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# Evaluating Motivational Interviewing in the Physician Assistant Curriculum

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## Abstract

**Purpose** Motivational interviewing (MI) is an evidence-based technique that enables clinicians to help patients modify health behaviors. Although MI is an essential tool for physician assistants (PAs), the extent to which it is addressed in PA curricula in the United States is unknown. This study is a comprehensive description of MI education in PA programs in the United States.

**Methods** Data are from the 2014 Physician Assistant Education Association Annual Program Survey. Descriptive statistics were conducted on de-identified data from all 186 PA programs in the United States.

**Results** Of the 186 PA programs surveyed, 72.58% (n = 135) reported at least one course providing MI training. Availability of courses providing training in skills essential to the MI process varied. Having a course with verbal communication training was most frequently endorsed, and having a course with training in developing

discrepancy was least frequently endorsed. The most popular teaching modality was lecture (84.95%, n = 158), whereas only 41.40% (n = 77) and 58.60% (n = 109) reported role play with evaluation and standardized patient exercises with evaluation, respectively.

**Conclusions** More than 70% of programs included at least one course in their curriculum that provided training in MI, suggesting that PA programs recognize the importance of MI. Instruction in change talk was not provided in nearly half of the programs. Role-play and standardized patient exercises with evaluation were underused methods despite their proven efficacy in MI education. As the first comprehensive benchmark of MI education for PAs, this study shows that although most programs address MI, opportunities exist to improve MI training in PA programs in the United States.

## INTRODUCTION

Many adults in the United States suffer from chronic diseases.<sup>1,2</sup> Recent efforts to reduce the burden of chronic diseases have focused on modifying risky health behaviors.<sup>3-6</sup> Notably, *Healthy People 2020* calls for prevention and modification of sedentary behaviors, poor nutrition, tobacco use, and alcohol consumption.<sup>6</sup> Replacing risky health behaviors with more favorable ones is a challenging task<sup>7</sup> that is invariably complicated by lack of knowledge<sup>8,9</sup> and low self-efficacy<sup>10</sup>; however, health care providers are uniquely positioned to facilitate this process. By educating and advising patients about risky health behaviors, health care providers have been shown to positively influence patient smoking cessation<sup>11,12</sup> and weight loss.<sup>13-15</sup>

Despite its efficacy in reducing risky health behaviors, counseling by health care providers is an underused strategy for chronic disease prevention.<sup>16</sup> Reported barriers to using counseling include lack of provider expertise and provider minimization of the importance of counseling.<sup>17</sup> In addition, the mounting time demands placed on providers have significantly reduced the duration of the average patient encounter,<sup>18</sup> causing time to be a major barrier to providing patient education and counseling.<sup>19-21</sup> To address these barriers, providers have increasingly turned to motivational interviewing (MI), a time-efficient, evidence-based patient counseling approach, as a strategy for encouraging behavior change.

Motivational interviewing is a collaborative, goal-oriented style of communication that is designed to strengthen personal motivation and commitment to positive behavioral modifications.<sup>22,23</sup> Initially described by Miller in 1983 as an approach to substance abuse counseling,<sup>22</sup> MI was based on 5 core principles: (1) the expression of empathy through reflective listening; (2) development of discrepancy between the goals and values of clients and their current behavior; (3) avoidance of argument and direct confrontation; (4) adjustment, rather than opposition, of client resistance (ie, responding to resistance); and (5) support of patient self-efficacy and optimism.<sup>22,23</sup> Together, these 5 core principles enabled practitioners to inspire change in harmful patient substance abuse behaviors.<sup>24,25</sup> In recent years, MI has extended into primary care because of its demonstrated effectiveness as a tool for modifying poor dietary<sup>26-28</sup> and exercise<sup>25,29</sup> behaviors.

As the understanding and practice of MI have expanded, so too has its structure.<sup>30</sup> In their latest rendition, released in 2013, Miller and Rollnick no longer explicitly highlight the 5 core principles but rather emphasize the importance of the spirit and 4 processes of MI that inspire change talk and lead to modification of harmful health behaviors.<sup>30</sup> The spirit of MI is dictated by the practitioner's ability to (1) form a collaborative partnership with the patient that is free of unsolicited advice, (2) accept patient autonomy by exercising empathy, (3) be compassionate toward patient needs, and (4) evoke change from within the patient. The 4 processes proceed in a stepwise manner, beginning with engaging the patient to establish rapport and continuing with focusing communication to facilitate discussion about change, evoking the patient's motivation for change, and finally, planning a specific strategy to enable positive behavioral change.<sup>30</sup> Although the original 5 core principles of MI are no longer explicitly stated in the most recent model, training in empathy, development of discrepancy, avoidance of argumentation, response to resistance, support of self-efficacy, verbal communication, health behavior change, and change talk remain essential to the practice of MI.

