquired adequate training that allows me to dispense emergency contraceptives.	0.241	0.8867
With additional specialized training and a statewide protocol on hormonal contraceptives, I am confident that I will be prepared to furnish self-administered hormone contraceptives in addition to emergency contraception drug therapy.	1.043	0.5936
Furnishing travel medications recommended by the CDC (without a diagnosis)		
I have received adequate training that allows me to furnish travel medications recommended by the CDC (not requiring a diagnosis).	1.646	0.439
I am ready to furnish travel medications recommended by the CDC (not requiring a diagnosis).	2.278	0.3202
Furnishing prescription nicotine replacement products for smoking cessation with a sta	itewide protoc	ol
I have received adequate training that allows me to recommend OTC nicotine replacement products for smoking cessation.	0.316	0.8538
I feel comfortable in recommending OTC nicotine replacement products for smoking cessation.	0.916	0.6325
With additional specialized training in smoking cessation, I am confident that I will be prepared to furnish prescription nicotine replacement products for smoking cessation with a statewide protocol.	0.512	0.7706
Initiation and administration of immunizations to patients (> 3 years old) without a phys	sician protocol	
I am confident and ready to independently initiate and administer immunizations to consumers (> 3 years old) without a physician protocol.	8.795	0.0123
I would feel more comfortable providing immunizations to consumers > 3 years old with a physician protocol.	5.017	0.0814
Ordering and interpreting tests for the purpose of monitoring and managing drug therapies in co primary care provider	ordination with	patient's
I have received adequate training that allows me to order and interpret tests for the purpose of monitoring and managing drug therapies in coordination with patient's primary care provider.	0.463	0.7933
I feel confident in ordering and interpreting tests for the purpose of monitoring and managing drug therapies in coordination with patient's primary care provider.	0.891	0.6406
Overall		
I feel prepared to exercise all the new authorities granted by SB 493.	0.383	0.8259
I am confident that I can integrate new authorities into my practice well.	0.923	0.6303
It is important for my practice to focus on delivering clinical pharmacy services to my patients	0.628	0.7304

collected, thereby creating a ninepercent response rate. After excluding 11 incomplete survey responses, 51 participant pharmacists' responses were included and analyzed (Table 1). Among the subgroups, adjunct faculty members had practiced pharmacy the longest with an average of 20.9 years compared to 11.7 years for clinical faculty and 1.2 years for alumni. Thirtyseven percent of the participants were inpatient pharmacists, which was the largest pharmacist group based on pharmacy practice settings.

A Kruskal-Wallis test revealed no statistically significant difference among the three subgroups' self-perceived readiness to exercise the following new authorities: prescribing hormonal contraception, nicotine replacement products, travel medications; obtaining lab results to ensure the safety and efficacy of drug therapy; administering drugs and biologics; and reviewing patient progress (Table 2).

There was a significant difference among the three subgroups in terms of self-perceived confidence and readiness to independently initiate and administer immunizations to consumers older than 3 years of age without practicing under a physician's collaborative practice protocol [Kruskal-Wallis test: H = 8.795 (df = 2, N = 51), p = 0.0123]. Adjunct faculty members reported that they perceived they were the least ready and prepared to provide vaccinations.

96% <sup>100%</sup>

Compared to alumni and adjunct faculty, clinical faculty expressed the highest self-perceived readiness to provide consultation, training, and education on disease management. Although the Kruskal-Wallis test did not reveal a statistically significant difference among the three groups on exercising this new authority [H = 5.692 (df = 2, N = 51), p = 0.0581], the p-value suggested that selfperceived readiness on this task was trending to be statistically significant among the three groups.

All participants reported that they were aware of SB 493. Ninety-two percent of this cohort reported the perception that this new legislature was extremely or very important for the advancement of the pharmacy profession. Approximately twenty percent of the participants were able to recall facts correctly in answering questions regarding the details of SB 493. Sixty-seven percent of the participants reported that they had met at least two criteria to become Advanced Practice Pharmacists.

