

## INTRODUCTION:

- Vaccine hesitancy is a significant and growing issue that frequently challenges occupational health clinicians (OHCs) in clinical practice.
- Training OHCs in Motivational Interviewing (MI), an evidence-based communication tool, through online modules offers a cost-effective approach to assist in evoking changes in patients across different settings.
- There is limited research examining MI training specifically within the context of vaccine hesitancy, as well as little research on the effectiveness of online training in MI.
- This study aims to assess the feasibility and effectiveness of an online training course designed for OHCs to utilize MI in addressing vaccine hesitancy.

## METHODS:

### Study Design

- Online, case-based training course in MI (approximately 2 hours in duration) was administered to OHCs (n = 71) recruited via professional listservs from July to August 2023.
- OHCs' knowledge, confidence, and skills were measured via questionnaires at baseline (T1), post-training (T2), and at 3 months (T3).
- Skills were assessed with a combination of Likert-like questions and free-text written answers in response to scenario questions, graded with a rubric.

### Analysis

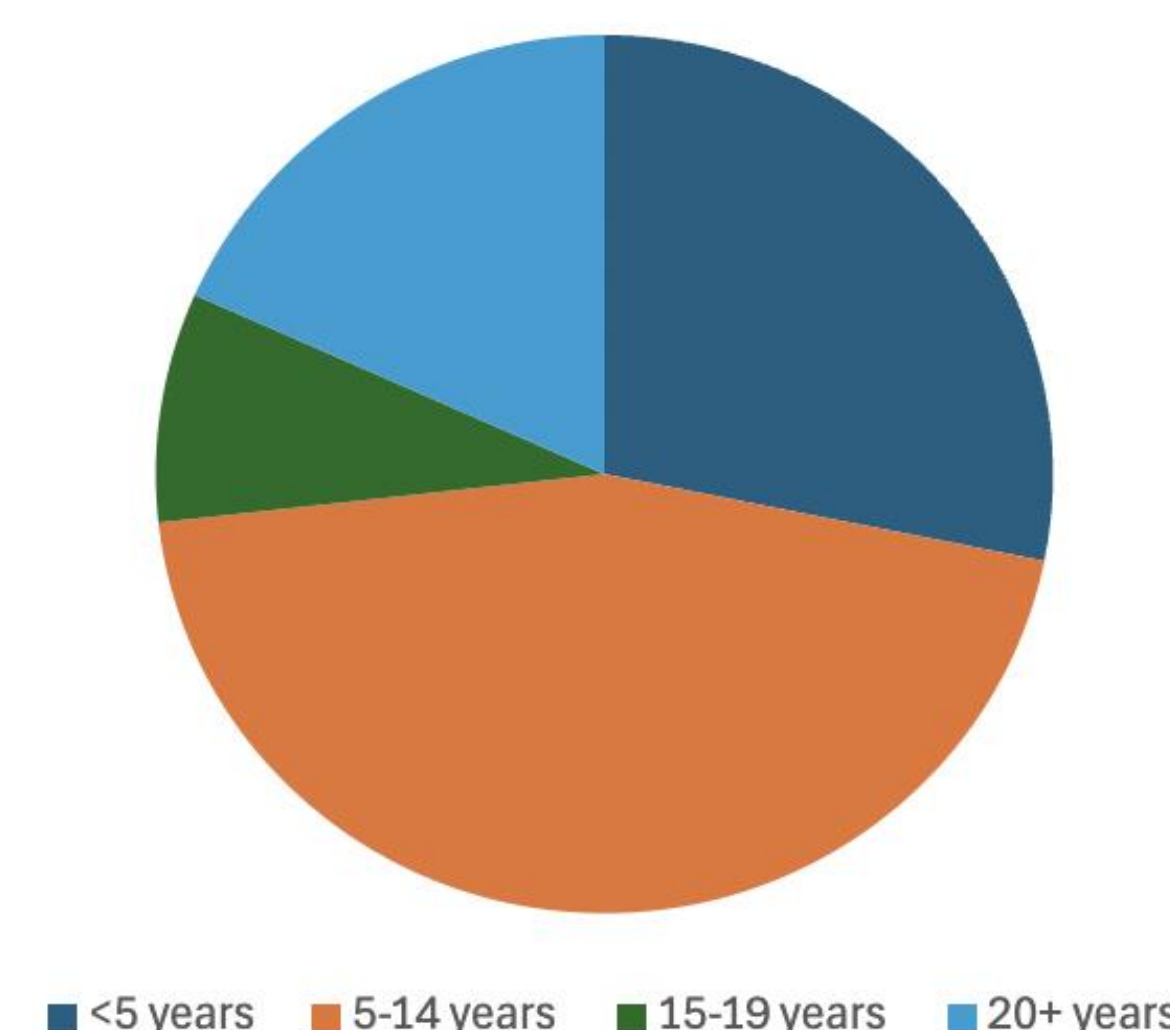
- Frequencies and proportions were used to describe baseline characteristics of study participants and responses to training acceptability/satisfaction questions.
- Paired t-tests were used to measure change in mean scores between pairs of time points.
- One-Way repeated measures ANOVA assessed change in mean total score across all time points.