Although the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) requires that PA programs teach students counseling and patient education skills that will enable them to assist patients to “adhere to prescribed treatment plans and modify their behaviors to more healthful patterns” (Standard B2.09),<sup>31</sup> little is known about the extent to which MI content is included in PA program curricula. In 2011, Kelly et al<sup>32</sup> reported that 75.6% of PA programs in the United States included MI as part of their tobacco-dependence education curricula. However, only 79 of 141 programs responded to that survey. In addition, a survey of 82 PA students (response rate 10%) found that 48.8% felt comfortable using MI to encourage weight loss in patients.<sup>33</sup> These previous works suggest that PA programs have attempted to introduce MI concepts to students<sup>32-34</sup>; however, the low response rates limit the ability of the surveys to provide a comprehensive overview of the extent to which MI is being incorporated into PA programs in the United States.

This study addresses that gap in the literature by evaluating the number of courses that provide training in the following essential skills used in the process of MI:

1. Expressing empathy (reflecting back a patient's perspective accurately and without judgment)
2. Developing discrepancy (creating a discrepancy between a patient's goals and the consequences of his or her poor health behavior)
3. Avoiding argumentation (respecting a patient's reasoning but also sharing information that will enable the patient to reconsider decisions without feeling threatened)
4. Responding to resistance (identifying a patient's ambivalence and using strategies to give advice without increasing the patient's resistance)
5. Supporting self-efficacy (supporting a patient's ability and confidence to implement change)
6. Communicating verbally (using open-ended questions, reflective listening, affirmations, and summaries)
7. Changing health behavior (understanding theory of the stages of change)
8. Using change talk (evoking statements from a patient that favor change or suggest motivation for changing harmful health behaviors)

In addition, this study will describe the modalities used to teach MI among PA programs across the country. This information will establish a benchmark for MI education in PA curricula.

## METHODS

### Data Collection

Data are from the 2014 Physician Assistant Education Association (PAEA) Annual Program Survey and reflect the 2013 to 2014 academic year.<sup>35</sup> The survey is sent to all PAEA-affiliated programs and is used to collect demographic, matriculation, and academic data about PA programs throughout the United States. A brief 2-question survey ([Tables 1](#) and [2](#)) about MI was included in the larger 2014 PAEA Annual Program Survey. (Question 1 assessed the number of courses dedicated to each respective MI-related content area during the 2013–2014 academic year. Question 2 assessed the methodologies used to teach MI-related content during the 2013–2014 academic year.) The online survey was available to all 186 accredited, PAEA-affiliated PA programs on June 16, 2014. Beginning in July, the PAEA research department staff sent reminder emails and conducted follow-up calls until all 186 PAEA member programs had completed the survey. The survey closed in September.

Table 1. Motivational Interviewing (MI) Curricula Question 1 of the 2014 Physician Assistant Education Association Annual Program Survey

Content Area	No. of Courses		
	Required	Elective	Total
a. Theories of health behavior change Health belief model, theory of reasoned action, theory of planned behavior, transtheoretical model, and stages of change, etc			
b. Spirit of MI Principles of empathy, collaboration, and respect for patient autonomy			
c. Responding to resistance Identifying patient resistance to change using the Righting Reflex (the habitual responses to patient's arguments against change), learning strategies for giving advice or information that will not increase resistance			
d. Expressing empathy skills Reflecting back the patient's perspective accurately and without judgment			
e. Avoiding argumentation Showing respect for patient's line of reasoning, sharing information, or raising concerns that prompt the patient to rethink his or her conclusions			
f. Developing discrepancy Creating a discrepancy between patient's goals and consequences of current behavior			
g. Supporting self-efficacy Supporting patient's ability and confidence to implement change			
h. Communicating verbally Using open-ended questions, practicing reflective listening; using affirmations, using summaries			
i. Using change talk Identifying, evoking, and developing change talk			
j. Other (please describe)			

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i. Using change talk Identifying, evoking, and developing change talk			
j. Other (please describe)			

Table 2. Motivational Interviewing Curricula Question 2 of the 2014 Physician Assistant Education Association Annual Program Survey

