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Cover Page Footnote

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Medical Spanish in U.S. Colleges and Schools of Pharmacy

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ABSTRACT

Objective: To determine characteristics of Medical Spanish education provided to pharmacy students in schools and colleges of pharmacy in the United States.

Methods: A survey of U.S. pharmacy schools and colleges was performed to determine availability of Medical Spanish in pharmacy curriculum, course(s) containing Medical Spanish education, and characteristics of Medical Spanish courses. Additional follow-up questions were asked if a school did not offer Medical Spanish.

Results: 61 out of 138 institutions completed the survey (response rate = 44%). 36% (22/61) of respondents reported Medical Spanish education was offered in their curriculum. The most common barrier to offering a Medical Spanish course included a lack of personnel to teach the course (n=21, 54%) or no room in the curriculum (n=15, 38%).

Conclusion: While there is a limited number of institutions that provide Medical Spanish education to their pharmacy students, results of this survey provide a basic description of Medical Spanish education in schools and colleges of pharmacy in the United States. Data obtained from this survey can be used to refine or initiate Medical Spanish courses, including the teaching and assessment methods used.

Keywords: Medical Spanish, curriculum, pharmacy, education

INTRODUCTION

Over the last decade, the number of Spanish speaking people in the United States (U.S.) rose exponentially. With over 37 million Spanish speaking people living in the U.S. in 2013, and projections to grow to over 40 million by 2020, the number of Spanish-speaking patients needing health care services is also going to increase.¹ According to the Centers for Disease Control, 1 in 6 persons living in the U.S. are Hispanic or Latino.² On average, they have a lower English proficiency, fewer years of formal education (many of whom only finish 8th grade), as well as higher rates of being uninsured as compared to the white population. Hispanics share many of the disease states as whites, with diabetes and chronic liver disease being the highest cause of mortality in this population.²

With pharmacists being one of the most easily accessible healthcare providers, it is important that this population is able to obtain the same level of healthcare as English speaking patients. As a result, Medical Spanish education is vital for student pharmacists. Currently, there is a very small body of literature regarding Medical Spanish being taught in healthcare curricula throughout the U.S. Besides pharmacy

schools,^{3,4} Medical Spanish courses have been described in the literature for medical,^{5,6} physical therapy,⁷ physician assistant (PA),⁸ and nursing schools.⁹

Reuland and colleagues discussed the impact of immersion rotations on medical student Spanish fluency and found that medical students that had an intermediate to high baseline in Spanish fluency were more likely to increase their skill set as compared to those that did not have this experience.⁶ Much of the nursing literature also discusses rotation and immersion experiences and not a specific didactic course dedicated to Medical Spanish education.^{9,10} A study in PA students evaluated the effectiveness of Medical Spanish instruction by assessing Spanish language comprehension.⁸ The authors concluded in their assessment that Medical Spanish is important in the clinical setting and that their students acquired clinically appropriate Spanish communication skills.

Offering Medical Spanish courses by schools and colleges of pharmacy has the potential to effectively prepare pharmacy students to interact with Spanish-speaking patients. However, optimizing Medical Spanish education for pharmacy students and determining the effectiveness of these courses is a process requiring many steps. Detailed information on Medical Spanish education for the pharmacy practice-specific setting is limited to case reports of mission trips, lectures, courses, and an outreach event.^{3,4,11-14} By understanding

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methods and strategies used by other institutions, the first step of the innovation process will be complete. To that end, this study was designed to determine characteristics of Medical Spanish education to pharmacy students in schools and colleges of pharmacy in the United States. The ultimate goal of this process is to determine the effectiveness and improve the quality and delivery of Medical Spanish education to pharmacy students by innovative approaches.