Table 1. Participant Baseline Characteristics (N = 71)

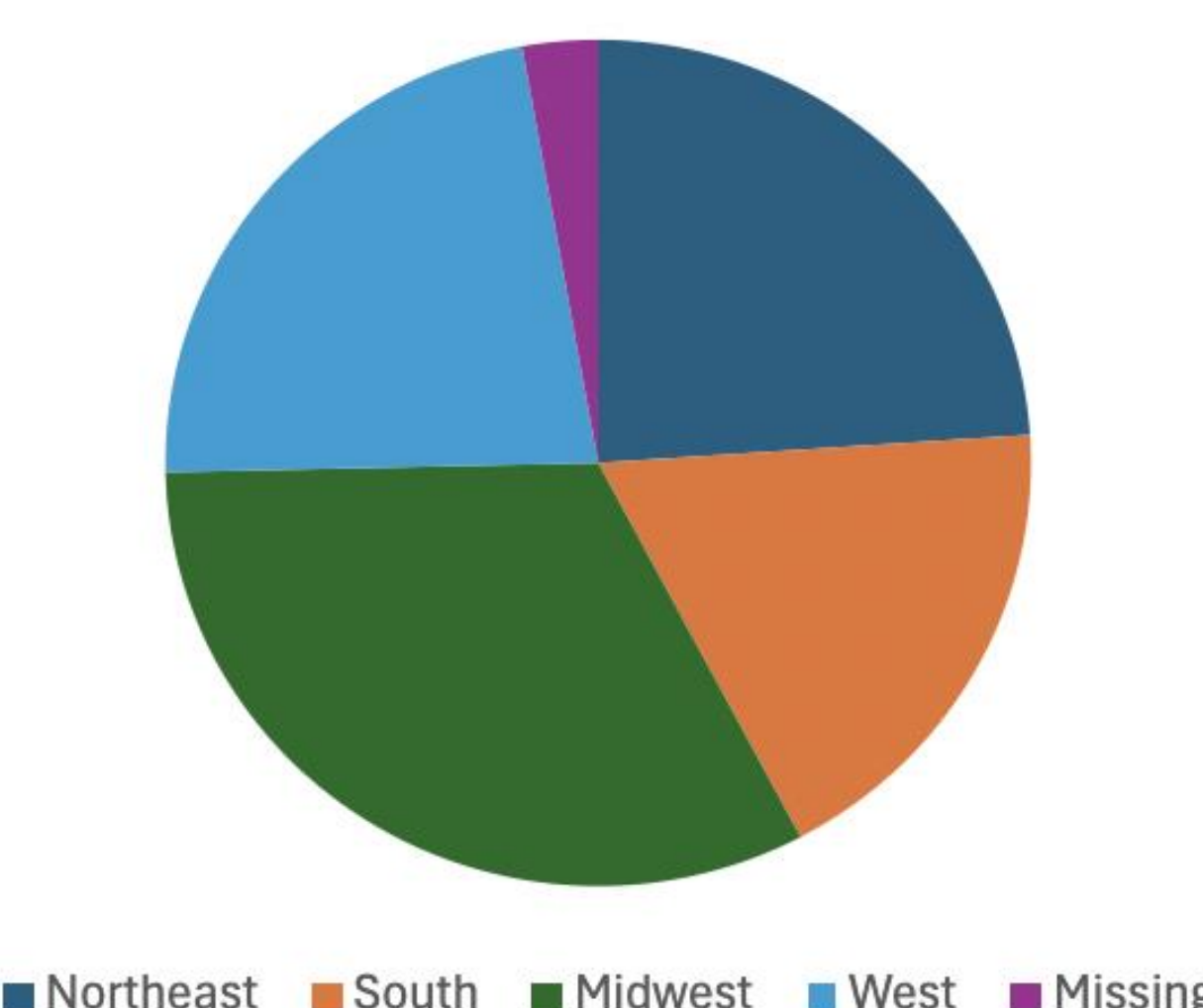
Characteristic	N	%
<b>Provider Type</b>		
Nurse	13	18
Physician	23	32
Nurse Practitioner	21	30
Physician Assistant	14	20
<b>Practice Setting*</b>		
Academic occupational health	5	7
Corporate medical director/occupational health program director	5	7
Employee health clinic based at a workplace (i.e. hospital, office park, military treatment facility, etc.)	37	52
Occupational health clinic serving multiple clients	39	55
Occupational health consulting	3	4
<b>Self-Reported Expertise in Motivational Interviewing (MI)</b>		
Novice	57	80
Intermediate	13	18
Advanced or expert (I train others in MI)	1	1