Teaching Methodologies	In Required Coursework	In Elective Coursework
a. Class lectures Didactic lectures presented by faculty or invited speakers	<input type="checkbox"/>	<input type="checkbox"/>
b. Provision of required reading materials	<input type="checkbox"/>	<input type="checkbox"/>
c. Seminars Faculty-led and faculty-facilitated discussions with active student participation	<input type="checkbox"/>	<input type="checkbox"/>
d. Group discussions Student-led discussion with minimal to no faculty participation	<input type="checkbox"/>	<input type="checkbox"/>
e. Written exercises	<input type="checkbox"/>	<input type="checkbox"/>
f. Patient- or case-based learning	<input type="checkbox"/>	<input type="checkbox"/>
g. Online coursework	<input type="checkbox"/>	<input type="checkbox"/>
h. Student role playing without formal evaluation	<input type="checkbox"/>	<input type="checkbox"/>
i. Student role playing with formal evaluation	<input type="checkbox"/>	<input type="checkbox"/>
j. Standardized patient activities without formal evaluation	<input type="checkbox"/>	<input type="checkbox"/>
k. Standardized patient activities with formal evaluation	<input type="checkbox"/>	<input type="checkbox"/>

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k. Standardized patient activities with formal evaluation	<input type="checkbox"/>	<input type="checkbox"/>

PAEA collected and organized the data. Survey responses about program academic health center status, public versus private status, and highest degree awarded were obtained from section I of the survey (general program information). After identifiable information had been extracted from the data set, the de-identified data were made available for our analysis. Given the lack of identifying variables in the data, this study was determined to be exempt from review by the Marquette University Institutional Review Board.

## Statistical Methods

All analyses were conducted using version 13 of Stata, a statistical software package.<sup>36</sup> Although all 186 PAEA-affiliated programs completed the survey, a small amount of data (1.6%–2.2%) was missing on questions about courses providing training in the essential skills used in the MI process. For the analyses, we assumed that missing data on these questions meant that the program did not offer a course dedicated to the MI component. In addition, although we collected information about both required and elective courses, ARC-PA Standards require instruction in counseling and patient education<sup>31</sup>; thus, we present only the results for required courses.

## RESULTS

### Physician Assistant Program Demographics

Most programs surveyed, 57.53% (n = 107), were sponsored by a private not-for-profit institution, but 32.80% (n = 61) were sponsored by a public institution and 8.06% (n = 15) by a private for-profit institution. Three programs (1.61%) did not provide information about their sponsoring institution. Most programs reported the master's degree to be the highest degree awarded (93.01%, n = 173). The remaining 13 programs reported baccalaureate (3.23%, n = 6) or “other” (3.76%, n = 7) to be the highest degree awarded.

### Courses Addressing Motivational Interviewing

In the 2013 to 2014 academic year, 27.42% (n = 51) of PA programs reported no required courses that included instruction in MI. Conversely, 35.48% (n = 66) reported one course, 17.20% (n = 32) reported 2 courses, and 19.89% (n = 37) reported 3 or more courses that included instruction in MI.

### Courses Providing Instruction in the Essential Skills of Motivational Interviewing

As shown in [Figure 1](#), when PA programs in the United States were surveyed about the number of courses that provide instruction in the essential skills of the process of MI, 66.67% (n = 124) reported that their curriculum included one or more courses with training in techniques for avoiding argumentation. Nearly 60% (n = 111) of programs reported one or more courses in their curriculum addressing the support of self-efficacy. Techniques for expressing empathy were addressed in most curricula, with 75.27% (n = 140) of programs reporting one or more courses providing instruction in empathy skills. In addition, 61.29% (n = 114) of programs reported one or more courses providing training in strategies for responding to resistance. Courses addressing the development of discrepancy were less frequently represented in PA curricula, with 46.77% (n = 87) of programs reporting one or more courses providing training in this MI skill.

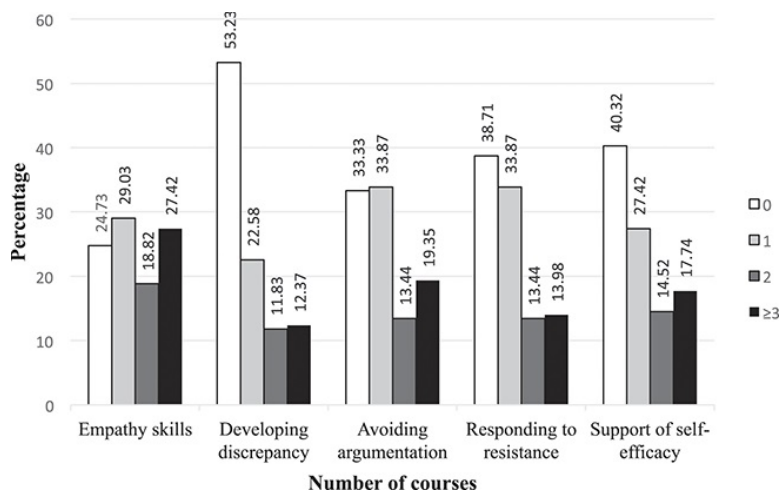


Figure 1. The percentage of physician assistant programs that offer courses with training in essential motivational interviewing skills, part 1 (n = 186)