METHODS

A survey was developed by two pharmacy faculty who teach a Medical Spanish course to third year pharmacy students. Published case reports of Medical Spanish courses for pharmacy and other healthcare disciplines were used to determine survey questions for characterizing Medical Spanish education, in addition to personal experiences from developing a course. Before distribution, the survey questions were sent for review to members of the Wingate University School of Pharmacy Scholarship of Teaching and Learning (SoTL) Research Group. The SoTL Group provided recommendations for the inclusion of additional survey questions, editing existing questions, and delivering the survey. Feedback from the members of the SoTL group was incorporated in the final version of the survey.

The survey first gathered demographic data about the respondent's institution. Then, the respondents were asked about the availability of Medical Spanish in the pharmacy curriculum. If offered, several questions were asked about the course(s) containing Medical Spanish education. Institutions that did not offer Medical Spanish were asked to complete other follow-up questions.

A link to a web-based survey (SurveyGizmo[®], Widgix, LLC, Boulder, CO) was sent out via email in February 2016 to the curriculum chair or pharmacy practice department chair of 138 schools and colleges of pharmacy in the United States. Survey participants were identified by a roster of curriculum contacts available from the American Association of Colleges of Pharmacy. For schools without a contact person on the roster, the pharmacy practice department chair was identified through the institution's website. A reminder email was sent two weeks after the initial email to non-respondents. The survey received exempt status from the Wingate University Research Review Board. For schools or colleges of pharmacy that did not complete the survey, a search of the institution's web site was performed to identify Medical Spanish opportunities via the student handbook or course catalog.

RESULTS

A total of 61 institutions completed the survey for a response rate of 44%. The majority of respondents were from private

schools of pharmacy (37/61, 61%) with a 3 year didactic plus 1 year experiential curriculum model (47/61, 77%) (Table 1).

Overall, 22 responding institutions reported offering Medical Spanish education (36%). In these institutions, Medical Spanish is included in a total of 34 areas or offerings within the programs. Table 2 lists the type of course that provides Medical Spanish education and Table 3 describes the topics covered. Topics which were present in over 90% of courses included: greeting and using common phrases to Spanish-speaking patients, gathering patient information and counseling patients in Spanish.

Courses vary in the amount of time students and teachers speak in Spanish, assessment methods, and whether students counsel a Spanish-speaking patient (Table 4). The majority of elective courses were taught by a pharmacy faculty fluent in Spanish (5/20, 25%) or with Spanish as their native language (5/20, 25%).

Schools that did not offer Medical Spanish data were asked additional questions (Table 5). Nine out of 39 (23%) schools of pharmacy have offered a course previously. The most common barriers to offering a Medical Spanish course in the pharmacy curriculum included a lack of personnel to teach the course (n=21, 54%) or no room in the curriculum (n=15, 38%). Of note, 23 respondents (59%) that did not offer Medical Spanish had opportunities elsewhere for students.

Of the 77 non-respondents, a listing for a Medical Spanish elective course offered by the department of pharmacy was found in 15 institutions (19%).

DISCUSSION

As the Hispanic population continues to increase in the United States, more pharmacists will encounter Spanish-speaking patients in their daily practice. Patients with Limited English Proficiency are at greater risk for medical errors, have greater difficulty understanding directions for medications, and are less likely to be adherent to their medications, compared with English speaking patients.^{15,16} As educators, providing pharmacy students with a basic skill set of obtaining information and counseling patients in Spanish may help reduce the health disparities present in this patient population.

The results of this survey provide a glimpse into the landscape of Medical Spanish in pharmacy curricula. Although the majority of pharmacy schools surveyed do not offer a Medical Spanish course in their curriculum (39/61, 64%), many of these had opportunities for their students within other departments at their university (23/39, 59%). The overall proportion of pharmacy schools that offer Medical Spanish education appears to be less than medical schools.

Data from a survey completed by 83% (110/132) of medical schools in the United States showed 66% (73/110) of respondents provided Medical Spanish education at their institution.¹⁷ Similar to our study, most of the Medical Spanish courses were offered as electives.

