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<b>14. ABSTRACT</b> This study represented an effort to test whether standard training strategies, commonly used effectively in civilian providers, were effective in training Air Force Behavioral Health Providers in a specific EBT, motivational interviewing (MI). Employing a randomized, controlled design, providers were randomized to receive either standard training in MI or an enriched training option. The standard training option was a 2-day workshop on MI, while the enriched option added follow-up consultation and personalized feedback regarding a work sample to the workshop. After training, providers submitted work samples at 4, 8 and 12 months to assess the impact of the training conditions. These work samples were evaluated using standardized behavioral coding systems to measure both the provider behaviors and the client responses to them. Questions to be answered in this study included the efficacy of training procedures, their cost-effectiveness in reducing alcohol-related events in participating bases, and the impact of pre-training counseling skills on acquiring MI.						
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## Introduction

Can empirically-based treatments for substance abuse be disseminated within AF ADAPT programs? Can AF substance abuse treatment providers acquire the necessary skills to use empirically-based treatments (EBT's) using standard training formats, or are more intensive training methods needed? These questions are at the heart of current efforts in the AF to adapt specific empirically-based treatments to the ADAPT programs, to supplement and replace less effective interventions and improve overall outcomes for airmen referred for alcohol-related events.

This study represented an effort to test whether standard training strategies, commonly used effectively in civilian providers, were effective in training Air Force Behavioral Health Providers in a specific EBT, motivational interviewing (MI). Employing a randomized, controlled design, providers were randomized to receive either standard training in MI or an enriched training option. The standard training option was a 2-day workshop on MI, while the enriched option added follow-up consultation and personalized feedback regarding a work sample to the workshop. After training, providers submitted work samples at 4, 8 and 12 months to assess the impact of the training conditions. These work samples were evaluated using standardized behavioral coding systems to measure both the provider behaviors and the client responses to them. Questions to be answered in this study included the efficacy of training procedures, their cost-effectiveness in reducing alcohol-related events in participating bases, and the impact of pre-training counseling skills on acquiring MI.

## Body

The study was conducted over six years, including two no-cost extension years. Substantial project delays were experienced as a result of two factors: 1) military IRB reviews that required an entire calendar year and 2) the advent of the IRAQ conflict, which interrupted study workshops and impaired the ability of personnel to enroll, participate and provide follow up data. Despite these challenges, the study successfully delivered all contracted work products, finished within budget and returned a substantial amount of money to the DOD at the completion of the project. The exact timeline for each deliverable in the Statement of Work is detailed below:

### ***Project Deliverables Tied To Statement of Work***

#### **Year One**

*1) Obtain Institutional Review Board approval from the University of New Mexico*

Progress: Completed in February 2002.

*2) Obtain Institutional Review Board approval from the US Army Medical Research and Material Command*

Progress: Completed in February 2003.

3) *Obtain Institutional Review Board approval from Wilford Hall Medical Center Human Subjects Review Board*

Progress: Completed in February 2003.

4) *Equipment and office supplies will be purchased*

Progress: Completed in 2003.

5) *The Motivational Interviewing Treatment Integrity (MITI) Coding system instrument will be completed and pilot-testing of this instrument will begin*

Progress: Completed in 2003.

6) *Three coders will be hired and trained to use the MITI instrument*

Progress: Completed in 2003. See below for a table of the intraclass correlations obtained from the coders at the beginning of this project (using training tapes for the MITI coding system). These reliabilities are within the good to excellent range (Cicchetti, 1994), indicating appropriate precision for this research project.

**Table 1. Reliabilities for the MITI Coding System**

	All Coders	JK and MG		JK and TT		MG and TT	
	ICC	Pearson	ICC	Pearson	ICC	Pearson	ICC
Empathy	.5184	.7175	.6567	.4754	.4589	.4220	.4166
Spirit	.5846	.6543	.6543	.4861	.4860	.6117	.6115
General Information	.7580	.7544	.7531	.7306	.7303	.7927	.7923
MI Adherent	.8092	.8451	.8431	.7816	.7671	.8202	.8138
MI Non-adherent	.7505	.8408	.8402	.7315	.6806	.7418	.6998
Closed Question	.9681	.9791	.9781	.9772	.9743	.9588	.9515
Open Question	.9389	.9619	.9571	.9311	.9185	.9440	.9420
Simple Reflect	.8126	.8396	.8240	.8094	.8079	.8133	.8061
Complex Reflect	.5764	.7187	.6542	.6325	.6276	.5154	.4427
Total Reflect	.8592	.8970	.8641	.8646	.8646	.8784	.8474

N = 50

*7) Bar-coding technology will be in place to scan and electronically catalog confidential tapes*

Progress: Complete. Bar-code technology implementation was completed in 2003.

## **Year Two**

*1) Completion of the IRB process at the University of New Mexico, US Army Medical Research and Material Command, and Wilford Hall Medical Center Human Subjects Review Board.*

Progress: Completed in February 2003.

*2) Approval will be obtained for recruitment at 80 AF bases worldwide using a single IRB as an oversight board*

Progress: Completed in February 2003.

*3) Letters of agreement from 15 Base Commanders, Military Group Commanders, and ADAPT Coordinators will be signed*

Progress: Complete. In 2003, letters of support were signed by 63 of 79 (80%) Med Group Commanders at AF bases.

*4) Staffing for the AF surgeon General's Office and obtaining all supplies and equipment necessary to recruit and receive tapes through that office*

Progress: Completed in 2003. Karin Cedro was hired to work in the Surgeon General's Office. Security check, computer approval and e-mail access for this person (Karin Cedro) required nine months from beginning to end.

*5) Recruit 90 participants for Wave One and complete one workshop training*

Progress: Complete. The first of four trainings for behavioral health providers was scheduled for April of 2003; however military action in Iraq necessitated cancellation of this training (providers were simply not able to attend due to deployments at their bases) resulting in a substantial loss of funds for the project as well as delays implementation.

In consultation with the AF Surgeon General's Office, a decision was made to go forward with a second scheduled training in July of 2003, to be held after the AF Worldwide Substance Abuse Conference, and at the same site (San Diego) to optimize attendance by behavioral health providers. As a result, 63 participants were recruited in Year Two.

6) *Collect 90 baseline tapes and 60 post-training tapes.*

Progress: Complete. In Year Two, 47 audiotapes were received from participants.

7) *110 tapes will be coded using the MITI coding system*

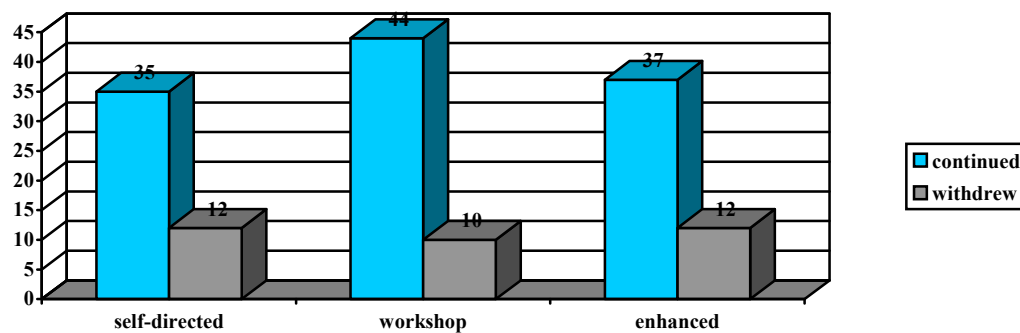
Progress: Complete. In Year Two, 47 audiotapes (baseline therapy tapes) were received from project participants and coded using the MITI system.

### Year Three

1) *90 Participants will be recruited*

Progress: Complete. In 2004, 87 new participants were recruited. The *total number* of subjects for this study, by condition, is represented graphically below.

**Figure 1.**



Subject withdrawal for this project (22%) was substantially higher than anticipated and much higher than that of civilian subjects in a similar project (Miller, Yahne, Moyers, Martinez & Pirritano, 2004). Potential reasons unique to this cohort include unexpected changes of duty station (PCS), transfer of duties away from patient care, unanticipated duty reassignments due to mobilization of forces for war, and suspension of travel privileges due to imminent base inspections. We have obtained a “stated reason for withdrawal” for each subject who has dropped out of the study. These reasons are tabulated below:

**Table 2. Reasons for Withdrawal from AF Study**

Reason for Withdrawal	N	%
Deployment	1	3%
Eligibility criteria (e.g. no longer seeing patients)	7	21%
No longer interested	4	12%
Too busy (e.g. increased duties; short-staffing at bases)	9	26%
Personal reasons (family problems or declines to	9	26%

give reasons)		
Separation from the Air Force	4	12%
Undetermined (no response to e-mails, calls and letters)	0	0%

Overall recruitment was excellent. Target subjects for this research project were ADAPT Behavioral Health Providers, a universe of approximately 278 individuals at any given time. This project was able to recruit 54% of the entire universe for the targeted research participants.

*2) 60 Providers in Groups 2 and 3 will be trained*

Progress: Sixty-eight (n=68) participants were trained in three MI workshops in this project year

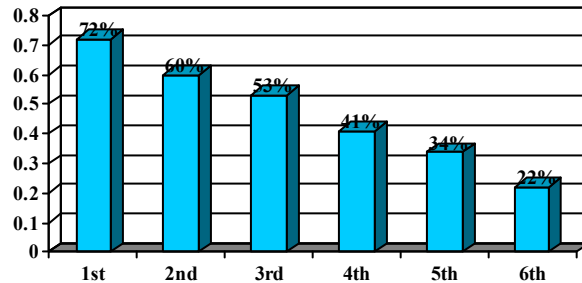
A total of four MI workshops were completed during this study, *three of them during this project year*. Training workshops were held on October 30-31, 2004; January 28-29, 2004 and April 7-8, 2004.

*3) 180 consult calls will be provided*

Progress: One hundred and seventeen (n=117) of 228 possible telephone consults were completed.

Up to six consult calls were available for each subject randomized into the Enriched training condition. If every subject had used all six possible consultation calls, we would have completed 228 phone consults. We were able to complete a total of 117 phone consults or 51% of our target. The completion rate is represented graphically below, indicating that most eligible subjects (72%) completed at least one consult call. A minority of subjects (22%) of subjects completed all six consultations. See Figure 2 below for information regarding the number of consult calls completed by subjects.

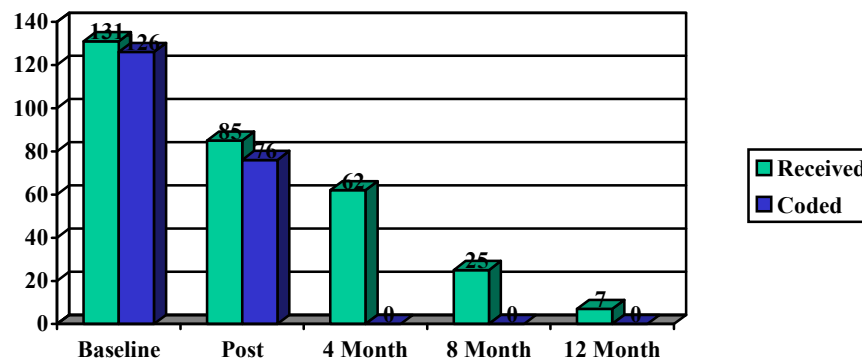


**Figure 2.**

n = 41 (some participants completed consult calls before dropping out of the study)

4) 320 tapes will be coded using the MITI coding system

Progress: Of the 310 tapes received, 240 (77%) were coded using the MITI coding system in Year Three. The number of tapes received and coded per assessment point is represented graphically below.

**Figure 3.**

In addition, 20 tapes (8%) of the session tapes were double-coded to assess reliability. The reliability figures for these codes are shown below using several measures of correlation, the most conservative of which is the intra-class correlation or ICC.

Reliability estimates (which we have calculated sequentially at the rate of 10 per 100 tapes coded), are well within acceptable limits as defined by Cichetti (1994). Indeed, these reliability estimates are better than those generated by this research group on previous projects using the MITI (Moyers, T.B., Martin, T., Manuel, J.K., Hendrickson, S.M.L., & Miller, W.R. (2005). Assessing competence in motivational interviewing. *Journal of Substance Abuse Treatment*, 28, 19-26.)

and will allow a high degree of confidence in interpreting the data derived from the MITI. The exception to this rule is the MI Non-Adherent category. An investigation of this category reveals low overall frequency, which may be compromising our ability to reliably score it. We have implemented decision rules to assist coders in coding MI Non Adherent behaviors more reliably, and these are reflected in updates to the MITI manual.

**Table 3. Reliabilities for MITI Coding**

	<u>ICC</u>	<u>Pearson</u>	<u>Alpha</u>	<u>t</u>	<u>p</u>
Giving Information	0.679	0.686	0.809	-2.090	0.066
MI Adherent	0.657	0.670	0.793	-0.297	0.774
MI Nonadherent	0.134	0.147	0.237	-0.264	0.798
Closed Question	0.975	0.987	0.987	-0.343	0.739
Open Question	0.979	0.979	0.989	-1.765	0.111
Simple Reflection	0.827	0.831	0.905	0.519	0.616
Complex Reflection	0.919	0.943	0.958	-0.605	0.560
Total Reflections	0.891	0.891	0.942	0.278	0.787

5) *Data entry will begin for the main outcome variables*

Progress: In a three-year period we randomized 129 substance abuse providers from 54 different Air Force bases. Demographic characteristics for this sample are listed in Table 4. Men (48.7%) and women were equally represented in this sample, with a mean age of 36.3 (SD = 8.9). These providers had an average of 11.1 (SD = 7.0) years experience in overall mental health counseling, with an average of 5.9 (SD = 6.2) years of specific experience in the treatment of substance abuse. There were no significant differences between the treatment conditions on ethnicity, years of post-secondary education, or years in overall mental health counseling or treatment of substance abuse. However, there was a significant difference in the percentage of females within the self-directed group compared to the other two treatment groups ( $\chi^2(2, N = 117) = 12.09, p = .002$ ).

**Table 4. Demographic Characteristics of Study Participants**

Characteristic	W	E	S
<i>n</i>	48	45	40
% female	49	35	77
% White/non-Hispanic	49	65	54
% master's or more	50	65	52
% doctorate	18	14	22
Postsecondary education			
<i>M</i> (years)	5.2	6.4	5.4
<i>SD</i>	3.4	3.7	4.1
Counseling experience			
<i>M</i> (years)	10.9	11.1	11.2

<i>SD</i>	7.6	5.1	8.4
Substance abuse counseling			
<i>M</i> (years)	6.4	4.9	6.5
<i>SD</i>	7.2	3.9	7.3

*Note.* W = workshop only; E = workshop plus training enrichments; S = self-directed

**Progress:** All data has been double entered into SPSS data files and checked for accuracy.

## Year Four

### 1) *The remaining tapes will be coded*

Progress: Of the 465 tapes received, 457 (98%) of them have been coded for therapist behavior using the MITI coding system. In addition, 40 tapes (9%) of the session tapes have been double-coded to assess reliability. The reliability figures for these codes are shown below using several measures of correlations, the most conservative of which is the intra-class correlation (ICC). *Fifty percent of these tapes (n = 20) have been double-coded this year and these reliability estimates have been updated from the previous report.*

Reliability estimates (which we have calculated sequentially at the rate of 10 per 100 tapes coded), are well within acceptable limits. Indeed, these reliability estimates are comparable to those generated by this research group on previous projects using the same behavioral coding system and will allow a high degree of confidence in interpreting the data derived from it. The exception to this rule is the MI Non-Adherent category. An investigation of this category reveals low overall frequency, which may be compromising our ability to reliably score it. In the past year we have implemented decision rules to assist coders in coding MI Non-Adherent behaviors more reliably.

**Table 5. Reliability estimates for outcome measures**

	<u>ICC</u>	<u>Pearson</u>	<u>Alpha</u>
Giving Information	0.505	0.522	0.671
MI Adherent	0.687	0.692	0.814
MI Nonadherent	0.205	0.305	0.340
Closed Questions	0.989	0.989	0.994
Open Questions	0.941	0.943	0.941
Simple Reflections	0.684	0.686	0.812
Complex Reflections	0.746	0.755	0.854
Total Reflections	0.789	0.789	0.882

Of the 465 tapes obtained, 457 were coded using the MITI coding system and 311 were also coded with the SCOPE-CLAMI (Sequential Code of Process Exchanges and the Client Language Assessment in Motivational Interviewing) in which

client and therapist verbal utterances were measured. Only 311 tapes were coded with the SCOPE-CLAMI due to difficulties in transcription as a result of poor tape audibility. See Table 6 for a calculation of summary measures from the Motivational Interviewing Treatment Integrity (MITI) coding system used in the primary study analyses.

**Table 6. Calculation of MITI summary measures**

MITI Summary Measure	Formula
Ratio Reflections to Questions (R:Q)	$= \frac{\text{simple} + \text{complex reflections}}{\text{open} + \text{closed questions}}$
% Open Questions (%OQ)	$= \frac{\text{open questions}}{\text{open} + \text{closed questions}}$
% Complex Reflections (%CR)	$= \frac{\text{complex reflections}}{\text{simple} + \text{complex reflections}}$
% MI-Adherent (%MIA)	$= \frac{\text{MI Adherent behaviors}}{\text{MI Adherent} + \text{MI Non - adherent behaviors}}$

2) *Twelve month base incident data will be harvested for all bases and a report will be prepared indicating those findings*

Progress: Complete. Of a total of 84 Air Force bases eligible to participate in this study, we received participants from 47 bases. The majority of bases participating had only 1-7 counselors participating, and one base had 12 counselors represented. We have received incident data from 57 bases so far. In an exploratory analysis, we compared the number of reported incidents within the 2004 calendar year for those bases that had clinicians attending the training and those bases that did not have participating clinicians. Overall, the rate of alcohol related incidents did not differ between the bases that had participating clinicians and those bases that did not have participating clinicians ( $t(57) = -0.09, p = .93$ ). In fact, all bases had an average of .02 incidents reported for each individual personnel member.