As shown in [Figure 2](#), when programs were surveyed about whether their curriculum included courses with instruction on change talk strategies, 50.00% (n = 93) reported one or more courses in their curriculum. In addition, 76.88% (n = 143) of programs reported one or more courses addressing verbal communication, with 40.32% (n = 75) reporting 3 or more courses addressing this component. Health behavior change was often represented in PA curricula, with 58.06% (n = 108) of programs reporting one or more courses providing training in this skill.

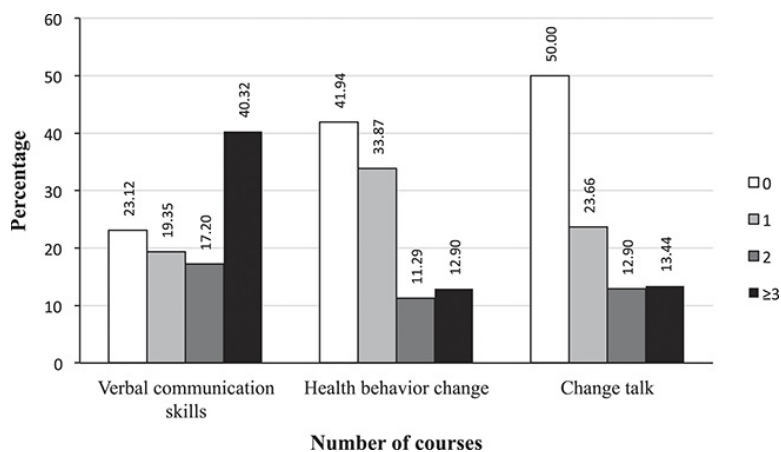


Figure 2. The percentage of physician assistant programs that offer courses with training in essential motivational interviewing skills, part 2 (n = 186)

## Motivational Interviewing Teaching Modality

[Table 3](#) presents the modalities that PA programs in the United States used to teach MI in required courses. Lectures were the most popular modality, with 84.95% (n = 158) of programs reporting that they used MI lectures in their curriculum. Problem-based learning activities and readings were also used in most PA curriculum, with 73.12% (n = 136) and 71.51% (n = 133) of programs, respectively, reporting use of those modalities. Modalities used less frequently included online exercises (27.96%, n = 52), seminars (59.68%, n = 111), and written exercises (53.76%, n = 100). With regard to experiential learning, 52.15% (n = 97) of programs used role-play exercises without evaluation, whereas 41.40% (n = 77) of programs used role-play exercises with evaluation. Standardized patient exercises without evaluation were used by 33.33% (n = 62) of programs and 58.60% (n = 109) used standardized patient exercises with evaluation.



**Table 3. Motivational Interviewing Teaching Modalities in the 2013–2014 Academic Year (n = 186)**

Teaching Modalities	Required Courses	
	n	Percent
Lectures	158	84.95
Reading	133	71.51
Seminars	111	59.68
Group discussions	118	63.44
Written exercises	100	53.76
Problem-based learning	136	73.12
Online exercises	52	27.96
Role-play exercises without evaluation	97	52.15
Role-play exercises with evaluation	77	41.40
Standardized patient exercises without evaluation	62	33.33
Standardized patient exercises with evaluation	109	58.60

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Lectures	158	84.95
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Seminars	111	59.68
Group discussions	118	63.44
Written exercises	100	53.76
Problem-based learning	136	73.12
Online exercises	52	27.96
Role-play exercises without evaluation	97	52.15
Role-play exercises with evaluation	77	41.40
Standardized patient exercises without evaluation	62	33.33
Standardized patient exercises with evaluation	109	58.60

## DISCUSSION

To our knowledge, this study is the first to provide a comprehensive evaluation of MI education in PA programs in the United States. Here, we describe the findings that 124 of 186 accredited programs include one or more courses providing training in MI in their curriculum. Regarding teaching modalities, lectures and readings are

among the most common, whereas less than 60% of the programs use role-play and standardized patient exercises with evaluation. Collectively, these findings establish the first benchmark for MI education in PA programs in the United States.