\*Participants were instructed to select all that apply, therefore percentages do not sum to 100

Years in Practice (%)



Practice Location (%)



## RESULTS:

Table 2. Effect of Online Training Course in Motivational Interviewing (MI) on Participants' MI Knowledge, Skills, and Confidence

	Maximum points (range)	Baseline Evaluation (T1)	Post-Training Evaluation (T2)	Follow-up Evaluation (T3)	Mean Difference	p for paired t-tests *
<b>No. of participants</b>	--	71	59	57	--	--
<b>Total Score, mean (SD)</b>	81 (12-78)	51.8 (8.1)	63.8 (12.0)	61.7 (11.7)	T2 vs. T1: 12.9 T3 vs. T2: -2.1 T3 vs. T1: 11.8	T2 vs. T1: <.001 T3 vs. T2: .013 T3 vs. T1: <.001
<b>MI Knowledge</b>						
No. of participants	--	71	58	55	--	--
Mean (SD) for score: multiple choice questions	32 (12-32)	22.4 (4.8)	28.7 (3.5)	26.0 (3.1)	T2 vs. T1: 6.3 T3 vs. T2: -3.0 T3 vs. T1: 3.5	T2 vs. T1: <.001 T3 vs. T2: <.001 T3 vs. T1: <.001
<b>Confidence in use of MI</b>						
No. of participants	--	71	57	55	--	--
Mean (SD) for score: Likert-like questions	25 (6.5-25)	15.0 (3.5)	20.3 (2.8)	19.9 (3.0)	T2 vs. T1: 5.4 T3 vs. T2: -0.4 T3 vs. T1: 5.1	T2 vs. T1: <.001 T3 vs. T2: .21 T3 vs. T1: <.001
<b>MI Skills</b>						
No. of participants	--	71	57	55	--	--
Mean (SD) for Total Score	24 (0-24)	14.4 (3.9)	16.3 (3.9)	17.4 (4.0)	T2 vs. T1: 1.8 T3 vs. T2: 1.3 T1 vs. T3: 3.2	T2 vs. T1: .002 T3 vs. T2: .006 T3 vs. T1: <.001

\*Bold: Significant at p<.05 level

- Participants:** 71 participants enrolled and completed the baseline questionnaire, 58 (82%) completed the post-training questionnaire, and 55 (77%) completed the 3-month follow-up. Participants represented practice settings across the U.S. and a wide range of industry settings.
- Knowledge:** There was a **significant increase in MI knowledge** between T1 and T2 (paired t-test p < 0.001); although there was the anticipated decrease in knowledge at T3, compared to T2, **participants retained knowledge** at T3 compared to baseline (p < 0.001).
- Confidence:** Participants reported a **significant increase in confidence using MI** between T1 and T2 (p < 0.001), **sustained 3 months later**, based on the difference between T1 and T3 (paired t-test p < 0.001).
- Skills:** We found a **significant increase in MI skills** in simulated conversations requiring written responses between T1 and T2 (p = 0.002), which was **sustained 3 months later** between T1 and T3 (p < 0.001).
- Statistical Tests:** One-Way repeated measures **ANOVA testing was significant** for total score (p < 0.001), meaning that total score differed across the 3 time points.
- Course Evaluation:** OHCs reported **high levels of acceptability/satisfaction** with the online training course and would recommend it to other OHCs (n = 54).
- Follow-up:** Participants provided **examples of clinical application of the training** in the 3-month follow-up survey, indicating use of their new skills in practice.

## CONCLUSIONS:

A brief online MI training course featuring simulated conversations about vaccine hesitancy was effective in increasing MI knowledge, confidence, and skills in a diverse group of OHCs. Participants demonstrated the retention of knowledge, confidence, and skills months after completing the training. The increase in skills between completing the training and 3-month follow-up suggests real-life application of skills following the training.

### Acknowledgments:

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