**Table 7. Alcohol-related incidents for AF bases: 2004**

Personnel Size	Air Force Base	# of Personnel	# Reported Alcohol Related Incidents	# Participating Clinicians
Small				
(0-2500)	Buckley	1505	26	1
N = 12	Incirlik	1309	4	1
	Lajes	883	19	1

	Altus	1728	71	0
	Andersen	1619	68	0
	Columbus	1491	16	0
	Hanscom	1859	12	0
	Laughlin	1354	34	0
	Los Angeles	1549	1	0
	Patrick	2205	17	0
	USAF Academy	2438	27	0
	Vance	1029	19	0
<hr/>				
Medium				
(2501-5000)	Cannon	3323	18	1
N = 25	Charleston	4080	120	2
	Edwards	3515	21	4
	Eielson	2721	43	2
	Kirtland	3804	39	3
	Maxwell	2932	36	3
	Misawa	3207	85	2
	Moody	3999	1	3
	Mountain Home	4168	103	4
	Randolph	4011	26	1
	Seymour Johnson	4433	83	2
	Sheppard	4818	275	6
	Tyndall	4534	90	3
	Vandenberg	2959	47	1
	Yokota	3169	44	2
	Aviano	4066	122	0
	Goodfellow	3898	104	0
	Hickam	4591	46	0
	Kunsan	2549	93	0
	Little Rock	4917	68	0
	MacDill	3714	64	0
	McChord	4024	108	0
	Mildenhall	4424	123	0
	Minot	4691	83	0
	Whiteman	3548	47	0
<hr/>				
Large				
(5001-7500)	Eglin	7479	201	1
N = 20	Elmendorf	6263	189	1
	Keesler	5130	168	6
	Offutt	6502	145	7
	Osan	6098	217	1
	Pope	5639	122	2
	Robins	5622	70	2
	Shaw	6221	174	1
	Tinker	6396	159	1
	Travis	7036	123	3
	Wright-Patterson	6120	71	1
	Bolling	5037	21	0
	Davis-Monthan	6729	120	0
	Hill	5032	154	0
	Hurlburt Field	7292	148	0
	Kadena	6777	85	0
	Luke	5339	156	0
	McGuire	5119	82	0
	Pentagon	5423	2	0

	Scott	5955	71	0
Extra Large (7501- up) N = 2	Lackland Ramstein	15842 8958	16 196	12 1

3) *Effectiveness of training findings across groups for 12 months will be computed*

Progress: Complete. To assess whether workshop training produced improvements in MI skills, we conducted a repeated measures multivariate analysis of variance (MANOVA) on the difference between baseline and post-training MITI scores, collapsing across the three training conditions (workshop, enhanced workshop and self-directed). There was a significant difference between the two time points (Wilks' lambda,  $F(7, 106) = 82.39, p < .001, \eta_p^2 = .85$ ). Univariate tests reflected an improvement on all measures at the post-training time period (all  $ps < .001$ ). Furthermore, post-training scores met the minimal a priori threshold for empathy (rating of five or above), percent MI adherent (90% or greater; W group reached 89%), and the ratio between reflections and questions (at least 1.0; Moyers, Martin, Manuel, & Miller; <http://casaa.unm.edu/download/miti.pdf>). These results indicate that workshop training was effective in eliciting changes in clinical practice among our participants. See Table 8 for the means and standard deviations for the three training conditions at the baseline, post training and four month follow-up period.

**Table 8. Means (SD) of Primary Outcome Variables for Each Treatment Group**

Measure	W	E	S
<b>Empathy</b>			
Baseline	3.57 (0.93)	3.80 (1.22)	3.78 (1.16)
Post Training	4.70 (0.84)	5.35 (0.58)	5.07 (1.16)
1 <sup>st</sup> Follow Up	4.30 (1.56)	4.28 (1.33)	3.38 (1.18)
<b>MI Spirit</b>			
Baseline	2.60 (0.77)	3.09 (1.13)	3.19 (1.20)
Post Training	4.46 (1.13)	4.83 (0.84)	5.31 (0.85)
1 <sup>st</sup> Follow Up	3.93 (1.48)	4.00 (1.41)	2.97 (1.05)
<b>MI Adherent Behaviors</b>			
Baseline	1.79 (2.13)	2.02 (1.74)	2.00 (2.44)
Post Training	4.63 (3.14)	4.93 (2.45)	3.14 (2.26)
1 <sup>st</sup> Follow Up	1.43 (1.55)	2.03 (1.70)	1.90 (1.88)
<b>MI Non-adherent Behaviors</b>			
Baseline	2.34 (3.00)	1.73 (2.16)	0.81 (1.68)
Post Training	0.85 (1.99)	0.45 (0.88)	0.21 (0.41)
1 <sup>st</sup> Follow Up	0.90 (1.42)	1.17 (1.73)	1.14 (1.53)
<b>% Open Questions</b>			
Baseline	21.13 (14.36)	18.97 (11.71)	18.79 (12.30)
Post Training	44.33 (16.15)	42.45 (18.47)	51.63 (17.97)
1 <sup>st</sup> Follow Up	31.94 (18.35)	28.03 (18.48)	21.29 (13.47)
<b>% Complex Reflections</b>			

Baseline	17.21 (17.01)	22.07 (21.14)	16.27 (16.32)
Post Training	29.83 (13.92)	28.17 (13.03)	48.92 (14.14)
1 <sup>st</sup> Follow Up	41.31 (26.25)	46.77 (19.49)	37.54 (23.31)
Reflection:Question Ratio			
Baseline	0.35 (0.35)	0.39 (0.30)	0.35 (0.25)
Post Training	1.13 (0.75)	1.32 (0.87)	1.50 (1.28)
1 <sup>st</sup> Follow Up	0.77 (0.85)	1.05 (1.19)	0.49 (0.59)

*Note.* The post training audiotaped work sample was conducted with an actor/client and was collected immediately after the workshop training. The self-directed group (S) did not attend the workshop training until after the 3<sup>rd</sup> follow up assessment. W = workshop only; E = workshop plus training enrichments; MI = motivational interviewing.

To evaluate the continued success of the training, we conducted a repeated measures MANOVA comparing the baseline scores to the scores at four months after the workshop was completed. We did not include the S group in this analysis since they had not yet completed training. The comparison between the baseline and first follow up assessment for the Workshop and Enhanced groups was significant ( $F(7, 52) = 11.21, p < .001, \eta_p^2 = .60$ ). Univariate comparisons showed improvement for all the follow up variables of empathy ( $p = .009$ ), MI spirit ( $p < .001$ ), MI non-adherent speech ( $p = .012$ ), percent open questions ( $p < .001$ ), percent complex reflections ( $p < .001$ ), and the ratio of reflections to questions ( $p = .001$ ). The only variable that did not show continued success was the frequency of MI adherent speech.

#### *Evaluating Differences in Skill Across Training Conditions*

A multivariate analysis of covariance (MANCOVA) was performed to determine differences in MI skills between the self-directed group and the groups that had received training (workshop only and enhanced) at the first follow up point, with baseline MI skills as covariates. At the first follow up point, the training groups (workshop only and enhanced) had received all the training components and the self-directed group had only received the reading materials and videotapes. The overall F indicated a significant difference between the groups,  $F(7, 72) = 2.40, p = .029, \eta_p^2 = .189$ . Follow up tests with univariate analyses of covariance (ANCOVAs) found significant differences between the self directed and trained groups in the dependent measures of empathy ( $p = .002, \eta_p^2 = .11$ ), and MI spirit ( $p = .001, \eta_p^2 = .13$ ) indicating an increase in MI skill for the trained groups in these areas. The measures of MI adherent speech, MI non-adherent speech, percent open questions, percent complex reflections, and the ratio of reflections to questions were not significant.

*4) Computations for across base comparisons will be computed and the final report will be issued.*

Progress: Complete. A MANCOVA was utilized to examine whether providers located on bases with other participating providers had better skill acquisition because of the extra peer support. Skill acquisition was measured at the first

follow up with the baseline MITI scores serving as the covariates. There was no significant difference in the skill levels at the first follow up between sole providers and those located on a base with other participating therapists (Hotelling's Trace,  $F(6, 64) = 1.23, p = .30, \eta_p^2 = .10$ ).

### **1<sup>st</sup> No-Cost Extension**

1) *Collect the final 12-month follow-up tapes from participants*

Progress: Complete. All follow-up data has been collected from participants.

2) *Code remaining 8 and 12-month tapes*

Progress: Complete. All tapes have been coded.

3) *Collect aggregate data for alcohol-related events at AF bases from the AF surgeon's office*

Progress: Complete. Data analysis indicates there is no difference between the number of alcohol related events in those bases where providers trained in MI and those where they were not. Missing data for alcohol-related events from many bases makes confidence in these finding tenuous.

4) *Conduct data analysis on primary aims of study: impact of MI training with data from Items 1 and 2 (as well as previously achieved deliverables)*

Progress: Complete. Data analysis on the primary aims of the study have been conducted and are included in the outcome paper for this study: *A Randomized Trial Investigating Training in Motivational Interviewing for Behavioral Health Providers* (Moyers, Manuel, Wilson, Hendrickson, Talcott, & Durand, in press).

5) *Conduct data analysis for secondary study aims regarding rates of alcohol-related incidents on AF bases with data from Item 3*

Progress: Complete. See progress in Item 3.

6) *Present data at national and international conferences*

Progress: Complete. We have presented data from this project at several national and international conferences including the American Psychological Association (in 2007), the Research Symposium on Alcoholism (in 2005, 2006, and 2007) and the International on the Treatment of Addictive Behaviors (in 2006). In total, seven posters and presentations have resulted from data from this study.

7) *Prepare and submit manuscript for publication*



Progress: Complete. The manuscript, *A Randomized Trial Investigating Training in Motivational Interviewing for Behavioral Health Providers* (Moyers, Manuel, Wilson, Hendrickson, Talcott, & Durand, in press) detailing the outcomes of this study has been accepted at Behavioural and Cognitive Psychotherapy. A copy of this manuscript has been included in the appendix.

8) *Prepare and submit final report to the Department of Defense*

Progress: Complete.

9) *Ensure orderly transition of documents, destruction of confidential material and disposition of study assets such as computers and furniture*

Progress: Complete. All confidential tapes have been destroyed and all confidential transcripts and data have been shredded. Computers and furniture have been sent to the University of New Mexico's Surplus Department.

## 2<sup>nd</sup> No-Cost Extension

1) *Complete data analysis and obtain reliabilities with the coding system evaluating client language during treatment sessions*

Progress: Complete. Reliability estimates were calculated sequentially at the rate of 10 per 100 tapes coded. According to Cicchetti's (Cicchetti, 1994) system for evaluating intraclass correlations, those below .40 are considered to be poor, .40 - .59 are fair, .60 - .74 are good, and .75 - 1.00 are excellent. In general, the overall reliability estimates for our dependent measures were in the good to excellent range, although isolated examples of unacceptable reliability did occur as coding progressed. See Table 4 for a summary of intraclass correlations.

**Table 9. Intraclass Correlations from Behavioral Coding System**

	ICC	Pearson	Alpha
Empathy	0.410	0.421	0.582
Spirit	0.394	0.408	0.565
Self-exploration	0.481	0.484	0.650
MI Consistent	0.861	0.868	0.925
MI Inconsistent	0.310	0.380	0.473
% MI Consistent	0.553	0.559	0.712
% Open Questions	0.712	0.721	0.832
% Complex Reflections	0.072	0.075	0.134
Reflection:Question Ratio	0.803	0.881	0.891
DARN – Negative (client)	0.602	0.629	0.751

DARN – Positive (client)	0.829	0.833	0.907
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2) *Complete revisions of this coding system, as did for the therapist coding system*

Progress: Complete. The client language coding system has updated as a result of data from this study and is now referred to as the Client Language Assessment in Motivational Interviewing (CLAMI) segment. This coding system can be downloaded for free on the CASAA webpage and is included in the appendix section of this report.

The MITI coding system was also revised from the MITI 2.0 to the MITI 3.0. This coding instrument can be downloaded for free at <http://casaa.unm.edu/download/miti3.pdf>.

3) *Post both of these training manuals and all necessary coding forms online for public use*

Progress: Complete. The Motivational Interviewing Treatment Integrity manual (MITI 3.0) and the corresponding coding forms is available for free download at <http://casaa.unm.edu/download/miti3.pdf>. The Client Language Assessment in Motivational Interviewing (CLAMI) segment can be downloaded from the CASAA website, free of charge at: <http://casaa.unm.edu/download/clami.pdf>.

These coding systems are also included in the appendix section of this report.

4) *Process comparison of military training with civilian counterpart studies*

Progress: Complete. Men (48.7%) and women were equally represented in the current AF sample, with a mean age of 36.3 (SD = 8.9). These providers had an average of 11.1 (SD = 7.0) years experience in overall mental health counseling, with an average of 5.9 (SD = 6.2) years of specific experience in the treatment of substance abuse. There were no significant differences between the treatment conditions on ethnicity, years of post-secondary education, or years in overall mental health counseling or treatment of substance abuse. However, there was a significant difference in the percentage of females within the self-directed group compared to the other two treatment groups ( $\chi^2 (2, N = 117) = 12.09, p = .002$ ).

Compared to a civilian counterpart study conducted by Miller et al. (2004), participants in the current study were significantly less educated overall ( $t (246) = -3.60, p < .001$ ), had fewer years of experience in counseling ( $t (250) = -3.69, p < .001$ ) as well as less specific experience with substance abuse clients ( $t (248) = -5.45, p < .001$ ). The participants in our study were younger ( $t (158) = -8.70, p < .001$ ) and reported less interest in obtaining MI training ( $t (155) = -3.51, p = .001$ ) at the outset. Our participants were substantially more ethnically diverse, with

55.7% describing themselves as White, non-Hispanic compared to 88.6% in the Miller et al. (2004) study.

There were also significant differences between the current study and the civilian study on participant pre-training and post-training measures of MI competence. Prior to training (See Table 10), participants in the civilian study displayed higher rates of MI adherent responses, percent open questions, percent complex reflections, and the ratio of reflections to questions  $F(4, 147) = 7.37, p < .05$ . Means and standard deviations for summary variables can be found in Table 5. This trend was repeated at the four month follow-up period  $F(4, 154) = 5.35, p < .05$ . See Table 11 for information pertaining to the four-month follow-up period.

**Table 10. Pre-Training Comparison of Military and Civilian Study**

	Air Force Study Mean (SD)	Miller et al. Civilian Study Mean (SD)
Percent MI Adherent	.60 (.37)	.71 (.37)
Percent Open Questions	.18 (.12)*	.32 (.18)*
Percent Complex Reflections	.18 (.18)	.35 (.20)
Ratio of Reflections to Questions	.38 (.32)*	.67 (.55)*

*Note.* \* denotes significant differences at  $p < .05$  level.

**Table 11. Post-Training Comparison of Military and Civilian Study**

	Air Force Study Mean (SD)	Miller et al. Civilian Study Mean (SD)
Percent MI Adherent	.64 (.38)*	.84 (.31)*
Percent Open Questions	.27 (.17)*	.39 (.21)*
Percent Complex Reflections	.42 (.23)	.39 (.25)
Ratio of Reflections to Questions	.77 (.93)*	1.44 (1.23)*

*Note.* \* denotes significant differences at  $p < .05$  level.

The findings of this comparison are complete and the manuscript detailing the findings is in preparation: *Comparison of a civilian and military sample in training outcomes for motivational interviewing (Moyers & Hendrickson)*.

- 5) Prepare a training manual specifically for use by the Air Force ADAPT Behavioral Health Providers in ADAPT programs, taking advantage of findings from this project

Progress: Complete. This manual can be found on the UNM's CASAA webpage at: [http://casaa.unm.edu/download/AF\\_MImanual.pdf](http://casaa.unm.edu/download/AF_MImanual.pdf). This manual is also attached in the appendix of this report.

- 6) *Conduct data analyses on primary aims of study: impact of MI training on client responses during treatment sessions*

Progress: Complete. Data analysis is ongoing. A manuscript detailing the outcomes of client response during treatment sessions is currently in preparation: *The relationship between provider and client language in a military sample (Moyers, Manuel, & Hendrickson, in preparation)*

- 7) *Prepare and submit our final report to the Department of Defense*

Progress: Complete.

- 8) *Ensure orderly transition of documents, destruction of confidential material and disposition of study assets such as computers and furniture*

Progress: Complete. All confidential tapes have been destroyed and all confidential transcripts and data have been shredded. Computers and furniture have been sent to the University of New Mexico's Surplus Department.

## **Main Study Findings**

The main findings of the study are summarized below:

Men (48.7%) and women were equally represented in the current AF sample, with a mean age of 36.3 (SD = 8.9). These providers had an average of 11.1 (SD = 7.0) years experience in overall mental health counseling, with an average of 5.9 (SD = 6.2) years of specific experience in the treatment of substance abuse. There were no significant differences between the treatment conditions on ethnicity, years of post-secondary education, or years in overall mental health counseling or treatment of substance abuse. However, there was a significant difference in the percentage of females within the self-directed group compared to the other two treatment groups ( $\chi^2 (2, N = 117) = 12.09, p = .002$ ).

Compared to a civilian counterpart study, participants in the current study were significantly less educated overall ( $t (246) = -3.60, p < .001$ ), had fewer years of experience in counseling ( $t (250) = -3.69, p < .001$ ) as well as less specific experience with substance abuse clients ( $t (248) = -5.45, p < .001$ ). The participants in our study were younger ( $t (158) = -8.70, p < .001$ ) and reported less interest in obtaining MI training ( $t (155) = -3.51, p = .001$ ) at the outset. Our participants were substantially more ethnically diverse, with 55.7% describing themselves as White, non-Hispanic compared to 88.6% in the civilian study.

There were also significant differences between the current study and the civilian study on participant pre-training and post-training measures of MI competence. Prior to training, participants in the civilian study displayed higher rates of MI adherent responses, percent open questions, percent complex reflections, and the ratio of reflections to questions  $F(4, 147) = 7.37, p < .05$ . This trend was repeated at the four month follow-up period  $F(4, 154) = 5.35, p < .05$ .

To assess whether workshop training produced improvements in MI skills, we conducted a repeated measures multivariate analysis of variance (MANOVA) on the difference between baseline and post-training MITI scores, collapsing across the three training conditions (workshop, enhanced workshop and self-directed). There was a significant difference between the two time points (Wilks' lambda,  $F(7, 106) = 82.39, p < .001, \eta_p^2 = .85$ ). Univariate tests reflected an improvement on all measures at the post-training time period (all  $ps < .001$ ). Furthermore, post-training scores met the minimal a priori threshold for empathy (rating of five or above), percent MI adherent (90% or greater; W group reached 89%), and the ratio between reflections and questions (at least one; Moyers, Martin, Manuel, & Miller; <http://casaa.unm.edu/download/miti.pdf>). These results indicate that workshop training was effective in eliciting changes in clinical practice among our participants. See Table 3 for the means and standard deviations for the three training conditions at the baseline, post training and four month follow-up period.