Results regarding perceived values of SB 493 are showed in Figure 1, which indicates the percentage of participants' agreeing with the pre-identified values. The value that received the highest agreement rate was "enhancing the value of services provided by pharmacists." On the other hand, the value that received the lowest agreement rate

Adjunct Faculty Clinical Faculty Alumni

28 vs. 15 vs. 8

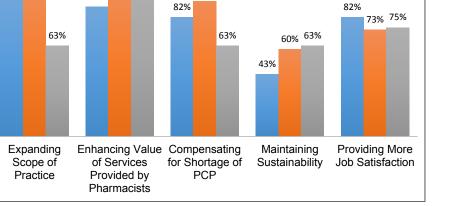
was "maintaining sustainability." Overall, ninety-four percent of the participants agreed that SB 493 would enhance the value of services provided by pharmacists, but only fifty-one percent agreed that this new legislature would help maintain the sustainability of the profession in California.

Figure 2 shows the percentage of participants' agreeing with several pre-identified barriers. The barrier that received the highest agreement rate was "obtaining reimbursement for providing new services." Eighty-eight percent of the group identified obtaining reimbursement for the new services as a barrier to implementing SB 493, which was the highest among all pre-identified barriers.

#### Discussion

Although the results of this pilot study provided some insights into pharmacists' awareness of SB 493, there were some limitations. The biggest drawback was the small sample size, which was caused by the limited availability of pharmacists' email addresses (selection error/bias), low survey response rate (sampling error), as well as incomplete survey responses (an exclusion criterion.

According to the Public Records Desk of the Board of Pharmacy, the state of California has approximately 39,000 licensed pharmacists (38,926 pharmacists on 10/28/2013).<sup>7</sup> With a population size of 40,000, a sample size of 380 is needed for adequate representation.<sup>8</sup> The goal of the survey is to identify the needs for continued education regarding exercising the newly authorized tasks among registered pharmacists. Archer suggests that needs assessment surveys should have about a 40% response rate.9 Combining the expected sample size and response rate stated, the expected survey population would be 950. Since this study was a pilot project, the aim for future direction is to expand this study by



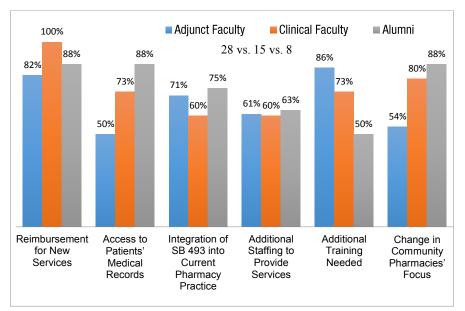
93%

#### Figure 1. Percent Agreeing with Pre-Identified Values.

100% 100%

89%





partnering with professional pharmacy organizations, such as the California Pharmacists Association, to disseminate the survey to a larger population of pharmacists throughout the state of California.

Touro University California College of Pharmacy alumni, adjunct faculty, and clinical faculty believe that the passage of SB 493 is critical for the growth of the pharmacy profession. Participant pharmacists are aware of SB 493, but more education is needed on the specific provisions of SB 493 in order to be successfully implemented in pharmacy practice. Most of the study participants agreed that SB 493 would enhance the value of services provided by pharmacists.

However, the cohort reported that obtaining reimbursement for the additional clinical activities would be the greatest challenge for implementing SB 493. The fact that only half of the participants agreed that SB 493 would help maintain the sustainability of the profession in California may be attributed to this concern.

Adjunct faculty as a group expressed an unreadiness to independently initiate and administer immunizations to consumers older than 3 years of age without a physician's collaborative practice protocol. Perhaps fewer of the adjunct faculty participant pharmacists have been certified as immunizers even though they have been in the profession the longest, reflecting the need to receive additional training to fully exercise this specific authority.

#### **About the Authors**

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