Schools or colleges of pharmacy who currently or plan to offer Medical Spanish education can use the results of this survey when developing a course. Responses from this survey provide details of Medical Spanish courses for pharmacy students, such as topics covered, fluency of the teacher, assessment methods, and amount of class time the teacher and students speak in Spanish. Institutions should be encouraged by the diverse approaches to Medical Spanish education provided in the survey.

Most of the respondents who do not offer Medical Spanish cite lack of personnel to teach the course as a barrier, and not lack of student interest. Institutions can overcome this barrier by investing resources to develop Spanish skills in faculty members or identifying rotation sites or mission trips with preceptors who have experience communicating with and caring for this patient population. Offering key experiences for pharmacy students can be made in several different settings and the results of this survey gives universities another resource in their effort to produce practice-ready graduates. By doing so, institutions will be following the direction of the Center for the Advancement of Pharmacy Education (CAPE) 2013 Educational Outcomes, by ensuring new practitioners are capable of "...providing care for diverse patient populations".¹⁸

Survey research comes with inherent limitations, and results of this survey should be interpreted with certain limitations in mind. First, the response rate for this study fell short of the amount recommended (i.e. 75%) to generalize the results to the population of U.S. pharmacy schools.¹⁹ Recognizing this problem, an effort was made to collect basic information on availability of an elective from non-responding schools. Additionally, web-based surveys may be forwarded to inappropriate or unintended subjects who are unfamiliar with details of the course or unaware of Medical Spanish opportunities at their institution.²⁰

For pharmacy schools with established Medical Spanish courses, the next steps in improving Medical Spanish education is to define competencies, evaluate current delivery methods and devise methods for overcoming barriers. An important question in need of answering is "What Medical Spanish competencies can or should be achieved in an elective course?" In other words, would an elective course effectively prepare pharmacy students to perform basic tasks, such as labeling a prescription vial in Spanish, or more advanced tasks, such as communicating

with a Spanish-speaking patient to recommend an over-the-counter product? Determining the answer to these questions is prudent to ensure pharmacy students will provide safe and effective care as practicing pharmacists. In addition, the characteristics of Medical Spanish courses or topics covered in a class, as identified in this survey, could be formally evaluated to determine how these course-level items impact student pharmacists' ability to communicate with Spanish-speaking patients and to what extent. For pharmacy schools that cite lack of personnel as a barrier to offering Medical Spanish, innovative approaches to providing the course could be implemented and evaluated, such as utilizing online resources or partnering with another institution or Spanish department.

CONCLUSION

Educating pharmacy students in Medical Spanish may improve the level of care they are able to provide to this patient population. Knowledge of the types and characteristics of Medical Spanish education offered in U.S. schools and colleges of pharmacy provides a foundation for further work, including defining competencies and evaluating the effectiveness of various teaching and assessment methods. Institutions can use the results of this survey when developing or refining their Medical Spanish course.

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Table 1. Demographics of Respondents

Institution Type	N=61 (%)
Public	24 (39)
Private	37 (61)
Location	n (%)
Northeast	10 (16)
Southeast	20 (33)
Midwest	16 (26)
Northwest	3 (5)
Southwest	12 (20)
Students per Pharmacy Class	n (%)
50-75	11 (18)
76-100	19 (31)
101-125	9 (15)
126-150	10 (16)
More than 150	12 (20)
Curriculum Model	n (%)
3 years didactic + 1 year experiential	47 (77)
3 year accelerated program (year-round)	9 (15)
0-6 program	5 (8)

Table 2. Reported Types of Medical Spanish Courses or Experiences

Course Type	n=34 ^a (%)
Elective course in Medical Spanish	21 (62)
Part of a required course not devoted to Medical Spanish (such as a Communications or Patient Care class)	2 (6)
Part of an elective course not devoted to Medical Spanish	1 (3)
APPE Experiential rotation (including a mission trip)	7 (20)
IPPE Experiential rotation (including a mission trip)	1 (3)
Other	2 (6)