To evaluate the continued success of the training, we conducted a repeated measures MANOVA comparing the baseline scores to the scores at four months after the workshop was completed. We did not include the S group in this analysis since they had not yet completed training. The comparison between the baseline and first follow up assessment for the Workshop and Enhanced groups was significant ( $F(7, 52) = 11.21, p < .001, \eta_p^2 = .60$ ). Univariate comparisons showed improvement for all the follow up variables of empathy ( $p = .009$ ), MI spirit ( $p < .001$ ), MI non-adherent speech ( $p = .012$ ), percent open questions ( $p < .001$ ), percent complex reflections ( $p < .001$ ), and the ratio of reflections to questions ( $p = .001$ ). The only variable that did not show continued success was the frequency of MI adherent speech.

### **List of Personnel Receiving Pay for this Project**

Bachicha, Alexandria  
 Baumgardner, Diana  
 Bolles, Joshua D  
 Brooks, Joseph  
 Carroll, Roma  
 Cash, Todd T  
 Chapman, Diana  
 Costley, Roy L  
 Crumbacher, John P  
 Cuzmar, Fuad

Daschbach, Virginia  
Dodson, Camilla M  
Doyle, Johnny T  
Duvall, Susanne  
Flores, Lynne M  
Francis, John  
Garber, Dennis  
Garley, Barbara Sue  
Garza, Marcos A  
Glynn, Liusa Hagen  
Goodman, Janel Rachel  
Gravel, Clifford H  
Griffin, Carolyn R  
Hatfield, Heather  
Hendrickson, stacey  
Houck, Jon  
Jimenez, Billy James  
Johnson, Lisa  
Kludt, Adam Q  
Knight, Samara  
Kodituwakku, Piyadasa  
Kuny, Ana Victoria  
Leahigh, Lisa K  
Lerma, Matthew  
Lloyd, Samara  
Lovick-Tolley, Heather  
Lynch, LeAnne  
Lynch, Robert  
Manuel, Jennifer Knapp  
Martinez, Amber  
Martinez, Deborah  
Montoya, Vanessa  
Morrissette, Nova  
Moyers,  
Muller, Ruben  
Palmer, Freeman  
Phillips, Nancy  
Pietsch, Stephen  
Quam, Gail Stephanie  
Roberson, Adriana  
Roberts, Cody S  
Sarosy, Jeani Annette  
Schuch, Thomas  
Sierra, Luis Manuel  
Steele, Renard  
Summers, Karen  
Tollison, Sean  
Vicuna, Belinda

Vigil, Martha  
 West, Mikel Jon  
 Wilson, Karen  
 Wolf, Susi S  
 Zoucha, Bill J

### **Key Research Accomplishments**

- Developed a training manual for MI specific to AF ADAPT programs; posted online for public use
- In a three-year period we randomized 129 substance abuse providers from 54 different Air Forces bases and trained them in motivational interviewing; results indicate that AF providers begin with fewer skills than civilian counterparts, show similar gains in acquiring MI skills via workshop training but benefit less from enrichments such as consultation calls (perhaps attributable to poor utilization of consult calls)
- Completed 133 telephone consultation calls
- Obtained data from 457 recorded substance abuse sessions
- Pilot tested coding system for evaluating military provider in-session behaviors (MISC 2.0)
- Pilot tested coding system for evaluating client language during ADAPT sessions (CLAMI)
- All recorded sessions (457) were evaluated using the two behavioral coding systems
- Coding systems posted online for public use
- Cost effective analysis completed; incomplete data reporting from bases disallows confidence in results indicating no impact of training
- Seven presentations at national conferences
- Main outcome paper for study accepted for publication in Behavioural and Cognitive Psychotherapy
- Paper on gender role conflict in study submitted for publication
- Client language for 457 tapes coded; data analysis ongoing; publication in preparation

### **Reportable Outcomes**

Cedro, K., Wilson, P., Hendrickson, S.M.L., Moyers, T. B., O'Neil, J., and Mahalik, J. Gender Role Conflict and Conformity in a Treatment Dissemination Study. (Submitted for Publication).

Manuel, J. K., Leahigh, L., Hendrickson, S. L., & Moyers, T. B. (2005). Therapist characteristics as predictors of understanding alcoholism. *Alcoholism: Clinical and Experimental Research* 29(5), 905. (Abstract).

Manuel, J. K., Moyers, T. B., Hendrickson, S. M. L., & Miller, W. R. Comparison of clinician endorsement of the understanding alcoholism scale between a civilian and

armed forces sample. Poster presented at the Eleventh International Conference on Treatment of Addictive Behaviors. January, 2006.

Manuel, J.K., Hendrickson, S.M.L. & Moyers, T. B. Predicting Within-Session Client Language Using the MISC 2.0. Presented at Research Society on Alcoholism, Chicago, July, 2007.

Moyers, T.B., Manuel, J.K., Wilson, P., Hendrickson, S.M.L., Talcott, W., & Durand, P. (in press, *Behavioural and Cognitive Psychotherapy*). A randomized trial investigating training in motivational interviewing for behavioral health providers.

Moyers, T. B., Manuel, J. K., Wilson, P. G., Hendrickson, S. M. L., Talcott, W., Durand, P., Therapist skills after motivational interviewing training: The impact of feedback and consult calls. To be presented at the Research Symposium on Alcoholism. June, 2006.

Moyers, T. B., Manuel, J. K., Wilson, P. G., Hendrickson, S. M. L., Talcott, W., Durand, P., & Cedro, K. M. Training behavioral health providers in motivational interviewing: Initial results from the TEAM Project. Poster presented at the Eleventh International Conference on Treatment of Addictive Behaviors. January, 2006.

Tollison, S., Christopher, P., Manuel, J. K., Martin, T., & Moyers, T.B. (2005). Myers Briggs Personality Type and Competency in Motivational Interviewing. *Alcoholism: Clinical and Experimental Research* 29(5), 652. (Abstract).

### **Conclusion**

Our findings indicate that the dissemination of empirically-based treatments such as motivational interviewing within Air Force Alcohol and Drug Abuse Treatment Programs (ADAPT) will not be straightforward. Compared to civilian samples, AF providers are likely to start with fewer basic counseling skills and less desire to learn treatments such as MI. Although they achieve substantial gains as a result of training (using the manualized approach in this project) these gains will be significantly less than those seen with providers who begin with higher basic skills. Similarly, AF providers do not utilize available enrichments to enhance their skills after training in the same degree as a civilian sample, even when those enrichments are offered at no cost and they have previously agreed to receive them. Despite these challenges, our data point to specific ways that the AF can improve dissemination of motivational interviewing (and likely other empirically-based treatments for substance abuse) including: 1) assessment of basic counseling skills prior to advanced training 2) use of manualized and empirically-supported training programs for workshop training; 3) providing incentives for utilization of training enrichments such as consultation phone calls and submitting tapes for review and feedback. The “So What” implication of this project is that if military services wish to implement empirically based treatments in order to lower alcohol abuse among service members, different and more intense training strategies will be need for the typical behavioral health provider than those that are customary and effective for civilian substance abuse counselors



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- Moyers, T. B., Manuel, J. K., Wilson, P., Hendrickson, S. M. L., Talcott, W., & Durand, P. (In Press). A randomized trial investigating training in Motivational Interviewing for behavioral health providers. *Behavioural and Cognitive Psychotherapy*.

## Appendices

- A: Moyers, T. B., Manuel, J. K., Wilson, P., Hendrickson, S. M. L., Talcott, W., & Durand, P. (In Press). A randomized trial investigating training in Motivational Interviewing for behavioral health providers. *Behavioural and Cognitive Psychotherapy*.
- B: Client Language Assessment in Motivational Interviewing (CLAMI) Segment
- C: Motivational Interviewing Treatment Integrity 3.0 (MITI 3.0)
- D: Introduction to Motivational Interviewing Training Manual

Appendix A: Main Outcomes Paper  
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A Randomized Trial Investigating Training in Motivational Interviewing for Behavioral  
Health Providers

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## Abstract

Evidence indicates that workshop training, personalized feedback, and individual consultation can increase competence in motivational interviewing (MI) among highly motivated and skilled substance abuse counselors. Little is known, however, about the translational value of these training strategies for counselors with fewer counseling skills and less stated motivation to learn MI. This study presents evidence from a randomized, controlled trial of 129 behavioral health providers assigned to receive workshop training and enrichments to learn MI. A diverse group of Air Force behavioral health providers working in substance abuse treatment programs were trained in MI and subsequently observed in clinical sessions at four, eight and 12 months after training. Results indicate that training was effective in increasing the skill level of these clinicians; however, these gains had evaporated by the four month follow up point. Training enrichments in the form of personalized feedback and consultation phone calls did not have an expected, additive effect on clinician skill level. The results of this study lend support to the hypothesis that a greater investment of resources and incentives may be necessary to achieve gains in MI skills for counselors with relatively lower baseline skills than those commonly participating in research studies.

Key words: motivational interviewing, dissemination, psychotherapy training, alcohol misuse

## A Randomized Trial Investigating Training in Motivational Interviewing for Behavioral Health Providers

Decades of research to illuminate strategies for intervening in substance abuse have yielded an array of promising treatments; however a large gap exists between research and standard clinical practice (Miller, Sorenson, Selzer, & Brigham, 2006). Current challenges in the substance abuse treatment field focus on translating these empirically-based treatments to front-line clinical settings. In particular, there is a need to identify which practitioners will be a good match for learning empirically-based treatments and whether research-based training methods will be feasible in real-world settings (Carroll & Rounsaville, 2003; Najavits, Crits-Christoph, & Dierberger, 2000). Such translational research is sparse, despite the growing demand on providers and agencies to implement evidence-based treatments.

One empirically supported treatment now in widespread use is motivational interviewing (MI), a client-centered, directive treatment that focuses on helping clients resolve ambivalence about making adaptive lifestyle changes (Miller & Rollnick, 2002). Research supports the use of MI for addictive behaviors as well as promoting specific healthy behaviors, with effect sizes in outcome studies typically approaching .7, declining to .3 after one year (Hettema, Steele, & Miller, 2005).

Dissemination studies with MI have so far focused on the conditions necessary for training providers to deliver this complex psychotherapy. Several studies have documented the ability of providers to gain knowledge *about* MI (Miller & Mount, 2001; Rubell, Sobell, & Miller, 2000; Shafer, Rhode, & Chong, 2004; Walters, Matson, Baer, & Ziedonis, 2005). Such knowledge, though a necessary first step in learning a new

therapeutic method, has minimal relationship to subsequent client outcomes (Carroll et al., 2006; Tappin et al., 2000).

Studies that directly examine counselor acquisition of skills after training in MI have typically used a format in which participants are assessed via behavioral observation both before and after workshop training. When the focus is on demonstrated skills rather than knowledge acquisition, results are mixed. Project EMMEE (Miller, Yahne, Moyers, Martinez & Pirritano, 2004) found large skill gains among a group of substance abuse treatment providers after training in MI, but other studies show much more modest improvements (Baer, Rosengren, Dunn, Ogle & Hartzler, 2004; Miller & Mount, 2001; Schoener, Madeja, Henderson, Ondersma, & Janisse, 2006; Shafer et al., 2004). These results are confounded, however, by therapist motivation and skill level. In general, studies using highly motivated and skilled therapist samples (Baer et al., 2004; Miller et al., 2004) show larger training gains than those conducted in more realistic, front-line clinical settings where clinicians typically exhibit lower pre-training counseling skills and less expressed motivation for training (Schoener et al., 2006). Previous MI training studies have also been characterized by a lack of diversity within the ethnic background of the participants, limiting generalizability to common clinical settings. To increase the generalizability of MI training research, studies are needed that incorporate providers who are most likely to be found in front-line treatment clinics: ethnically diverse, with modest desire to learn an empirically-based treatment and highly variable general counseling skills.

The current study focuses on the dissemination of MI among behavioral health providers in the United States Air Force. Diverse in experience, professional affiliation

and previous training in therapeutic interventions, this group represents a challenging target for dissemination of a complex clinical method. Within the Air Force, substance abuse treatment providers have not necessarily received formal training preparing them for counseling and may have been serving in an entirely different job category immediately prior to an assignment as a substance abuse counselor. As with their civilian counterparts, workshop and on-the-job training may comprise a vital part of their education (McLellan, Carise & Kleber, 2003; Walters et al. 2005). Air Force counselors, like nonmilitary substance abuse counselors, usually work with clients who have been referred by others for behavior that violates system norms. For example, according to the Department of Defense 2002 Survey of Health Related Behaviors (Bray et al., 2003), 45.4% of males and 23.9% of females in the military reported heavy drinking (5 or more drinks on one occasion) within the last 30 days. Among young military men, 32.2% engage in heavy drinking compared to 17.8% of their civilian counterparts.

This study used a randomized controlled design to assess the impact of MI workshop training in this group of behavioral health providers who were diverse in motivation for training, baseline skill and ethnicity.

## Methods

### *Participants*

Our intended participant pool was comprised of behavioral health providers working directly with substance abuse clients in the Air Force (AF). Individuals with a degree in psychology, medicine, social work, nursing, counseling or a certified alcohol and drug abuse counselor (C.A.D.A.C.) or other substance abuse treatment certification were eligible for enrollment.

We obtained the approval of three internal review boards at: the University of New Mexico, the U.S. Army Medical Research and Material Command at Fort Detrick and Wilford Hall Medical Center. Once approval from all three oversight committees had been obtained, we advertised information about the study through the Air Force Alcohol and Drug Prevention Teams (ADAPT). We also advertised information about this study at the 2001 AF Worldwide Conference in San Diego. Potential participants contacted the PI directly, or obtained further information through the AF Surgeon General's Office.

#### *Design Overview and Description of Training Groups*

Prior to randomization, participants signed an informed consent document and submitted a baseline audiotaped work sample. Once participants were enrolled in the study, they were randomly assigned to one of three conditions: Workshop Training (W), Workshop Training plus Training Enrichments (E) and Self-Directed Training (S). Workshop training was conducted by the first two authors in participant groups of 12 – 40 participants. All participants received a copy of *Motivational Interviewing* (Miller & Rollnick, 2002) and the Professional Learning Series videotapes (Miller, Rollnick, & Moyers, 1998).

*Workshop Training (W)*. Participants in the W group completed a two-day motivational interviewing workshop held in Santa Fe, New Mexico or San Diego, California. The workshop followed the format used in a previous study (Miller et al., 2004), which focused on a learning-to-learn model for MI. That is, participants were introduced to MI concepts and taught methods for improving MI practice based on client responses.



Immediately following the training, participants completed a role-play with a standardized client, yielding the post-training work sample.

*Workshop Training plus Training Enrichments (E).* Participants in this group attended the same (conjoint) MI training workshops as the W group and submitted a post-training work sample. In addition, they received feedback on their post-training work sample, as well as up to six consultation phone calls with the goal of improving and extending the workshop training. Consultation calls followed exactly the format of the Miller et al. study (2004) and included role-plays and specific topics to enhance MI skills. Consult calls lasted 30 minutes and were intended to occur roughly two weeks apart.

*Self-Directed Training (S).* This group received the book and videotapes, but workshop training was delayed until the end of the study period in order to estimate the effect of self-directed learning. Within the study period, when the W and E groups were receiving workshop training and submitting follow up work samples, the S group similarly submitted work samples, so that we could estimate the impact of self-directed training in the absence of any formal instruction. These work samples, then, followed the same time-line of the W and E groups, but the workshops for the S participants had not yet occurred. Like the other conditions, this group provided a tape of themselves using MI with an actor at the conclusion of the workshop training (post-training tape). This was the last tape submitted by this group.

*Follow Up Work Samples.*

For those in the W and E groups, participants were asked to submit audiotaped work samples of themselves using MI with an actual client in their work setting after completing workshop training and returning to their home work settings. These work

samples were to be collected at four months, eight months, and 12 months after workshop training. Tapes for the first follow-up period were submitted, on average, 5.4 (SD = 2.1) months after training (this includes the Workshop and Enhanced groups only). Tapes for the second follow up period were submitted, on average, 9.6 (SD = 2.3) months after training, and tapes for the third follow up period were submitted on average 11.5 (SD = 2.5) months after training. Members of the S group also submitted tapes at these time periods despite not having yet completed workshop training.

#### *Description of the MITI.*

All audiotaped work samples, including the baseline and post training samples, were evaluated using the Motivational Interviewing Treatment Integrity (MITI) scale (Moyers, Martin, Manuel, & Miller, 2003), and this yielded the main outcome variables for the study. The MITI assesses clinician competence in MI using global evaluations of empathy and MI spirit as well as frequency counts of specific behaviors. MITI codes are mutually exclusive, such that each clinician utterance is only given one code. The MITI shows acceptable internal consistency and interrater reliability in evaluating specific clinician skills relevant to the use of MI (Moyers, Martin, Manuel, Hendrickson, & Miller, 2005). Behavior counts from the MITI were aggregated to form summary measures (defined in Table 1) similar to those used in other studies assessing MI competence (Baer et al., 2004; Miller et al., 2004).

#### **Insert Table 1 about here**

#### *Process for Review of Tapes.*

Over a 14 month period (January 2004 – March 2005) four coders reviewed all audiotaped work samples, including the baseline and post training samples, with the MITI. Coders were masked to the condition of the participant including group

assignment and assessment point. Tape coding did not begin until both baseline and post training tapes were available to preserve this blind.

#### *Training and Supervision of Coders.*

Four undergraduates from the University of New Mexico were initially trained to use the MITI with 50 hours of instruction and group practice. A series of graded learning tasks focusing on individual elements of the MITI were completed as coders progressed in learning this system. Competence at one level was achieved before progressing to more complex elements. For example, coders began by learning to differentiate open and closed questions before learning to differentiate simple from complex reflections. Proficiency was determined by comparing coder scores with gold standard examples. Only when coders had achieved acceptable reliability, were they assigned tapes from the data pool. Throughout the tenure of the project, coders attended weekly meetings in which tapes were coded by the entire group to prevent drift from the coding manual and enhance interrater reliability. A random sample of 10% of tapes was double-coded as the initial coding of each 100 tapes were completed.