The finding that most PA programs provide training in MI in at least one course is encouraging. However, MI is a complex technique, and its effectiveness depends on flexible and strategic use of the essential skills to evoke its spirit and process.<sup>22</sup> Although the exact mechanism by which MI promotes patient behavioral change is unclear,<sup>37</sup> recent evidence suggests that change talk, at least in part, may be important to this process.<sup>25</sup> A recent systematic review by Copeland et al<sup>25</sup> investigating how MI causes patient behavioral change suggests that providers who are able to engage their patients in change talk can inspire positive behavioral changes that lead to weight loss and medication adherence. This study found that change talk instruction was absent in 50% of PA programs in the United States. Given the potential importance of change talk in promoting positive behavioral modifications in patients, including instruction addressing the promotion and support of change talk may be a critical component of clinician training.

Although change talk instruction is limited in PA curricula in the United States, most programs in our study included at least one course with instruction in verbal communication and empathy. In addition to being essential to the spirit and process of MI,<sup>22</sup> verbal communication and empathy are also fundamental clinical skills that are essential to a clinician's ability to gather the pertinent patient information necessary to formulate accurate diagnoses.<sup>38</sup> Therefore, the finding that nearly 80% of PA programs provide instruction in verbal communication and empathy may be a reflection of the shared importance of these skills in PA education and MI training.

Instruction in MI does not guarantee that a provider will successfully use MI in routine clinical practice.<sup>39</sup> Effective incorporation of MI into clinical practice depends on both competency (the provider's knowledge of the spirit and process of MI)<sup>22,39</sup> and proficiency (the provider's ability to practice the spirit of MI and use the process of MI to evoke change talk).<sup>40,41</sup> In this study, lecture was one of the most common MI teaching modalities. Although lectures have been shown to effectively improve MI knowledge,<sup>42</sup> lectures alone are inadequate for improving MI proficiency.<sup>17,24,43</sup> A study assessing MI learning strategies for pharmacy students showed that students who participated in standardized patient or peer role-play exercises after an MI lecture performed significantly better in summative MI examinations than did students who participated in written dialog exercises after the same MI lecture.<sup>44</sup> In addition, Dunhill et al<sup>43</sup> demonstrated that physician residents experienced more favorable outcomes in MI proficiency when their training included experiential learning opportunities. Our study shows that when used in MI education within PA curricula, experiential learning opportunities such as role-play and standardized patient exercises did not routinely include evaluation.

Experiential learning opportunities in MI training can be greatly enhanced when they are paired with assessment and direct feedback regarding students' MI competency and proficiency.<sup>17,43</sup> A randomized controlled trial by Miller et al<sup>41</sup> demonstrated that trainees who received assessment and feedback from independent MI coders (MI trainers who receive intense training to recognize and evaluate clinician MI integrity) after regular experiential learning opportunities were more likely to consistently meet criteria for MI proficiency, compared with those trainees who did not receive feedback. Although independent MI coder assessment of standardized patient encounters is often considered the gold standard for evaluating MI performance and providing constructive feedback,<sup>37,45</sup> use of such assessment may not be feasible because of the high cost<sup>44,46</sup> and limited availability of coders.<sup>45</sup> Research has shown that alternative methods of assessment, such as brief mock patient encounters with clinical faculty or standardized patients trained to use a simple 8-item MI performance scale, are effective.<sup>46</sup> Given that faculty and standardized patient assessment and feedback are often more readily available and less expensive than are independent MI coders,<sup>37,45,46</sup> these methods show promise in providing students with valuable opportunities to improve MI proficiency.

Motivational interviewing is an important technique that PAs can use to improve patient care and prevent chronic diseases.<sup>32-34</sup> This study is the first comprehensive assessment of MI education in all PAEA-affiliated PA programs. Although our findings establish a national benchmark for MI education, the study does have limitations. First, the survey data were collected from the larger 2014 PAEA Annual Program Survey, which was completed by PA program directors. Although program directors are cognizant of the instruction occurring in the curriculum, they are not usually responsible for designing and delivering content in individual courses. Therefore, it is possible that their responses regarding MI instruction may not entirely represent the instruction occurring in individual courses throughout the curriculum. In addition, the available data assessed the number of courses involving MI-related content. Although students' competence in MI may not be directly related to the number of MI courses in the curriculum, previous reports have demonstrated that trainees with more opportunities for MI education score significantly better on assessments of MI knowledge.<sup>17,34,43</sup>

Future studies investigating the relationship between the number of courses and MI competency among PA students are needed. Likewise, research examining the relationship between participation in MI-related experiential learning experiences and PA student MI proficiency is essential for optimizing MI education in PA curricula. Such information will inform the development of innovative and effective approaches to MI training and provide opportunities for empowering tomorrow's PAs with the MI skills they need to reduce risky health behaviors and decrease the incidence of costly chronic diseases.

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