^a34 responses from 22 colleges or schools of pharmacy

Table 3. Medical Spanish Topics Taught

Topics in Medical Spanish Education	n=31 ^a (%)
How to greet Spanish-speaking patients	28 (90)
Utilize appropriate social / courtesy phrases and skills	28 (90)
Gathering patient information in Spanish (i.e. name, DOB, address, insurance information)	28 (90)
Provide patient counseling in Spanish with regards to proper drug usage, side effects, storage information, and warnings	28 (90)
Translating prescription labels into Spanish	23 (74)
Counseling patients in Spanish on how to properly self-administer medication devices (i.e. inhalers, insulin, eye/ear drops, etc.)	21 (68)
The Hispanic culture	19 (61)
Understand and use terminology in the fields of anatomy, disease states, symptoms	19 (61)
Understand and use terminology in the fields of calendar, time and numbers	18 (58)
Exercise coping strategies or use of a translator to negotiate reciprocal understanding	11 (35)
Accept payment for medication	7 (23)
Other ^b	2 (6)

^a31 offerings of Medical Spanish education from 22 colleges or schools of pharmacy. Responses were not received for three Medical Spanish offerings.

^bUse of open-ended questions to evaluate need for self-care, retrieval of a medication list in Spanish

Table 4. Characteristics of Medical Spanish Electives

Percentage of Class Students Speak in Spanish	n=20 (%)
0-25%	6 (30)
26-50%	6 (30)
51-75%	5 (25)
76-100%	3 (15)
Students Counsel a Spanish-speaking Patient	n=20 (%)
Yes	10 (50)
No	10 (50)
Assessment Methods	n=20 (%)^b
Oral Exam	16 (80)
Written Exam	16 (80)
Quizzes	14 (70)
Written Assignments	9 (45)
Active Learning Exercises	17 (85)
Listening Activities	14 (70)
Other	2 (10)
Description of Primary Teacher	n=20 (%)
Pharmacy faculty with English as their first language, not fluent in Spanish	1 (5)
Pharmacy faculty with English as their first language, fluent in Spanish	5 (25)
Pharmacy faculty with Spanish as their native language	5 (25)
A faculty member from the Spanish department	3 (15)
Other	6 (30)
Percentage of Class Teacher Speaks Spanish	n (%)
0-25%	3 (15)
26-50%	6 (30)
51-75%	4 (20)
76-100%	7 (35)
Level of Spanish Skills for Students Entering the Class	n (%)
Beginner	12 (60)
Intermediate	6 (30)
Beginner and Intermediate	2 (10)

^a 21 electives identified from 21 colleges or schools of pharmacy. One respondent utilized an online program for their institution's Medical Spanish elective course and was unable to provide details for the course

^b Respondents were able to select multiple answers

Table 5. Responses to Questions for Schools without Pharmacy-Based Medical Spanish education

Offered Medical Spanish in the Past	n=39 (%)
Yes	9 (23)
No	30 (77)
Opportunities at Institution (Outside of the Pharmacy School) Where Students Could Take a Medical Spanish Course	n=39 (%)
Yes	23 (59)
No	15 (38)
No Response	1 (3)
Barriers to Offering Medical Spanish Education	n=39 (%)^b
Lack of personnel to teach Medical Spanish	21 (54)
Low Hispanic population in the area of your institution	3 (8)
Students not interested in the course	1 (3)
No room in the curriculum to offer Medical Spanish education	15 (38)
Other ^c	10 (26)
Likelihood of Offering Medical Spanish in the Next 5 Years	Median
Scale of 0-10 with 0 being extremely unlikely and 10 being extremely likely	5

^a 39 responses from schools or colleges of pharmacy that do not currently offer Medical Spanish in their curriculum

^b Respondents were able to select more than one answer

^c Offered at the institution outside of the pharmacy college (4), plan to create elective in the future (4), need hasn't arisen (1), most students already speak Spanish (1).