#### Results

##### *Description of Participants*

In a three-year period we randomized 129 substance abuse providers from 54 different Air Force bases. Demographic characteristics for this sample are listed in Table 2. Men (48.7%) and women were equally represented in this sample, with a mean age of 36.3 (SD = 8.9). These providers had an average of 11.1 (SD = 7.0) years experience in overall mental health counseling, with an average of 5.9 (SD = 6.2) years of specific experience in the treatment of substance abuse. There were no significant differences between the treatment conditions on ethnicity, years of post-secondary education, or years in overall mental health counseling or treatment of substance abuse. However, there was a significant difference in the percentage of females within the Self-directed group compared to the other two treatment groups ( $\chi^2 (2, N = 117) = 12.09, p = .002$ ).

**Insert Table 2 about here**

Compared to the landmark Miller et al. (2004) training study, our participants were significantly less educated overall ( $t(246) = -3.60, p < .001$ ), had fewer years of experience in counseling ( $t(250) = -3.69, p < .001$ ) as well as less specific experience with substance abuse clients ( $t(248) = -5.45, p < .001$ ). The participants in our study were younger ( $t(158) = -8.70, p < .001$ ) and reported less interest in obtaining MI training ( $t(155) = -3.51, p = .001$ ) at the outset. Our participants were substantially more ethnically diverse, with 55.7% describing themselves as White, non-Hispanic compared to 88.6% in the Miller et al. (2004) study.

*Participant Attrition and Follow Up Audiotaped Work Samples*

Of the 129 participants who were randomized and provided a baseline audiotaped work sample, 116 (90%) subsequently attended one of seven workshops in motivational interviewing and provided an audible post training tape. At the first follow up point, 88 (68%) provided an audible work sample tape, with 75 (58%) and 49 (38%) providing audible work samples at the second and third follow up periods. There were significant differences across training conditions in the likelihood of submitting audiotaped work samples ( $\chi^2(8) = 15.87, p < .05$ ), with the S participants more likely to submit follow up tapes. The attrition rates for the trained participants (W and E) were 49% and 32% for the eight and 12 month assessments respectively. We suspect that higher compliance rates in the S group may have been influenced by the fact that workshop training was only available to them after all audiotaped work samples had been submitted. Therefore, participants in the Self-directed group may have had a greater incentive to submit work samples. Because of the attrition rate among the trained providers at the eight and 12 month follow up points, we omitted eight and 12 month data from any further analyses.

Participants in the Enhanced condition were eligible to receive up to six consult calls. Of the 45 participants in this condition, 16 (36%) did not complete any consult calls. Of the 29 (64%) that completed at least one consult call, three completed one call, three completed two calls, five completed three calls, three completed four calls, six completed five consult calls, and nine completed all six consult calls. Although all consult calls were to be completed prior to the four month assessment, 10 (34%) were submitted after this assessment. All participants in the E condition, even those not completing a single consult call, received personalized feedback regarding the standardized coding of their post training tape.

#### *Reliability of the Dependent Measures*

Intraclass correlations (ICCs) were calculated to assess reliability of the coding of the dependent measures. For each group of 100 tapes coded, we immediately double-coded a randomly selected sample of 10 tapes, resulting in four independent reliability estimates. This allowed us to calculate reliability estimates throughout the entire life of the project. In addition, we were able to identify and correct areas of poor coder reliability as the project progressed.

According to Cicchetti's (Cicchetti, 1994) system for evaluating intraclass correlations, those below .40 are considered to be poor, .40 - .59 are fair, .60 - .74 are good, and .75 - 1.00 are excellent. In general, the overall reliability estimates for our dependent measures were in the good to excellent range, although isolated examples of unacceptable reliability did occur as coding progressed. The ICC values for the dependent measures at all four double-coding time points are included in Table 3.

**Insert Table 3 about here**

*Effectiveness of Training*

Summary values for the primary outcome measures for each of the three randomized groups are displayed in Table 4. To assess whether workshop training produced improvements in MI skills, we conducted a repeated measures multivariate analysis of variance (MANOVA) on the difference between baseline and post training MITI scores, collapsing across training conditions. The Self-directed participants were included in this analysis. There was a significant difference between the two time points (Wilks' lambda,  $F(7, 106) = 82.39, p < .001, \eta_p^2 = .85$ ). Univariate tests reflected an improvement on all measures at the post training time period (all  $ps < .001$ ). Effect sizes for these observed gains in MI competence from baseline to post training were in the medium to large range (see Table 5).

*Insert Table 4 about here*

*Insert Table 5 about here*

To investigate the clinical, versus statistical, impact of improvements after workshop training we examined the average ratings for our clinicians and compared them to a priori recommended levels for MI practice (Moyers et al., 2003). Within the MITI coding system, clinical proficiency for the global measures of empathy and MI spirit is defined as a rating of five or above. For behavior counts, proficiency is demonstrated with values of percent open questions at least 50%, percent complex reflections at least 40%, the ratio of reflections to questions to be one or greater, and the percent MI adherent speech 90%. Mean post training ratings for participants in this study met or exceeded three of these threshold values (empathy, percent MI adherent and the ratio between reflections and questions).

To explore differences in training gains among the groups, we conducted a MANOVA comparing the three training groups (W, E and S) with the six summary measures as dependent variables. We found a significant overall difference (Wilks' lambda,  $F(12, 204) = 5.94, p < .001, \eta_p^2 = .26$ ). Follow up contrasts demonstrating differences among the groups are found in Table 6.

***Insert Table 6 about here***

#### *Durability of Training Effects*

To evaluate the continued success of the training, we conducted a repeated measures MANOVA comparing the baseline scores to the scores at four months after the workshop was completed. We did not include the S group in this analysis since they had not yet completed training. The comparison between the baseline and first follow up assessment for the Workshop and Enhanced groups was significant ( $F(7, 52) = 11.21, p < .001, \eta_p^2 = .60$ ). Univariate comparisons showed improvement for all the follow up variables of empathy ( $p = .009$ ), MI spirit ( $p < .001$ ), MI non-adherent speech ( $p = .012$ ), percent open questions ( $p < .001$ ), percent complex reflections ( $p < .001$ ), and the ratio of reflections to questions ( $p = .001$ ). The only variable that did not show continued success was the frequency of MI adherent speech.

#### *Differences in Skill Across Training Conditions*

A multivariate analysis of covariance (MANCOVA) was performed to determine differences in MI skills between the Self-directed group and the groups that had received training (Workshop only and Enhanced) at the first follow up point, with baseline MI skills as covariates. At the first follow up point, the training groups (Workshop only and Enhanced) had received all the training components and the Self-directed group had only

received the reading materials and videotapes. The overall F indicated a significant difference between the groups,  $F(7, 72) = 2.40, p = .029, \eta_p^2 = .189$ . Follow up tests with univariate analyses of covariance (ANCOVAs) found significant differences between the Self-directed and trained groups in the dependent measures of empathy ( $p = .002, \eta_p^2 = .11$ ), and MI spirit ( $p = .001, \eta_p^2 = .13$ ) indicating an increase in MI skill for the trained groups in these areas. The measures of MI adherent speech, MI non-adherent speech, percent open questions, percent complex reflections, and the ratio of reflections to questions were not significant.

#### *Impact of Training Enrichments on Workshop Training in MI*

For this analysis we included only the Workshop and Enhanced conditions since the Self-directed group had not yet been trained. We conducted a MANCOVA comparing these two groups at the first follow up with baseline values as covariates. Outcome measures were MI adherent behaviors, MI non-adherent behaviors, percent open questions, percent complex reflection, and ratio of reflections to questions, as well as global measures of empathy and MI spirit. This analysis failed to show a significant difference between the groups ( $F(7, 44) = 1.05, p = .41, \eta_p^2 = .14$ ).

#### **Differences in Skill Acquisition Across Military Bases**

Some military bases had more than one behavioral health provider participating in the study. We conducted a MANCOVA to examine whether providers located on bases with other participating providers had better skill acquisition because of the extra peer support. Skill acquisition was measured at the first follow up with the baseline MITI scores serving as the covariates. There was no significant difference in the skill levels at the first follow up between sole providers and those located on a base with other participating therapists (Hotelling's Trace,  $F(6, 64) = 1.23, p = .30, \eta_p^2 = .10$ ).



## Discussion

The results of this randomized trial of training methods for MI lend support to the notion that this complex therapeutic treatment can be disseminated within diverse and demanding clinical settings. MI training in this study produced gains in skills among providers with highly variable professional and educational experience prior to instruction. Our participants showed gains in MI competence very similar to those of the substance abuse clinicians from National Institute of Drug Abuse (NIDA) Clinical Trials Network (CTN) in the Smith et al. (2007) at the post-workshop assessment.

Although therapeutic skills in this study did increase as a result of training, the gains were not as large as those observed in other clinical samples, and did not attain the level required for clinical trials (Miller et al., 2004). This sample of AF behavioral health providers gained substantially less skill than previous groups studied (Baer et al., 2004; Miller et al., 2004), despite nearly identical training and enrichment strategies. This finding is not surprising given the initial lower education, experience and baseline skill level of our participants than that observed in other MI training studies (Baer et al., 2004; Miller et al., 2004). These data lend support to the commonly expressed concern that a foundation of basic clinical skills may be needed to achieve proficiency in MI, especially given the relatively minor investment of time in these training paradigms (two-day workshop and six consult calls).

A decay of skills after initial training is common in clinical training studies (Walters et al., 2005) and our participants were no exception to this rule. Although clinicians in this sample demonstrated increased MI skills after workshop training, those gains showed a steep decline by the four month follow up when compared to their performance immediately post training. This effect may have been exacerbated by using standardized patients to obtain work samples at post training, perhaps resulting in inflated scores and therefore larger differences at the first follow up point. Though not

unexpected, this decay of skills is troubling in the context of treatment systems attempting to implement complex empirically-based methods such as MI. It is likely that ongoing supervision and review of practice will be needed to maintain competence in newly trained practitioners, once workshop training has occurred. For example, Smith et al. (2007) utilized direct observation of therapy sessions as well as between session phone supervision resulting in 7.5 hours of post training enrichment and found less decay in obtained skills than clinicians in our study. Carroll et al. (2006), also have addressed this issue by following workshop training with intensive on-site supervision and review of session tapes to sustain competence for MI clinical trials within the NIDA CTN.

The impact of enrichments in our study was a surprise. We had expected to see improved performance in the group that received feedback and consult calls at the four month follow up point, but we did not observe this difference. Consult calls in this study did not improve skill level over a workshop alone, in contrast to the Miller et al. (2004) findings, despite the fact that every participant in the Enhanced condition received personalized coded feedback of their post training work sample within one month of the training workshop. This finding should be viewed with caution, however, since participants in the Enhanced condition completed only 44% of their available consult calls, and 34% of those occurred after the first follow up. It is possible that enrichments would have shown a greater impact if participants had completed a larger percentage of the intended training enhancements. It is not clear why participants in this study were less willing to invest time in enriching their training through follow up consult calls. Difficulty in accessing providers within military bases, differences in time zones between the consultant and the participants (many participants were located overseas) and the lack

of direct incentives to increase their competence in their work settings may have contributed to this lack of engagement in consult calls. The most commonly cited reason for failing to complete consult calls was the lack of time or pressing clinical needs at the time the call was scheduled. Given the similarity between our population and those likely to be found in most treatment settings, it is possible that the level of compliance with training enrichments found in this study offers a realistic estimate of what clinicians are willing to do in other challenging clinical environments.

Another unexpected finding in our study was the superior performance of the Self-directed group (S) once they received workshop training. Assignment to this condition meant that participants had to wait the entire duration of the training phase of the study (up to 18 months) before receiving the MI workshop, while their counterparts in the other two conditions received it immediately. This meant that the S group had a longer period of time to use the self-study materials such as the book and training tapes and this may have accounted for their superior performance when compared to the Workshop (W) and Workshop-plus-Enrichment (E) groups at the post training assessment. Anecdotally, we received feedback from the S group about their disappointment at having to wait for the training workshop, which entailed a trip away from their duty stations and the aspect of a vacation for at least some participants. It is possible that having to wait for this “reward” caused the S group to be more diligent in their use of the study materials during that waiting period and more engaged in the training process during the workshop. Questioning of the participants to gather information about this hypothesis (and other questions about reasons for lack of compliance in returning tapes) was disallowed by the institutional review boards

overseeing the study in favor of protecting the participants from coercion and potential repercussions from supervisors if their lack of compliance had become known, especially since some of the participants shared a work environment with others in the study.

Several limitations in this study are apparent. First, work samples in this study were self-selected since we asked participants to send us tapes showing us their “best effort” at using MI. This sampling method had the intentional advantage of allowing us to see whether participants *could* employ the skills we had hoped to teach, but does not provide any information about whether they might be employed within the work setting more broadly. Second, similar to other substance abuse training studies, we suffered substantial attrition of work sample tapes after training. At month four, only 68% of our participants returned a follow up work sample and by the one year follow up we had only a 38% rate of return.

In this regard, our study is not unique. In general, poor follow up rates are at least as high in studies for therapists receiving training as for clients receiving treatments. It is possible that incentives such as those that are used to increase client participation in treatment studies (compensation, lotteries, staggered payments for later samples) will be needed to insure representative samples, and therefore increased internal validity, for dissemination studies with clinicians as the focus. It is worth noting that participants in this study returned tapes at a rate nearly identical to the Miller et al. (2004) sample, despite the fact that 21% of them were deployed to combat zones during the tenure of this project and that they were not permitted to receive incentive payments at any time. Further, it is clear that longer follow ups to assess durability of clinical training are

uncommon. Ours is only the second study that followed clinicians more than four months after initial training in motivational interviewing.

A potential confound in our findings is the prospect of cross-fertilization among therapists who were trained at the same site. It is possible that those clinicians trained at sites where peers were also enrolled in this study would have an advantage because they would be able to receive direction or input from each other. Our original design specified that bases would be randomized to each of the conditions, thereby preventing cross-fertilization across the groups (i.e. a participant from the Enhanced condition discussing these enrichments with a participant from the Workshop only condition). This plan was quickly abandoned in the face of high mobility in our participants (meaning that we could not maintain the purity of base assignment once participants moved within them) and the impact of war-fighting and deployment upon recruitment. Nevertheless, it appears that contamination of training conditions was unlikely, since we did not see differences in skill acquisition across bases although cross-fertilization was not controlled.

An additional limitation of the current study includes the generalizability of our findings. The inclusion of only AF behavioral health specialists in the sample makes extrapolation to non-military samples uncertain. Compared to their civilian counterparts in training studies (Miller et al., 2004), AF behavioral health providers have less than half the years of general counseling experience and only two thirds as much experience with substance abuse clients. This is likely a reflection of the shifting duty assignments of AF substance abuse treatment providers, who can be moved into client contact with very little formal training or experience. On the other hand, McLellan, Carise and Kleber (2003) note that substance abuse treatment programs typically have comparable provider

turn over, meaning the high mobility of our participants might be analogous to their civilian counterparts. Further, our sample of military providers was substantially more ethnically diverse than that found in other published dissemination studies for MI, and therefore more likely to represent a civilian context. Finally, like their civilian counterparts, AF providers in this study were treating substance abuse clients largely mandated into treatment for alcohol-related infractions as opposed to seeking services voluntarily. Given the nature of their treatment population, lower levels of experience and limited skills at the onset of training, this sample may represent a fairly realistic estimate of the challenges in training complex empirically-based methods in public treatment agencies.

Taken as a whole, these data support the notion that training in MI can produce moderate improvements in counselor skills even within a relatively inexperienced group with lower levels of basic counseling skills. Our data indicate that training enrichments of the kind that have been shown to increase performance in more skilled and experienced providers (Miller et al., 2004) may not be sufficient to do so with a less skilled group, particularly when clinicians do not access them fully. Workshop training is likely to be a necessary but not sufficient condition to insure competence in MI among treatment providers in front line substance abuse treatment settings.

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Table 1.

*Calculation of MITI summary measures*

MITI Summary Measure	Formula
Ratio Reflections to Questions (R:Q)	$= \frac{\text{simple} + \text{complex reflections}}{\text{open} + \text{closed questions}}$
% Open Questions (%OQ)	$= \frac{\text{open questions}}{\text{open} + \text{closed questions}}$
% Complex Reflections (%CR)	$= \frac{\text{complex reflections}}{\text{simple} + \text{complex reflections}}$
% MI-Adherent (%MIA)	$= \frac{\text{MI Adherent behaviors}}{\text{MI Adherent} + \text{MI Non - adherent behaviors}}$

Table 2

<b>Demographic Characteristics of Study Participants</b>			
Characteristic	W	E	S
<i>n</i>	48	45	40
% female	49	35	77
% White/non-Hispanic	49	65	54
% master's or more	50	65	52
% doctorate	18	14	22
Postsecondary education			
<i>M</i> (years)	5.2	6.4	5.4
<i>SD</i>	3.4	3.7	4.1
Counseling experience			
<i>M</i> (years)	10.9	11.1	11.2
<i>SD</i>	7.6	5.1	8.4
Substance abuse counseling			
<i>M</i> (years)	6.4	4.9	6.5
<i>SD</i>	7.2	3.9	7.3

*Note.* W = workshop only; E = workshop plus training enrichments; S = self-directed.

Table 3

<b>Intra-Class Correlation Coefficients at the 4 Double-Coding Time Points</b>					
Measure	Group 1	Group 2	Group 3	Group 4	All
Empathy	.419	.587	.435	.233	.431
MI Spirit	.517	.690	.513	.551	.608
% MI Adherent	.344	.806	.791	.921	.824
% Open Questions	.967	.935	.952	.915	.937
% Complex Reflections	.795	.301	.564	.784	.688
Ratio Reflections to Questions	.897	.942	.947	.938	.932

*Note.* Each group consisted of a set of 10 double coded audiotaped work samples randomly selected from the first, second, third, or fourth 100 coded work samples. Each group n = 10; overall N = 40.

**Table 4**  
*Means (SD) of Primary Outcome Variables for Each Treatment Group*

Measure	W	E	S
Empathy			
Baseline	3.57 (0.93)	3.80 (1.22)	3.78 (1.16)
Post Training	4.70 (0.84)	5.35 (0.58)	5.07 (1.16)
1 <sup>st</sup> Follow Up	4.30 (1.56)	4.28 (1.33)	3.38 (1.18)
MI Spirit			
Baseline	2.60 (0.77)	3.09 (1.13)	3.19 (1.20)
Post Training	4.46 (1.13)	4.83 (0.84)	5.31 (0.85)
1 <sup>st</sup> Follow Up	3.93 (1.48)	4.00 (1.41)	2.97 (1.05)
MI Adherent Behaviors			
Baseline	1.79 (2.13)	2.02 (1.74)	2.00 (2.44)
Post Training	4.63 (3.14)	4.93 (2.45)	3.14 (2.26)
1 <sup>st</sup> Follow Up	1.43 (1.55)	2.03 (1.70)	1.90 (1.88)
MI Non-adherent Behaviors			
Baseline	2.34 (3.00)	1.73 (2.16)	0.81 (1.68)
Post Training	0.85 (1.99)	0.45 (0.88)	0.21 (0.41)
1 <sup>st</sup> Follow Up	0.90 (1.42)	1.17 (1.73)	1.14 (1.53)
% Open Questions			
Baseline	21.13 (14.36)	18.97 (11.71)	18.79 (12.30)
Post Training	44.33 (16.15)	42.45 (18.47)	51.63 (17.97)
1 <sup>st</sup> Follow Up	31.94 (18.35)	28.03 (18.48)	21.29 (13.47)

Measure	W	E	S
% Complex Reflections			
Baseline	17.21 (17.01)	22.07 (21.14)	16.27 (16.32)
Post Training	29.83 (13.92)	28.17 (13.03)	48.92 (14.14)
1 <sup>st</sup> Follow Up	41.31 (26.25)	46.77 (19.49)	37.54 (23.31)
Reflection:Question Ratio			
Baseline	0.35 (0.35)	0.39 (0.30)	0.35 (0.25)
Post Training	1.13 (0.75)	1.32 (0.87)	1.50 (1.28)
1 <sup>st</sup> Follow Up	0.77 (0.85)	1.05 (1.19)	0.49 (0.59)

*Note.* The post training audiotaped work sample was conducted with an actor/client and was collected immediately after the workshop training. The self-directed group (S) did not attend the workshop training until after the 3<sup>rd</sup> follow up assessment. W = workshop only; E = workshop plus training enrichments; MI = motivational interviewing.

Table 5

**Effect Sizes (Cohen's d) for Gains in MI Competence from Baseline to Post Training**

Measure	All	W	E	S
Groups				
Empathy	1.39	1.24	1.60	1.40
MI Spirit	1.90	1.93	1.68	2.47
% MI Adherent	1.14	1.76	1.09	0.53
% Open Questions	1.73	1.53	1.46	2.65
% Complex Reflections	0.91	0.77	0.34	2.48
Ratio Reflections to Questions	1.33	1.37	1.41	1.28

*Note.* W = workshop only; E = workshop plus training enrichments; S = self-directed.



Table 6

**Tukey's HSD Follow-up Comparisons Between Treatment Groups at Post Assessment**

Measure	Group	Mean	Significance
	Comparison	Difference	( <i>p</i> )
Empathy	S v. W	0.49	.037
	E v. W	0.61	.003
MI Spirit	S v. W	0.93	< .001
	S v. E	0.61	.032
% Open Questions	S v. E	0.11	.044
% Complex Reflections	S v. W	0.19	< .001
	S v. E	0.22	< .001

*Note.* S = self-directed; W = workshop only; E = workshop plus training enrichments.

## Appendix B: Client Language Assessment in Motivational Interviewing (CLAMI) Segment

### Revision for Client Language Coding: MISC 2.1 Client Language Assessment in Motivational Interviewing (CLAMI) Segment

W. R. Miller, T. B. Moyers, J.K. Manuel, P. Christopher & P. Amrhein

The task of capturing the frequency, type and intensity of client language has proved to be a challenge in the developing research efforts to investigate the underlying processes in MI. Systems for thinking about and measuring such language during treatment sessions have been revised based on new data, new ideas about key constructs such as client resistance and evidence regarding the level of interrater reliability that can be achieved when parsing and coding client speech. Evaluating client language during MI sessions is very much like capturing a snapshot of a river: the outline is recognizable, but the content changes constantly.

The CLAMI is intended for assessing client language within MI and MET sessions (and their variants) using audiotaped or videotaped samples, *with transcripts*. As with all our coding systems, a transcript alone should never be used since the resulting loss in voice tone, inflection and pace renders an unacceptable loss of information and reliability. The *entire session*, is coded and a code is assigned every time the client speaks. The CLAMI is an *exhaustive, but not mutually exclusive* coding system.

Because the CLAMI assesses only client language, and not clinician behavior, it has been designed to be compatible and fit within with other coding systems from our research group (MISC 2.0; MITI), which focus on clinician behavior in detail. In general, the complexity of the CLAMI will require a separate review of the tape, using a transcript, with clinician behavior to be evaluated on a different pass through the tape.

#### **Overview of Changes and Essential Differences between CLAMI and other MI client language Coding Systems**

- 1) Within the CLAMI, “Reason” is an umbrella category, with Desire, Ability and Need forming subcategories of Reason. Thus, an utterance coded as a “Reason” may, or may not, receive additional subcodes of “desire”, “ability” or “need”.
- 2) An “Other” category has been added to reflect particular types of change talk that do not fall easily into the Reason category. Examples include hypothetical advice to others, if-then statements about the possibility of changing, and foretelling of future problems if change does not occur.
- 3) The “Ask” category has been eliminated.
- 4) Decision rules for minimal responses from clients have been elaborated, particularly with regard to speech that is “set-up” or prompted by the therapist.

- 5) A resistance global has been added to capture a gestalt measure clients' tendency to work against or push back against the clinician or the interview process. Again, this is intended to be separate from the client's reasons for not changing or lack of commitment to change.
- 6) Strength ratings for client utterances have been reduced to Hi, Medium and Low values.
- 7) Client discussion of past behavior is now excluded from coding, with the exception of behavior immediately prior to the current treatment session.
- 8) Nomenclature of client language has been changed to be consistent with the *Consensus Statement on Client Language* (June, 2005) by Amrhein, Miller, Moyers and Rollnick

Revision for Client Language Coding: MISC 2.1  
Client Language Assessment in Motivational Interviewing (CLAMI) Segment

## A. Overview of Coding System

*A.1 Categorizing client language:* Within the client language coding system, any language that moves in the direction of change is termed “change talk” and language indicating a movement away from change is termed “counter change talk”. Change talk consists of four categories: Preparatory, Other, Taking Steps and Commitment. Counter change talk has only one category. A separate rating is made client resistance.

*A. 2 Identifying the Target Behavior Change (TBC):* Use of MI to recognize, reinforce and elicit client language presupposes that the interviewer has a target behavior in mind, so that he or she will know which particular instances of client language to attend to and which to ignore. Before evaluation of the tape begins, coders should know the target behavior change that is intended. In general, this is the problem area specified by the research protocol or the focus of the therapy session. A few examples of target behaviors are:

- Stopping smoking
- Increasing exercise
- Adhering to specific exercise guidelines
- Compliance with medication regimen
- Increasing fruit and vegetable intake
- Obtaining vaccines for children
- Abstaining from alcohol
- Holding toddlers while feeding them, instead of propping a bottle
- Journaling alcohol intake
- Wearing a helmet while riding a motorcycle
- Entering treatment
- Remaining in treatment

The target behavior must be specified in enough detail so that coders can reliably discriminate it from all other things a client might be discussing. The CLAMI will evaluate client language related to that target behavior (or behavior change) and no other. Multiple target behaviors can be identified as long as the inclusion criteria are identified in advance and are specific. Examples of such target behavior “trees” are found below:

- Smoking Cessation (Target behavior)
  - “Thinking Through” cravings
  - Throwing out cigarettes
  - Telling friends not to offer cigarettes
  - Avoiding high risk situations

## HIV Risk Reduction

- Using clean needles
- Avoiding sex with multiple partners
- Using a condom when having sex

## Reducing risk for complications of diabetes

- Counting carbohydrates
- Checking feet for wounds
- Testing blood sugar levels

In general, coders should not infer a link between actions being discussed by the client and the TBC goal, unless it is clear from the context that the purpose of the behavior is to move toward or away from the TBC goal. For example, if the TBC goal is to reduce cardiovascular risk, (and corollary TBC's have not been specified): "I wish I were less stressed" would not in itself indicate movement toward or away from the TBC goal. If, on the other hand, the client said, "Decreasing my stress at work would probably help my heart," it would be coded as TBC. Similarly, if the counselor's or client's prior responses clearly provide a context for TBC, it is coded. For example, if the counselor asked, "What could you do to reduce your risk of having another heart attack?" and the client replies, "I could exercise more," it would be coded even if the client does not directly state the connection. If the counselor says,

"One way that people can have a healthier heart is to stop smoking"

the client's next response is likely to be relevant to TBC, whether positive or negative.

## B. Coding Procedure

*B.1 Elements of Coding.* Speech in the CLAMI is divided into clinician and client VOLLEYS. A volley is a speaking turn. A client volley occurs when the clinician stops speaking and the client begins. Client volleys can be lengthy or very short (even one word *can* be a volley). Only client volleys (and not clinician speech) are coded in the CLAMI.

*B.2 Parsing Volley into Utterances.* Volleys are divided into utterances. Utterances are complete and separate thoughts within a volley. Utterances are defined by the meaning attached to them. A volley may have many different ideas, and therefore many utterances. Likewise, it may have only a single idea and therefore only one utterance. If a client's volley includes two statements, each of which can be assigned a different code (as below), then *both* are coded as utterances. This would include:

two utterances that would be given different signs:

- I really have to stop smoking (+).
- My cigarettes are like a friend to me (-)

or two utterances that state different content (e.g., reasons) for or against change:

I'd have a better change of getting my children back if I quit drinking (R+)  
 and I'm sure I'd feel better, too (R+),  
 but I would miss going out with my friends (R-)

or two utterances that result in different strength scores (see below):

Probably I do need to cut down a little bit . . . (N Lo)  
 No, who am I kidding? I definitely need to cut down (N Hi)

Even a single sentence might have two different ideas, both of which would be separate utterances.

I could quit (+), but I don't want to (-).  
 My drinking is not a problem (-), but I do need to drink less (+).  
 I know I ought to exercise more (+), but I hate sure hate getting up in the  
 morning (-), even though it would do me good (+).

Although longer volleys usually have more utterances, this is not always the case. It is possible for clients to speak at length about a single idea without deviating from it much. In this unusual case, only a single utterance would be parsed from the volley.

*B.3 Client responses to clinician questions.* Clients may respond to clinician questions with language that fits within any of the change talk categories, and it should be coded as such. The fact that the clinician "set it up" with a particular sort of question or comment does not mean that the client's response is not change talk. Even a one word answer to a question may qualify for a change talk code if the coder deems it to be a genuine response rather than simply a socially facilitating response.

*B.4 Assigning Content Codes to Utterances.* Each and every utterance within a volley will be assigned one of the following eight content codes:

**R: Reason**  
 (subcodes: **d: Desire, a: Ability, n: Need**)  
**O: Other**  
**TS: Taking Steps**  
**C: Commitment**  
**FN: Follow/Neutral**

Every time an example of one of these occurs in client speech, it is recorded with a positive (+) or negative (-) valence, depending on whether it reflects inclination toward (+) or away from (-) the TBC. Client language in favor of change is generally termed "Change Talk" while language moving away from change is called "Counter Change Talk".

**B.4.a. Reason:** Statements of Reasons usually refer to a specific rationale, basis, incentive, justification or motive for making (or not making) the TBC. Client discussions of health, family problems, legal difficulties or other kinds of problems that are presented as a reason for considering change (or not changing) typically fall into the reason category. Problem recognition is a reason to change; minimization of problems is a reason not to change. Client expressions of worry and concern about their behavior and circumstances are reasons to change (not simply the report of the concerns of others). “Ought” and “Should” statements are reasons to change. Benefits that would come to the client as a result of changing (+) are included in this category, as well as disadvantages to changing (-). Statements incorporating the words “have to” or “got to” are reasons.

*My liver’s busted, so I have no choice. (R+)*

*I just don’t drink that much. (R-)*

*I want my kids to have a real father. (R+)*

*It would be so good for my kids. (R+)*

*My drinking doesn’t affect my kids. (R-)*

*My doc told me I’m going to lose my leg if I don’t start checking my blood sugars. (R+)*

*My diabetes is as good as it’s gonna get. (R-)*

*“I’ve gotta get a grip on this” (R+)*

*I’ve got a friend who got a head injury on his motorcycle and I don’t want that to happen to me. (R+)*

*Only idiots need helmets and I am not an idiot. (R-)*

*I don’t want my child to have all these expensive cavities. (R+)*

*My mother gave me my own bottle when I was her age and I never got cavities. (R-)*

*My drinking is getting worse. (R+)*

*My drinking is hopeless. (R-)*

*If I don’t stop using crack, my wife will leave me. (R+)*

*If I have to use a condom, why even bother? (R-)*

*Protecting my health is the most important thing to me. (R+)*

*I have young children to take care of. (R+)*

*I just want to quit hearing those voices and the medicine helps with that. (R+)*

*I know I'd feel closer to God if I quit using drugs. They just keep me away  
from Him. (R+)*

*It's the right thing to do. (R+)*

*I'm a mother and I ought to take better care of my kids. (R+)*

*"It's getting out of hand. I have to have my eye-opener in the morning" (R+)*

**B. 4. b Subcodes for Reasons:** Any reason statement *may* receive an additional code indicating desire, ability or need.

**B. 4. b. 1 Desire:** Desire statements must have some form of one or more of the following words: "want", "desire", "like" or a close synonym of them. Depending on the meaning and context of the discourse, an antonym may also indicate a desire statement. The statement must refer to the target behavior, and not some other aspect of change.

*"I want to stop smoking" (R+d)*

*"I'd like to quit, yeah" (R+d)*

*"I hate a night without a buzz" (R-d)*

*"I love waking up sober" (R+d)*

*"I hate being an addict" (R+d)*

In the following exchange, the client statement is NOT desire:

T: So you see that quitting has its advantages.

C: It'd sure be nice.

While this client statement may seem to indicate desire, and probably does, it is NOT a desire statement, since it does not contain key desire words.

**B. 4. b. 2 Ability:** Ability statements are those that refer to the target behavior and include some form of the word "can", "possible", "willpower" or "ability" or a close synonym or antonym of them. Statements that indicate that changing the target behavior is difficult or hard should be coded as ability statements. Obvious colloquialisms or turns of phrase that indicate ability may be coded as ability statements.



*I am able to do this. (R+a)*

*I just can't quit. (R-a).*

*I can quit. (R+a)*

*I have the ability to stop smoking. (R+a)*

*"I don't think I have it in me" (R-a)*

*"Once I make up my mind, I know I can do it" (R+a)*

*"I don't have much willpower" (R-a)*

*"It's not that hard to do" (R+a)*

Examples of statements that might seem to be, but are not, ability statements:

*I can't smoke at work. (R+)*

*When I smoke I can think more clearly and focus for longer periods of time. (R-)*

Don't be fooled: these statements include the word "can", but the "can" part does not refer to the target behavior. These statements are Reasons to change or maintain the status quo.

**B. 4. b. 3 Need:** These are statements that refer to the target behavior and include some form of the words "need" or "must". If the statement does not include the words "need" or "must", then they are not Need statements. If a statement does not refer to the target behavior, then it is not a Need statement.

*I need to stop smoking. (R+n)*

*I must quit. (R+n)*

*I gotta do this. (R+n)*

*I need a cigarette. (R+n)*

Examples that are NOT Need:

*I need more money, so I should give up smoking. (R+)*

*I gotta get my life together, and part of that is laying off the booze. (R+)*

*"I have to do it" (R+)*

These statements are Reasons to change.

Here is one that is a need statement followed by a reason:

*I need to stop smoking (R+n) or I'm gonna get cancer (R+).*

This statement should be parsed as two utterances, the first one coded as Reason: need and the second coded as Reason.

Decision Rule for D-A-R-N:

The Reason code is the default when coders cannot decide among the DARN categories

**B. 4. c. Other:** This category is intended to allow coders to capture language that clearly reflects the speaker's movement toward change, but does not necessarily fit easily into the Reason category. Problem recognition will often reside in this category if it does not fall into one of the Reason categories. Hypothetical language will usually fall into the Other category, as well as client statements of general attitude or advice to others with regard to the undesirability of the target behavior. In addition, coders may place in this category examples of language that are CLEAR and COMPELLING examples of the client's move toward change, but do not meet any criteria other established here. All such examples must be recorded word for word and discussed in the weekly coding meeting.

C: "I tell everyone I know: "Stay away from crack. That shit will just mess up your life."

C: "The right AA meeting is the key."

T: "Did you come in to treatment on your own?"

C: "Yes, I know exactly where I belong."

C: "Cocaine is just not the answer for me."

C: "I'm going to be thinking positively about it."

C: "I never have thought I was an alcoholic" (O-)

T: "What will you put in place of drinking?"

C: "That's what I'm trying to find out."

C: "I promised myself that if I do drink, I will tell you."

C: "If I weren't in AA right now, I'd be on a bender."

CL "If I go to the track all day I can usually win enough money to stay drunk. That's sad"

#### B. 4. c. 1. Differentiating Hypothetical Language from other codes

Hypothetical language coded within the Other category should have the quality of a client *imagining* a different situation or outcome that would impact the target behavior. There is sometimes a wistful quality to hypothetical talk (“If I could just go kayaking on the Colorado river for three weeks, I could quit smoking”) or an if...then configuration (“If my wife would just quit pushing me, I know I’d do it.”)

Sometimes hypothetical language will fall into another change talk category, usually Reason, and when it does it should receive that code instead. For example, a client might say, “If I could just stay sober, then I could really do well at this job.” Because this implies a reason for changing the target behavior, rather than an exercise in imagination, it should be coded as a reason.

“If I could just stay off cocaine, I’d be a better mother.” (R+)

“If my kids were with me this weekend, I could stay off cocaine.” (O+)

#### B.4. c. 2. Differentiating Facilitating Language from Change Talk

Facilitating language in clients occurs when they respond to therapist speech with phrases such as “uh huh” or “yeah” or “sure”. Usually, such utterances are NOT coded as they are merely continuation markers in the conversation. In essence, the client is saying “keep talking”. However, facilitates CAN be coded as change talk if they occur in response to a question/reflection that “pulls” for change talk.

T: “Don’t you ever wish things were different?”

C: “Yeah.” (D+)

T: I’m going to look over this report and give you some feedback.

C: Sure. (F/N)

T: Then we can get your point of view

C: ok (F/N)

When client facilitates interrupt therapist speech, there is no need to code them.

T: On the one hand, you have decided that to quit drinking is going to be the best thing for you....

C: Uh-huh

T: ...and on the other hand you feel like it’s going to be really tough...

C: Yeah

T: ...because you have tried it in the past and you feel like you have failed every time, even though you were able to stay sober for months at a time, which I really commend you on being able to do!

**B. 4. d. Commitment Language:** While change talk utterances reflect motivating factors related to change, **Commitment Language** implies an **agreement, intention, or obligation** regarding **future** TBC. Commitment can be expressed directly via a committing verb, or indirectly. Client statements of how they will rearrange their life in the future relating to the TBC are considered commitment statements. (Note that if this rearrangement is stated hypothetically, it would be coded as Other.).

“I swear I’m going to stop this.”

“Nothing is going to stop me this time.”

With commitment language, if a reason is given, it is coded separately, but does not trump the commitment language. For example:

“I’m going to do it.” (C+)

“I’m going to do it for my family.” (C+, R+)

“No way I’m going to stop drinking.” (C-)

“I’m not coming to treatment because I don’t have a drinking problem.” (C-, R-)

**B. 4. e. Taking Steps:** Concrete and specific steps the client has taken toward the behavior change are coded as Taking Steps. These statements usually describe a particular action that the person has done in the very recent past that is clearly linked to moving toward or away from TBC. To be coded, the behavior must clearly be one that is intended by the client to lead to (or away from) TBC. It is an intermediate response on the way to (or away from) TBC. Taking Steps represents the only time that past client language is given a code.

The action may not be TBC itself. For example, if TBC is reduction in alcohol use:

“I got rid of all the alcohol from my house this week.” (TS+)

“I went to two AA meetings this week.” (TS+)

“I bought a six-pack of beer this week.” (TS-)

“I stopped going to AA this week.” (TS-)

“I tried cooking without butter.” (TS+) (concrete step)

“I’m going to try cooking without butter.” (C+) intention

“If I tried cooking without butter, I’d reduce my fat intake.” (O+)

“I swear I will stop this” (C+)

“I’m always going to eat sweets.” (C-)

“I’ll go to the gym everyday.” (C+)

“I’m going to throw away all of my cigarettes.” (C+)

“I threw away all of my cigarettes.” (C+)

“I’ll buy apples for snacks instead of chocolate.” (C+)

“I didn’t drink at all last week.” (TS+)

“I worked overtime so I wouldn’t be tempted to drink.” (TS+)

“ I tell my partner I’m working late, then I go to the bar.” (C-)

If a change talk utterance is made along with an Other, Commitment or Taking Steps statement, both utterances are coded.

For example:

“I’m going to do it.” (C+)

“I’m going to do it (C+) for my family (R+)

“If I threw away all of my cigarettes, I’d be less tempted to smoke.” (O+)

“ If I threw away all of my cigarettes I’d be less tempted to smoke (O+), but I’d be a nervous wreck.” (R-)

“I got my blood drawn for the HIV test this week, (TS+) but I can’t deal with the stress of finding out the results (R-).”

**B. 4. f. Follow/Neutral (FN).** In a follow-neutral turn, there is no indication of client inclination either toward or away from the TBC. The client may be asking a question, making non-committal statements, saying TBC-irrelevant things, or just following along with the conversation. Note that only TBC-relevant change talk is coded. If the target behavior is cocaine use and the client says, “I want to get my children back,” it would not be coded as + unless there is a clear link made between cocaine use and getting the children back.

Sometimes clients will emit language that indicates they are listening to what therapists are saying, or that indicates a therapist should continue speaking. These are referred to as facilitating utterances. In general client facilitating language, unlike that of therapists, is NOT coded.

T: *Why are you here?*

C: I want my children back.” (FN)

Whereas:

T: Why would you want to quit cocaine?

C: I want my children back. (R+)

When you are in doubt about an utterance - when you are not sure if there is talk (+ or -) relevant to the TBC, the default code is Follow/Neutral (FN).

Finally, a client turn is coded at Follow/Neutral (FN) *only* if it contains no other codeable utterance. That is, for a sequence of utterances within a turn, any + or - code trumps a FN. Suppose that this were the conversation:

T: What are you thinking about marijuana at this point?  
 C: Actually I wasn't thinking about it at all. I was thinking about my girlfriend. (FN)  
 ... but yeah, I guess I'm smoking too much for my own good (+).  
 At least she says so and she wants me to quit (FN).  
 I don't want to break up with her (R+).  
 I think it's messing me up at school, too. (R+)

Remember that it is also possible to have positive and negative responses within the same turn, reflecting ambivalence (such as R+ R- N+).

***B. 4. f. 1. Decision Rule for Follow/Neutral and other codes*** : Client language that does not fit other available categories should be coded as F/N. Inaudible or incomprehensible utterances should not be coded.

B. 4. f. 2. Decision Rule for Coding client facilitating language:

*B. 5. Rating the Strength of Client Language.* Every time Reason, Other, Commitment and Taking Steps are coded, a strength rating is assigned: High, Medium or Low. It is important to note that ratings for strength require coders to make artificial separations along a continuum of intensity. There are no “natural” categories of language intensity, so making High, Medium and Low designations may be less precise (and more frustrating) than other tasks in the coding system. Examples of strength ratings for each code are given below:

Reason: High

*“I definitely can’t afford to get another DWI” (R+)*

*“I’ll go back to jail if I have another positive urine” (R+)*

*“If I lose one more paycheck at the track, my husband will divorce me” (R+)*

*“I hate the way my clothes smell” (R+)*

*“There’s no way I’d check my blood sugar three times a day because I’d be a human pincushion” (R-)*

*“It’s the only way I can deal with the stress of my job” (R-)*

*“Sobriety just sucks most of the time” (R-)*

Reason: Medium

*“It’s embarrassing to remember what I did that night” (R+)*

*“The reasons are starting to pile up” (R+)*

*“If I go to the casino again, my husband would probably leave me” (R+)*

*It’s the right thing to do (R+)*

*I can never find that machine when I have the time to test my blood sugar (R-)*

*My cigarettes are like a good friend (R-)*

Reason : Low

*I guess I’d be healthier if I exercised (R+)*

*It seems like the right thing to do (R+)*

*It’s cramping my style (R+)*

*Well, it helps me to relax a little (R-)*

*I’d kind of miss my friends at the casino (R-)*

*It’s sort of nice to just eat whatever I want (R-)*

## Subcodes for Reason

desire: High

*I want to get off drugs for good (Rd+)*

*I'd love to be able to control my diabetes (Rd+)*

*I really wish I could just cut down (Rd+)*

*I don't want to quit (Rd-)*

*I like my life the way it is (Rd-)*

desire: Medium

*I wish I could just snap my fingers and lose 10 pounds (Rd-)*

*I just want to wake up sober in the morning (Rd-)*

*I like smoking (Rd-)*

*What's wrong with a little nightcap every now and then? (Rd-)*

desire: Low

*I guess I'd like to smoke less (Rd+)*

*I sort of wish I hadn't started using coke (Rd+)*

*It would be kind of nice to have the extra money (Rd+)*

*There's a few good things about it (Rd-)*

*I'm pretty much enjoying things the way they are (Rd-)*

*I guess I'm not very motivated to exercise (Rd-)*



ability: High

*I'm positive I can quit (Ra+)*

*I can do it: I just have to stick to it (Ra+)*

*I can quit whenever I want (Ra+)*

*Once I make up my mind, I do it (Ra+)*

*I just can't keep the weight off (Ra-)*

*There's no way I could make it through the day without a cigarette (Ra-)*

*I don't have a snowball's chance in hell (Ra-)*

ability: Medium

*I think I can (Ra+)*

*Pretty much, yes (Ra+)*

*I could (Ra+)*

*I don't think I can (Ra-)*

*Probably not (Ra-)*

*I don't have it in me (Ra-)*

ability: Low

*I might be able to (Ra+)*

*I guess I could (Ra+)*

need: High

I definitely have to get off the street and this is the way to do it (Rn+)

I absolutely have to lose weight (Rn+)

I've got to use a condom every single time I have sex, no question about it (Rn+)

I need my pain pills and that's all there is to it (Rn-)

Cigarettes are the only thing keeping me going (Rn-)

need: Medium

Probably I need to do something about my drinking (Rn+)

A change would be a good idea (Rn+)

Mostly, I have to drink (Rn-)

I guess I need some excitement in my life (Rn-)

need: Low

I sort of have to drink right now (Rn-)

I guess I don't think I need to quit (Rn-)

## Other: High

I've had it with this way of living (O+)

*"I imagine my liver must be saying, Thank God!"* (O+)

*"I'm no teetotaler!"* (O-)

*"I'm one of the hopeless ones they talk about in the Big Book"* (O-)

## Other: Medium

*I feel good about what I've accomplished* (O+)

*"I realize now that all that drinking was wrong"* (O+)

AA gives me a lot of hope (O+)

If not know, when? (O+)

*"I keep asking myself: when are the benefits gonna show up?"* (O-)

## Other: Low

I think that will motivate me to quit (O+)

If I could just be on a desert island for a month, I could quit (O+)

*"The court asked me to come to treatment, but that's probably not such a bad idea"* (O+)

*"I'm kind of questioning my behavior"* (O+)

Appendix C: Motivational Interviewing Treatment Integrity 3.0 (MITI 3.0)

Revised Global Scales:  
Motivational Interviewing Treatment Integrity 3.0  
(MITI 3.0)

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Author Note: The Motivational Interviewing Treatment Integrity (MITI) Code is an instrument-in-development. We are making it available now for use in research and scholastic endeavors, and we expect that many improvements will be needed before this coding system is complete. If you find errors, inconsistencies or have suggestions for improvement or other feedback, please contact us. We look forward to improving the MITI, with your help.

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Learn, compare, collect the facts!

Pavlov 1849-1936

How well or poorly is a practitioner using motivational interviewing? The MITI is a behavioral coding system that provides an answer to this question. The MITI also yields feedback that can be used to increase clinical skill in the practice of motivational interviewing. The MITI is intended to be used: 1) as a treatment integrity measure for clinical trials of motivational interviewing and 2) as a means of providing structured, formal feedback about ways to improve practice in non-research settings.

It should be noted that the MITI and its parent instrument, the Motivational Interviewing Skills Code (MISC), are not competing instruments for the same task. They are different tools designed to accomplish different tasks. The MISC is typically more useful in conducting detailed process research investigating the critical elements and causal mechanisms within motivational interviewing. It cannot be replaced by the MITI for these purposes. Alternatively, the MITI may be more useful when a simpler question is posed (how much is this treatment like motivational interviewing?) or when more targeted feedback is needed (how can our clinicians improve in their use of motivational interviewing?) for training. Specific differences between the MITI and the MISC are:

- 1) The MISC provides a comprehensive examination of interviewer and client behaviors, as well as the interaction between the two, while the MITI measures only interviewer behaviors.
- 2) The MISC may require up to three separate reviews or “passes” of the tape segment, while the MITI typically uses a single pass.
- 3) The MISC captures dimensions of the client’s readiness to change and commitment language, while the MITI does not. Such client behavior can be important in predicting outcomes.
- 4) The MISC is a mutually exclusive and exhaustive coding system, but the MITI is not. Many specific behaviors that are coded in the MISC are collapsed into a single category in the MITI, or left uncoded entirely.

#### A. COMPONENTS OF THE MITI

The MITI has two components: the global scores and the behavior counts.

A global score requires the coder to assign a single number from a five-point scale to characterize the entire interaction. These scores are meant to capture the rater’s global impression or overall judgment about the dimension, sometimes called the “gestalt”. Five global dimensions are rated: Evocation, Collaboration, Autonomy/Support, Direction, and Empathy. This means that each MITI review will contain five global scores.

A behavior count requires the coder to tally instances of particular interviewer behaviors. These running tallies occur from the beginning of the segment being reviewed until the

end. The coder is not required to judge the quality or overall adequacy of the event, as with global scores, but simply to count it.

Typically both the global scores and behavior counts are assessed within a single review of the tape, and typically a random 20-minute segment is used. Careful attention should be paid to ensuring that the sampling of the tape segments is truly random, especially within clinical trials, so that proper inferences about the overall integrity of the MI intervention can be drawn.

The tape may be stopped as needed, however excessive stopping and restarting in actual coding (as opposed to training or group review) may disrupt the ability of the coder to form a gestalt impression needed for the global codes. Coders may therefore decide to use two passes through the tape until they are proficient in using the coding system. In that case, Pass One should be used for the global scores and Pass Two for the behavior counts.

## B. DESIGNATING A TARGET BEHAVIOR

An important component of using motivational interviewing well involves the interviewer's attention to facilitating change of a particular behavior or problem. Skillful interviewers will attempt to reinforce and elicit client change talk about that specific change when they can. Coders should know, in advance of the coding task, what is the designated target behavior for the intervention, assuming that there is one. This will allow coders to judge more accurately whether the clinician is directing interventions toward the target behavior, is floundering or hopelessly lost. The MITI is not designed to be used for interventions in which a target behavior cannot be identified.

## C. GLOBAL SCORES

“What is the short meaning of a long speech?”  
Schiller (1759-1805)

Global scores are intended to capture the rater's overall impression of how well or poorly the interviewer meets the intent of the scale. While this may be accomplished by simultaneously evaluating a variety of elements, the rater's gestalt or all-at-once judgment is paramount. The global scores should reflect the holistic evaluation of the interviewer, one that cannot necessarily be separated into individual elements. Global scores are given on a five-point Likert scale, with the coder assuming a beginning score of “3” and moving up or down from there.

In the MITI 3.0, the Spirit global rating has been parsed into three global ratings: Evocation, Collaboration, and Autonomy/Support. These ratings are not orthogonal; rather they may be related and influenced by each other. Evocation, Collaboration, and Autonomy/Support are averaged together to yield a Spirit global. It is recommended that you average to two decimal points.

<b>Evocation</b>				
Low			High	
1	2	3	4	5
Clinician actively provides reasons for change, or education about change, in the absence of exploring client's knowledge, efforts or motivation.	Clinician relies on education and information giving at the expense of exploring client's personal motivations and ideas.	Clinician shows no particular interest in, or awareness of, client's own reasons for change and how change should occur. May provide information or education without tailoring to client circumstances.	Clinician is accepting of client's own reasons for change and ideas about how change should happen when they are offered in interaction. Does not attempt to educate or direct if client resists.	Clinician works proactively to evoke client's own reasons for change and ideas about how change should happen.

This scale is intended to measure the extent to which the clinician conveys an understanding that motivation for change, and the ability to move toward that change, reside mostly within the client and therefore focuses efforts to elicit and expand it within the therapeutic interaction.

#### Low on Scale

Clinicians low on this scale have only superficial interest in the client's ambivalence or reasons for change, and miss opportunities to explore these in detail. They may make assumptions about the client's intent to change (or not change) without exploring this in detail, or may ignore the client's ideas when they are offered. Clinicians low in *Evocation* may rely on persistent fact gathering or information-giving as a means of facilitating change, and often convey a distrust of the client's current knowledge base about the problem under consideration. Clinicians on the low end of this scale do not respond to change talk when it is offered, or do so in a perfunctory manner. They are likely to *provide* the clients with reasons to change, rather than *eliciting* them.

#### High on Scale

Clinicians high on this scale are curious about their clients' personal and unique ideas about why change is a good idea or might not be. They not only follow up on these ideas when the client offers them, but also actively seek to explore them when the client does not. Although they might provide information or education, clinicians high in evocation do not rely on it as a means of helping clients to change. Instead, they prioritize exploration of the client's personal reasons for change and the means to go about it, and do not allow this exploration to be neglected amid other content or information in the session. Clinicians high on the *Evocation* scale understand the value of hearing the client's own language in favor of change, and actively create opportunities for that language to occur.



### *Verbal Anchors*

1. Clinician actively provides reasons for change, or education about change, in the absence of exploring client's knowledge, efforts or motivation.

Examples:

- Ignores or misunderstands client statements about target behavior
- Rigidly provides education although client indicates prior knowledge
- Uses list of questions that do not account for uniqueness of client's response
- Dismisses or ignores client contributions
- Lack of curiosity about client circumstances
- Attempts to talk client into changing

2. Clinician relies on education and information giving at the expense of exploring client's personal motivations and ideas.

Examples:

- Does not incorporate client contributions into discussions about change
- Vague or incomplete efforts to respond to client change talk
- Mild or superficial interest in client views and circumstances

3. Clinician shows no particular interest in or awareness of client's own reasons for change and how change should occur. May provide some information or education without tailoring to client circumstances.

Examples:

- Misses opportunities to investigate client motivation for change (for example, by discussing past successes when mentioned)
- Neutral regarding client views and circumstances
- Occasional responses to client change talk

4. Clinician is accepting of client's own reasons for change and ideas about how change should happen when they are offered in interaction. Does not attempt to educate or direct if client resists.

Examples:

- Permits client's ideas about change and motivation to provide direction for interview
- Acknowledges client reasons for change at face value when offered, but does not elicit or elaborate
- Consistently responds to change talk when it occurs with reflections, elaborating questions or interest

5. Clinician works proactively to evoke client's own reasons for change and ideas about how change should happen.

Examples:

- Curious about client's ideas and experiences, especially regarding target behavior
- Helps client talk self into changing
- Uses structured therapeutic tasks as a way of reinforcing and eliciting change talk
- Does not miss opportunities to explore more deeply when client offers reasons for change
- Seeks client's ideas about change and motivation to provide direction to interview
- Strategically elicits change talk and consistently responds to it when offered

<b>Collaboration</b>				
<b>Low</b>		<b>High</b>		
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Clinician actively assumes the expert role for the majority of the interaction with the client. Collaboration is absent.	Clinician responds to opportunities to collaborate superficially.	Clinician incorporates client's goals, ideas and values but does so in a lukewarm or erratic fashion. May not perceive or may ignore opportunities to deepen client's contribution to the interview.	Clinician fosters collaboration and power sharing so that client's ideas impact the session in ways that they otherwise would not.	Clinician actively fosters and encourages power sharing in the interaction in such a way that client's ideas substantially influence the nature of the session.

This scale measures the extent to which the clinician behaves as if the interview is occurring between two equal partners, both of whom have knowledge that might be useful in the problem under consideration.

#### *Low on Scale*

Clinicians low in *Collaboration* do not work towards a mutual understanding during the session. They rely on one-way communication based on the clinician's authority and expertise for progress. They may be dismissive, overly passive or so acquiescent that they do not make a genuine contribution to the interaction. These clinicians rely on their knowledge to respond to the client's problem and do not appear to value the client's knowledge. They are often ahead of their clients in prescribing both the need for change and the means to achieve it. Their interactions with clients appear more like wrestling than dancing.

#### *High on Scale*

Clinicians high in *Collaboration* work cooperatively with the client toward the goals of the interview. They do not rely on dominance, expertise or authority to achieve progress. They are curious about client ideas, and are willing to be influenced by them. These clinicians can hold the reins on their own expertise, using it strategically and not before the client is ready to receive it. Clinicians high in *Collaboration* appear to be dancing

with their clients during an interview—one moment leading, the next following—in seamless motion.

### *Verbal Anchors*

1. Clinician actively assumes the expert role for the majority of the interaction with the client. Collaboration is absent.

Examples:

- Explicitly takes the expert role
- Denies or minimizes client ideas
- Dominates conversation
- Argues when client offers alternative approach
- Is passive, disconnected or dismissive

2. Clinician discourages collaboration or responds to opportunities superficially.

Examples:

- Difficulty surrendering expert role
- Superficial querying of client input
- Often sacrifices opportunities for mutual problem solving in favor of supplying knowledge or expertise
- Minimal response to client input
- Distracted or impatient with client

3. Clinician incorporates client's goals, ideas and values but does so in a lukewarm or erratic fashion. May not perceive or may ignore opportunities to deepen client's contribution to the interview.

Examples:

- May take advantage of opportunities to collaborate, but does not structure interaction to solicit this
- Some connected following, but superficial
- Can yield floor most of the time, but instances of disagreeing
- Sacrifices some opportunities for mutual problem solving in favor of supplying knowledge or expertise

4. Clinician fosters collaboration and power sharing so that client's ideas impact the session in ways that they otherwise would not.

Examples:

- Some structuring of session to insure client input
- Solicits client views
- Engages client in problem solving
- Does not insist on resolution unless client is ready

5. Clinician actively fosters and encourages power sharing in the interaction in such a way that client's ideas substantially influence the direction and outcome of the session.

Examples:

- Actively structures session in a manner that facilitate client input
- Querying client ideas
- Incorporating client suggestions
- Actively “mines” for client input
- Explicitly identifying client as the expert
- Tempers advice giving and expertise depending on client input

<b>Autonomy/Support</b>				
<b>Low</b>			<b>High</b>	
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Clinician actively detracts from or denies client's perception of choice or control.	Clinician discourages client's perception of choice or responds to it superficially.	Clinician is neutral relative to client autonomy and choice.	Clinician is accepting and supportive of client autonomy.	Clinician adds significantly to the feeling and meaning of client's expression of autonomy, in such a way as to <i>markedly expand client's experience of own control and choice.</i>

This scale is intended to convey the extent to which the clinician supports and actively fosters client perception of choice as opposed to attempting to control the client's behavior or choices. Scores on the autonomy scale include the avoidance of particular behaviors *and* proactively pursuing strategies to enhance autonomy or support.

#### *Low on Scale*

Clinicians low on *Autonomy/Support* view the client as incapable of moving in the direction of health without input from clinician. They may assume that the client will change their behavior in the direction that the clinician thinks is best. The clinician may explicitly tell that client that he or she has no choice. In addition, the clinician may imply that external consequences (such as arrest, coercion from others) have removed choice. Clinicians may also insist that there is only one way to approach a target behavior or they may be pessimistic or cynical about the client's ability to change. Clinicians low on *Autonomy/Support* may convey choices but do so dismissively or with sarcasm.

\*Note: Do *not* lower Autonomy/Support scores if the clinician is empathizing with the client's perceived lack of choices, hopelessness or resentment about current circumstance.

### *High on Scale*

Clinicians high on *Autonomy/Support* ensure, either directly or implicitly, that the topic of choice and control is raised in session. They view the client as having the potential to move in the direction of health. Clinicians high on this scale work to help the client recognize choices with regard to the target behavior. In addition, clinicians may explicitly acknowledge that the client has the choice to change or maintain the status quo. They may also express an optimism about the client's ability to change.

### *Verbal Anchors*

1. Clinician actively detracts from or denies client's perception of choice or control.

Examples:

- Explicitly states that client does not have a choice
- Implies that external consequences remove choice
- Is pessimistic, cynical or sarcasm in exploring options and choices
- Rigid about change options

2. Clinician discourages client's perception of choice or responds to it superficially.

Examples:

- Does not elaborate or attend to topic of choice when raised by client
- Minimizing client choice or superficially attending to it
- Dismissing topic of choice after acknowledging it
- Absence of genuineness when discussing client's choice
- Actively ignores client choice when client brings it up

3. Clinician neutral relative to client autonomy and choice.

Examples:

- Does not deny options or choice, but makes little effort to actively instill it
- Does not bring up topic of choice in the interview

4. Clinician is accepting and supportive of client autonomy.

Examples:

- Explores clients options genuinely
- Agrees when client states he cannot be forced to change

5. Clinician adds significantly to the feeling and meaning of client's expression of autonomy, in such a way as to *markedly expand client's experience of own control and choice*.

Examples:

- Clinician is proactive in eliciting comments from the client that lead to a greater perceived choice regarding the target behavior
- Explores options in deeply genuine and non-possessive manner
- Explicitly acknowledges client option not to change without sarcasm
- Provides multiple opportunities to discuss client's options and ability to control if client does not respond at first attempt
- Gives credence to client's ideas about change and motivation

<b>Direction</b>				
Low			High	
1	2	3	4	5
Clinician does not influence the topic or course of the session, and discussion of the target behavior is entirely in the hands of client.	Clinician exerts minimal influence on the session and misses most opportunities to direct client to the target behavior.	Clinician exerts some influence on the session, but can be easily diverted away from focus on target behavior.	Clinician generally able to influence direction of the session toward the target behavior; however, there may be lengthy episodes of wandering when clinician does not attempt to re-direct.	Clinician exerts influence on the session and generally does not miss opportunities to direct client toward the target behavior or referral question.

This scale measures the degree to which clinicians maintain appropriate focus on a specific target behavior or concerns directly tied to it. Unlike the other global scales, clinicians high scores on this scale do not necessarily reflect better use of MI.

*Low on Scale*

Clinicians low in *Direction* exert little influence concerning the topic and course of the session. They do not appear to explore any particular behavior change on the part of the client, and do not take opportunities to bring change into the discussion. Sessions with clinician low in *Direction* may lack structure, and are likely to have an aimless quality. Clients may end up discussing any topic of interest to them, without attempts by the clinician to focus on any particular troublesome behavior. The clinician may accept an excessive focus on historical topics or theoretical explanations that divert attention from changing a current behavior. Clinicians low in *Direction* appear to lack a compass to help them move the session toward to a specific, desirable end.

### *High on Scale*

Clinicians high in *Direction* exert substantial influence concerning the topic and course of the session. They are transparent in their focus on a target behavior or referral question and they make consistent efforts to return to the target behavior when conversation wanders. A clinician who is domineering and unyielding in their focus on the problem at hand would score high in *Direction*, however clinicians high in *Direction* need not be harsh or authoritarian. They may exert direction by selectively reinforcing client discussion toward the possibility of concern or change with regard to the target behavior. Clinicians high in *Direction* seem to use a compass to implement course corrections when the focus of the session drifts too far away from the target behavior.

### *Verbal Anchors*

1. Clinician does not influence the topic or course of the session, and discussion of the target behavior is entirely in the hands of client.

Examples:

- Fails to provide structure for session
- Session is almost entirely focused on topics only tangentially related to a current problem
- Clinician focuses discussion on client's personality, childhood or trauma history with only superficial attention to target behavior
- Clinician engages in non-directive, client-centered listening
- Passively follows as the client wanders off in various directions
- A target behavior is not stated or cannot be inferred from the session

2. Clinician exerts minimal influence on the session and misses most opportunities to direct client to the target behavior.

Examples:

- Provides some structure, but session wanders markedly from stated intent
- Some discussion of target behavior, but majority of session is spent on other topics
- Clinician makes only superficial attempts to tie client's discourse to target behavior

- Most of the session is spent in non-directive, client-centered listening with no evidence of selective reinforcement toward consideration of target behavior

3. Clinician exerts some influence on the session, but is easily diverted away from focus on target behavior.

Examples:

- Clinician provides some structure for session, but is inconsistent in following it
- Clinician provides some selective reinforcement of client discourse regarding target behavior, but does so inconsistently
- Clinician is willing to bring up target behavior, but is easily diverted
- Clinician focuses substantial parts of session on off-target discussion
- Balance of session time spent on discussing history rather than present or future

4. Clinician generally able to influence direction of the session toward target behavior; however, there may be lengthy episodes of wandering when clinician does not attempt to re-direct.

Examples:

- Clinician makes modest attempts to use stated plan for session
- A target behavior is apparent but the clinician seems uncertain about whether to focus attention on it
- Clinician can easily be diverted by the client away from the target behavior
- Clinician misses several opportunities to turn the conversation toward the target behavior once it wanders

5. Clinician exerts influence on the session and generally does not miss opportunities to direct client toward the target behavior or referral question.

Examples:

- Agenda-setting mentions the target behavior
- Clinician is transparent in concern about the target behavior
- Clinician manages time well and transitions between therapeutic tasks smoothly
- Clinician consistently and smoothly directs the client's discourse toward change of a target behavior
- Balance of time in the session is spent discussing possible change, rather than the history of the problem
- Clinician dominates session and does not allow client to wander from target behavior



<b>Empathy</b>				
<b>Low</b>		<b>High</b>		
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Clinician has no apparent interest in client's worldview. Gives little or no attention to the client's perspective.	Clinician makes sporadic efforts to explore the client's perspective. Clinicians' understanding may be inaccurate or may detract from the client's true meaning.	Clinician is actively trying to understand the client's perspective, with modest success.	Clinician shows evidence of accurate understanding of client's worldview. Makes active and repeated efforts to understand client's point of view. Understanding mostly limited to explicit content.	Clinician shows evidence of deep understanding of client's point of view, not just for what has been explicitly stated but what the client means but has not yet said.

This scale measures the extent to which the clinician understands or makes an effort to grasp the client's perspective and feelings: literally, how much the clinician attempts to "try on" what the client feels or thinks. Empathy should not be confused with warmth, acceptance, genuineness, or client advocacy; these are independent of the empathy rating. Reflective listening is an important part of this characteristic, but this global rating is intended to capture all efforts that the clinician makes to understand the client's perspective and convey that understanding to the client.

#### *Low on Scale*

Clinicians low in *Empathy* show indifference or active dismissal of the client's perspective and experiences. They may probe for factual information or to pursue an agenda, but they do so to "build a case" for their point of view, rather than for the sole purpose of understanding the client's perspective. There is little effort to gain a deeper understanding of complex events and emotions, and questions asked reflect shallowness or impatience. They might express hostility toward the client's viewpoint or directly blame the client for negative outcomes.

#### *High on Scale*

Clinicians high in *Empathy* approach the session as an opportunity to learn about the client. They are curious. They spend time exploring the client's opinions and ideas about the target behavior especially. Empathy is evident when providers show an active interest in understanding what the client is saying. It can also be apparent when the clinician accurately follows or perceives a complex story or statement by the client or probes gently to gain clarity.

#### *Verbal Anchors*

1. Clinician has no apparent interest in client's worldview. Gives little or no attention to the client's perspective.

Examples:

- Asking only information-seeking questions (often with an ulterior motive)
- Probing for factual information with no attempt to understand the client's perspective

2. Clinician makes sporadic efforts to explore the client's perspective. Clinicians' understanding may be inaccurate or may detract from the client's true meaning.

Examples:

- Clinician offers reflections but they misinterpret what the client had said.
- Clinician displays shallow attempts to understand the client.

3. Clinician is actively trying to understand the client's perspective, with modest success.

Examples:

- Clinician displays average empathy to client.
- Clinician may offer a few accurate reflections, but may miss the client's point.
- Clinician makes an attempt to grasp the client's meaning throughout the session, but does so with mild success.

4. Clinician shows evidence of accurate understanding of client's worldview. Makes active and repeated efforts to understand client's point of view. Understanding mostly limited to explicit content.

Examples:

- Clinician conveys interest in the client's perspective or situation
- Clinician offers accurate reflections of what the *client has said*.
- Clinician effectively communicates understanding of the client's viewpoint.

5. Clinician shows evidence of deep understanding of client's point of view, not just for what has been explicitly stated but what the client means and has not said.

Examples:

- Clinician effectively communicates an understanding of the client *beyond* what the client says in session.
- Showing great interest in client's perspective or situation
- Attempting to "put self in client's shoes"
- Often encouraging client to elaborate, beyond what is necessary to merely follow the story
- Using many accurate complex reflections

## D. BEHAVIOR COUNTS

“It has long been an axiom of mine that the little things are infinitely the most important.”  
 Sherlock Holmes (A. Conan Doyle, 1892)  
 A Case of Identity

Behavior counts are intended to capture specific behaviors without regard to how they fit into the overall impression of the interviewer’s use of MI. While the context of the exchange will have some influence on the rater, behavior counts will *generally* be determined as a result of categorization and decision rules (rather than attempting to grasp an overall impression). Relying on inference to determine a behavior count is to be avoided.

### *Parsing Interviewer Speech to Assign Behavior Codes*

An utterance is defined as a complete thought. An utterance ends when one thought is completed. A new utterance begins when a new idea is introduced. One utterance can succeed another in the flow of the interviewer’s speech, as with a sentence that conveys successive ideas. A client response always terminates an interviewer utterance, and the next interviewer response following client speech is therefore always a new utterance.

Not all interviewer utterances will receive behavior codes. Unlike the MISC, the MITI does not represent an exhaustive list of all possible codes; therefore, some clinician utterances will likely remain uncoded. Although they are not exhaustive, MITI codes are mutually exclusive, such that the same utterance does not receive more than one code.

Any utterance may be assigned one of six primary behavior codes. Within three categories, further sub-classification is required. As mentioned before, each utterance receives one and only one code: the same utterance may not receive more than one code. However, consecutive utterances, even if they occur in the same sentence, may *each* receive different codes. Thus, in the course of a relatively long reply, if a clinician reflects, then confronts, then asks a question, these could each qualify for a distinct behavior count, assuming they are separate utterances (ideas).

A volley is defined as uninterrupted sequence of utterances by the interviewer. Once a behavior code is assigned once within the volley, it is not assigned again. A volley may contain only one of each behavior code.

Consider the following interviewer statement:

Well, let me ask you this: since you’ve been forced to come here and since you’re feeling  
 like everyone’s kind of pecking on you like a crow, there’s a bunch of crows

flying around pecking on you about this thing about your drinking, what would you like to do with the time you spend here? What would be helpful for you?

This statement is parsed in the following way:

Utterance One: Well, let me ask you this: since you've been forced to come here and since you're feeling like everyone's kind of pecking on you like a crow, there's a bunch of crows flying around pecking on you about this thing with your drinking,

Utterance Two: What would you like to do with the time you spend here? What would be helpful for you?

What about this interviewer statement?

What you say is absolutely true, that it is up to you. No one makes that choice for you. No one can make that choice for you. Even if your wife wanted to decide for you, or your employer wanted to decide for you, or I wanted to decide for you; nobody can. It really is completely your own choice; how you live your life, what you do about drugs, where you're headed; so that is yours. And what I hear you struggling with is, "what do I want? Is it time for me to change things? Is this drug test a wake-up call?"

We've parsed it like this:

Utterance One: What you say is absolutely true, that it is up to you. No one makes that choice for you. No one can make that choice for you. Even if your wife wanted to decide for you, or your employer wanted to decide for you, or I wanted to decide for you; nobody can. It really is completely your own choice; how you live your life, what you do about drugs, where you're headed; so that is yours.

Utterance Two: And what I hear you struggling with is, "what do I want? Is it time for me to change things? Is this drug test a wake-up call?"

## *Behavior Codes*

### **1. Giving Information**

This category is used when the interviewer gives information, educates, provides feedback or discloses personal information. When the interviewer gives an opinion, without advising, this category would be used. No subcodes are assigned for giving information. Specific examples of Giving Information include:

#### *1a. Providing Feedback from assessment instruments*

You indicated during the assessment that you typically drink about 18 standard drinks per week. This places you in the 96<sup>th</sup> percentile for American men your age. (Giving Information)

\* Note that this is not a reflection. Reviewing information contained on assessment instruments does not typically qualify as a reflection, although the reflection code MAY be given if the interviewer skillfully emphasizes or enriches the material the client has given.

#### *1b. Personal Feedback about the client that is not already available.*

Your doctor tells me you've been struggling with your glycemic control. (Giving Information)

I talked to your wife and she said she was really worried about your drinking. (Giving Information)

#### *1c. Explaining ideas or concepts relevant to the intervention*

This homework assignment on logging your cravings is important because we know that cravings often lead to relapses. A craving is like a warning bell, telling you to do something different. (Giving Information)

#### *1d. Educating about a topic*

Individuals who eat five fruits and vegetables each day reduce their cancer risk five fold. For certain kinds of cancer, like colon cancer, it's even more of a reduction. (Giving Information)

If I do find that you've relapsed, I'll have to disclose that to your probation officer. (Giving Information; coder may consider MI Inconsistent instead)

Coders need not distinguish among types of Giving Information. Once the coder has decided that the behavior is either one or another item in this category, she assigns the Giving Information code without further distinction.

*Differentiating Giving Information from MI Non-Adherent Behaviors*

Giving information should not be confused with giving advice, warning, confronting, or directing.

You indicated during the assessment that you typically drink about 18 standard drinks per week. This far exceeds social drinking. (MI Inconsistent)

Keep track of your cravings, using this log, and bring it in next week to review with me. (Direct)

Well, you are only eating two fruits per day according to this chart, even though you said you are eating five. It can be easy to deceive yourself. (Confront)

It worked for me, and it will work for you if you give it a try. We need to find the right AA meeting for you. You just didn't find a good one. (Advice)

## 2. Questions

### 2a. *Closed Question*

This behavior code is used when the interviewer asks the client a question that can be answered with a “yes” or “no” response.

Did you use heroin this week?

Did you eat five fruits and vegetables this week?

Have you been having trouble with your memory?

It is also coded when the question specifies a very restricted range or one that is intended to satisfy a questionnaire.

How long have you been using heroin?

How many fruits and vegetables did you eat each day this week?

Who is the president of the United States?

### 2b. *Open Question*

An open question is coded when the interviewer asks a question that allows a wide range of possible answers. The question may seek information, may invite the client's perspective or may encourage self-exploration. The open question allows the option of surprise for the questioner.

“Tell me more” statements are coded as open questions unless the tone and context clearly indicate a Direct or Confront code.

How did it go with your heroin cravings since we last met?

Tell me about your fruit and vegetable intake this week.  
What is your take on that?

In general, stacked questions (before the client gives an answer), are coded as only one question. Sometimes a clinician will stack questions by asking an open question and then giving a series of “for example” follow up questions before the client answers. These are coded as *one* open question (not, in this case, as one open and two closed questions).

In what ways has your drinking caused problems for you? Has it caused problems in your relationships or with your memory? What about trouble with the law or health problems? Have you felt bad about yourself? Things like that.

### 2c. *Questions-trying-to-be-reflections*

Occasionally the interviewer will offer a statement that otherwise meets the criteria for a reflection, but is given with an inflection at the end (thereby making it “sound like” a question). These statements are coded as Questions (either open or closed), NOT as reflections.

## 3. Reflection

This category is meant to capture reflective listening statements made by the clinician *in response to* client statements. A Reflection may introduce new meaning or material, but it essentially captures and returns to clients something about what they have just said. Reflections must be further categorized into Simple or Complex categories.

### 3a. *Simple Reflection*

Simple reflections typically convey understanding or facilitate client/clinician exchanges. These reflections add little or no meaning (or emphasis) to what clients have said. Simple reflections may mark very important or intense client emotions, but do not go far beyond the client’s original intent in the statement. Clinician summaries of several client statements may be coded as simple reflections *if* the clinician does not use the summary to add an additional point or direction.

### 3b. *Complex Reflection*

Complex reflections typically add substantial meaning or emphasis to what the client has said. These reflections serve the purpose of conveying a deeper or more complex picture of what the client has said. Sometimes the clinician may choose to emphasize a particular part of what the client has said to make a point or take the conversation in a different direction. Clinicians may add subtle or very obvious content to the client’s words, or they may combine statements from the client to form summaries that are complex in nature.



*Speeding Tickets*

*Client:* This is her third speeding ticket in three months. Our insurance is going to go through the roof. I could just kill her. Can't she see we need that money for other things?

*Interviewer:* You're furious about this. (Reflection, Simple)

*Interviewer:* This is the last straw for you. (Reflection, Complex)

### *Controlling Blood Sugar*

*Interviewer:* What have you already been told about managing your blood sugar levels?  
(Open Question)

*Client:* Are you kidding? I've had the classes, I've had the videos, I've had the home nurse visits. I have all kinds of advice about how to get better at this, but I just don't do it. I don't know why. Maybe I just have a death wish or something, you know?

*Interviewer:* You are pretty discouraged about this. (Reflection, Simple)

*Interviewer:* You haven't given it your best effort yet. (Reflection, Complex)

### *Mother's Independence*

*Client:* My mother is driving me crazy. She says she wants to remain independent, but she calls me four times a day with trivial questions. Then she gets mad when I give her advice.

*Interviewer:* Things are very stressful with your mother. (Simple Reflection)

*Interviewer:* You're having a hard time figuring out what your mother really wants.  
(Reflection, Complex)

*Interviewer:* Are you having a hard time figuring out what your mother really wants?  
(Closed Question)

*Interviewer:* What do you think your mother really wants? (Open Question)

3c. DECISION RULE: When a coder cannot distinguish between a simple and complex reflection, the simple designation should be used. Default category: simple.

### 3d. *Reflection and Question in Sequence*

Sometimes the interviewer begins with a reflection, but adds a question to "check" the reliability of the reflection (either open or closed). Both elements should be coded.

So you don't ever want to use heroin again. Is that right? (Reflection, Closed Question)

Your boss said you can't work overtime anymore. What do you make of that?  
(Reflection, Open Question)

### 3e. *Reflections-Turned-Into-Questions*

Occasionally the interviewer will offer a statement that otherwise meets the criteria for a reflection, but is given with an inflection at the end (thereby making it "sound like" a question). These statements are coded as Questions (either open or closed) NOT as reflections (see 2c.).

## 4. **MI Adherent**

This category is used to capture particular interviewer behaviors that are consistent with a motivational interviewing approach. Coders may be tempted to code especially good

examples of MI practice in one of these categories, even if they do not genuinely “fit”. Instead, the coder should consider such examples within the overall rating assigned for Global Ratings, as appropriate, reserving the MI Consistent behavior counts for the designated behaviors only. The MI Adherent Category is comprised of:

*4a. Asking permission before giving advice or information or asking what the client already knows or has already been told about a topic before giving advice or information.* Permission is implied when the client asks directly for the information or advice and the clinician is answering. Indirect forms of permission can also occur, such as when the clinician invites the client to disregard the advice as appropriate.

I have some information about how to reduce your risk of colon cancer and I wonder if I might discuss it with you. (MI Adherent)

What have you already been told about drinking during pregnancy? (MI Adherent)

This may not be the right thing for you, but some of my clients have had good luck setting the alarm on their wristwatch to help them remember to check their blood sugars 2 hours after lunch. (MI Adherent)

Note: when permission is asked prior to advising, the MI Non-Adherent Code is *not* used for the subsequent advice. The entire volley is coded as MI Adherent.

*4b. Affirming the client* by saying something positive or complimentary. Affirming may also take the form of commenting on the client’s strengths, abilities or efforts in any area (not simply related to the target behavior).

You are the kind of person that, once you make up your mind, you usually get the job done. (MI Adherent)

It’s important to you to be a good parent, just like your folks were for you. (MI Adherent)

*4c. Emphasizing the client’s control, freedom of choice, autonomy, ability to decide.*

Yes, you’re right. No one can force you stop drinking. (MI Adherent)

You’re the one who knows yourself best here. What do you think ought to be on this treatment plan? (MI Adherent)

The number of fruits and vegetables you choose to eat is really up to you. (MI Adherent)

You’ve got a point there. (MI Adherent)

*4d. Supporting the client* with statements of compassion or sympathy.

With the parking problems and the rain coming down, it hasn't been easy to get here. (MI Adherent)

I know it's really hard to stop drinking. (MI Adherent)

Well, there is really a lot going on for you right now. (MI Adherent)

No differentiating subcodes are assigned to the MI Adherent behaviors. The rater merely identifies them as belonging to this category and assigns the MI Adherent code.

4e. **DECISION RULE:** The MI Adherent code takes precedence when the utterance *clearly* falls into the MI Adherent category. When in doubt, an alternate code (for example, Open Question or Reflection) should be given.

## 5. **MI Non-Adherent**

This category is used to capture those interviewer behaviors that are inconsistent with a motivational interviewing approach. No differentiating subcodes are assigned to the MI Non-Adherent behaviors. The rater merely identifies them as belonging to this category and assigns the MI Non-Adherent code.

*5a. Advising without permission* by making suggestions, offering solutions or possible actions without first obtaining permission from the client. Language usually, but not always, includes words such as: should, why don't you, consider, try, suggest, advise, how about, you could, etc. Note that if the interviewer first obtains permission either directly or indirectly, *before* advising, the code would be different.

What about trying to get a ride from a friend? (MI Non-Adherent)

Checking your blood sugars five times a day is best in the beginning. (MI Non-Adherent)

It might not be as bad as you think. People are usually civil if you give them a chance. (MI Non-Adherent)

*5b. Confronting* the client by directly and unambiguously disagreeing, arguing, correcting, shaming, blaming, criticizing, labeling, moralizing, ridiculing, or questioning the client's honesty. Such interactions will have the quality of uneven power sharing, accompanied by disapproval or negativity. Included here are instances where the interviewer uses a question or even a reflection, but the voice tone clearly indicates a confrontation.

Restating negative information already known or disclosed by the client can be either a confront or a reflection. Most confrontations can be correctly categorized by careful attention to voice tone and context.

You were taking Antabuse but you drank anyway? (MI Non-Adherent)

You think that is any way to treat people you love? (MI Non-Adherent)

Yes, you are an alcoholic. You might not think so, but you are. (MI Non-Adherent)

Wait a minute. It says right here that your A1C is 12. I'm sorry, but there is no way you could have been counting your carbohydrates like you said if it's that high. (MI Non-Adherent)

5c. *Directing* the client by giving orders, commands or imperatives. The language is imperative.

Don't do that! (MI Non-Adherent)

Bring this homework back next week. (MI Non-Adherent)

You need to go to 90 meetings in 90 days (MI Non-Adherent)

Again, coders are not required to subcategorize MI Non-Adherent behaviors. Once a coder has decided that the behavior is either a Confront or a Direct (or has narrowed it down to any other two codes in this category), he assigns the MI Non-Adherent code and moves on.

5d. **DECISION RULE:** The MI Non-Adherent code takes precedence when the utterance *clearly* falls into the MI Non-Adherent category. When in doubt, an alternate code (for example, Giving Information) should be given.

#### *Tantrums*

*Client:* "What do you think I should do about these tantrums my child is having? You're the doctor."

*Interviewer:* "Solving this yourself hasn't worked, so you're finally willing to ask for help." (MI Non-Adherent)

*Client:* "What do you think I should do about these tantrums my child is having? You're the doctor."

*Interviewer:* "Your child is normal. These are not tantrums." (MI Non-Adherent)

#### E. CHOOSING THE LENGTH AND TYPE OF THE CODED SEGMENT

The development of the MITI was done using 20-minute segments of therapy tapes. It may be possible to use the MITI for longer segments of tape (for example, the entire therapy session). We only caution that our attempt to increase the length of the coding segment was associated with 1) problems with sustained coder attention, 2) difficulty forming global judgments with increased data, and 3) logistical difficulties in obtaining uninterrupted work time in a busy setting.

Similarly, most of our initial data have been gathered using audiotapes rather than videotapes. The MITI can be used to code videotapes, but should not be altered to gather visual information.

## F. SUMMARY SCORES FOR THE MITI

Because critical indices of MI functioning are imperfectly captured by frequency counts, we have found that many applications of therapy coding are better served with summary scores computed from codes, rather than the individual scores themselves. For example, the ratio of reflections to questions provides a concise measure of an important MI process. Below is a partial list of summary scores that serve as outcome measures for determining competence in MI, as well as formulas for calculating them.

- Global Spirit Rating =  $(\text{Evocation} + \text{Collaboration} + \text{Autonomy/Support}) / 3$
- Percent Complex Reflections (% CR)  
=  $R_c / \text{Total reflections}$
- Percent Open Questions (% OC)  
=  $OQ / (OQ + CQ)$
- Reflection-to-Question Ratio (R:Q)  
=  $\text{Total reflections} / (CQ + OQ)$
- Percent MI Adherent (% MiA)  
=  $MiA / (MiA + MiNa)$



## G. TRAINING STRATEGY FOR THE MITI

Give me a fruitful error any time, full of seeds, bursting with its own corrections.

Pareto 1848-1923

Training coders to competency, as measured by interrater reliability and matching to a gold standard, usually requires a stepped learning process. We have found that coders do best beginning with fairly simple tasks, proceeding to more complex ones only when competence on the simpler tasks is solid. We recommend that coders begin by learning Level I tasks to an acceptable reliability standard prior to attempting Level II tasks. Only when acceptable standards for simultaneous I and II tasks have been accomplished should coders begin on Level III tasks. The self-review of MI text and video learning tools can be used at any time (perhaps as a prelude to beginning Level I tasks).

The use of pre-scored gold standard transcripts will assist in evaluating coder competency and areas for improvement. We have found that coders often have difficulty in one area or another, requiring a more intensive focus. Problem areas can be identified using standardized transcripts as a quiz for each level. More than one quiz per level is often needed. We have found that coders typically require 40 hours of training to reach interrater reliability using the MITI. In addition, regular (probably weekly) group coding sessions are optimal to insure drift does not occur. Clinical experience (i.e. being a clinician) has *not* predicted ease of training or eventual competence in our laboratory.

Level I competencies: parsing utterances, giving information and open/closed questions

Level II competencies: add reflections, MiA and MiNa

Level III competencies: add global ratings

Below are recommended proficiency and competency thresholds for clinicians, based on the MITI coding system. Please note that these thresholds are based on EXPERT OPINION, and currently lack normative or other validity data to support them. We are in the process of gathering normative data for the revised MITI now. Until such normative data is available, these thresholds should be used in conjunction with other data to arrive at an assessment of clinician competency and proficiency in using MI.

Motivational Interviewing Treatment Integrity Code (MITI)  
Coding Sheet Revised June, 2007

Tape # \_\_\_\_\_ Coder: \_\_\_\_\_ Date: \_\_\_\_\_

**Global Ratings**

<b>Evocation</b>		1	2	3	4	5
		Low				High

Behavior Count or Summary Score Thresholds	Beginning Proficiency	Competency
Global Clinician Ratings	Average of 3.5	Average of 4
Reflection to Question Ratio (R:Q)	1	2
Percent Open Questions (%OC)	50%	70%
Percent Complex Reflections (%CR)	40%	50%
Percent MI-Adherent (% MIA)	90%	100%

<b>Collaboration</b>		1	2	3	4	5
		Low				High
<b>Autonomy/ Support</b>		1	2	3	4	5
		Low				High
<b>Direction</b>		1	2	3	4	5
		Low				High
<b>Empathy</b>		1	2	3	4	5
		Low				High

**Behavior Counts**

<b>Giving Information</b>			
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<b>MI</b> Adherent	Asking permission, affirm, emphasize control, support.		
<b>MI</b> Non-adherent	Advise, confront, direct.		
<b>Question</b> (subclassify)	Closed Question		
	Open Question		
<b>Reflect</b> (subclassify)	Simple		
	Complex		
	<b>TOTAL REFLECTIONS:</b>		

First sentence: \_\_\_\_\_

Last sentence: \_\_\_\_\_

### List of MITI Codes

EVOCATION	(Global rating of evocation)
COLLABORATION	(Global rating of collaboration)
AUTONOMY/SUPPORT	(Global rating of Autonomy/Support)
DIRECTION	(Global rating of direction)
EMPATHY	(Global rating of empathy)
SPIRIT	(Global rating of MI Spirit; Average of Evocation, Collaboration, Autonomy/Support)
GI	(Giving Information)
MiA	(MI Adherent)
MiNa	(MI Non-adherent)
OQ	(Open Question)
CQ	(Closed Question)
Rs	(Reflection simple)
Rc	(Reflection complex)

Note: Coded transcripts of two MI interviews, taken from the Professional Training Series, are available to assist you in learning to use the MITI. For ease in learning, each interview is coded twice—once for global ratings and once for behavior counts—although in practice both tasks would usually be done simultaneously. These transcripts, along with the MITI manual itself, can be downloaded free of charge from.

## Appendix D: Introduction to Motivational Interviewing Training Manual

Introduction to Motivational Interviewing Training Manual:

Developed for the TEAM Project

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The University of New Mexico

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### **Introduction**

Motivational interviewing (MI) is a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving client ambivalence (Miller, 1991, 2002). This counseling style was first introduced by Miller and Rollnick (1991) for use in addressing problematic substance abuse. Since then, this style has been used in a number of settings, including HIV prevention, diet and exercise, and medication adherence. Over 70 clinical trials have demonstrated the efficacy of MI in facilitating behavior change.

Motivational Interviewing is based on three fundamental principles: collaboration, evocation, and autonomy. MI is collaborative, meaning that the practitioner does not assume an authoritarian stance or expert role in the relationship. Rather, the practitioner seeks to create an environment in which the client can feel comfortable to explore the pros and cons of implementing a behavior change. The second component of MI is evocation. In MI, practitioners draw from patients their perspectives and wishes. The third component of MI, autonomy, refers to the practitioner's understanding that it is the client's decision whether and how to make a behavior change.

### **Research Basis for Motivational Interviewing**

A recent meta-analysis (Hettema, Steele, & Miller, 2005) examined the use of MI for a variety of target problems, including substance use, smoking, treatment compliance, water purification, diet and exercise, and gambling. The average short-term effect size of MI was 0.77, with a decrease to 0.30 at the one-year follow-up. Thus, MI has been found to be an efficacious counseling style for a variety of behaviors.

### **Stages of Change**

Motivational interviewing was largely influenced by research on natural recovery. Prochaska and DiClemente (1984, 1992) developed a transtheoretical model of how people resolve their addiction to substance, regardless of whether they seek treatment. The transtheoretical model consists of five stages that individuals move through in implementing a behavior change: Precontemplation, Contemplation, Preparation, Action, and Maintenance. Motivational interviewing is especially useful in guiding ambivalent clients through these stages of change.

### **MI Principles**

Motivational interviewing consists of four main principles: express empathy, develop discrepancy, support the client's self-efficacy, and roll with client resistance. These principles provide the foundation for all therapist behaviors in MI. Expressing empathy involves listening to and understanding the client's perspective without criticizing, judging or blaming. Developing a discrepancy between the client's values and goals and their current behavior highlights problems with the status quo. Supporting the client's self-efficacy refers to affirming the client's ability to make a behavior change. Self-efficacy is predictive of treatment outcome, thus it is important for the practitioner to increase the client's confidence in their ability to change. Rolling with resistance refers

to the MI principle of avoiding arguing with their clients. If clients are resistant, practitioners may reflect instead of arguing which deflects conflict rather than enhancing it.

### **MI Skills/Techniques**

A primary goal in motivational interviewing is to elicit “change talk,” or self-motivational speech from clients, using specific skills. The acronym used for these skills is “OARS”. The skills are: ask Open-ended questions, Affirm, Listen reflectively, and Summarize the client’s thoughts.

1.) **Open questions.** Open questions are questions that encourage a longer response from a client. Contrast these with closed questions, which elicit a yes/no response. These questions allow the client to convey his or her thoughts and perspective. In MI, we strive to have about half of our questions be open questions. Examples of open questions include:

- “What brings you here today?”
- “What do you like about your drinking?”
- “How would you go about reducing your drinking?”
- 

2.) **Affirmations.** Affirmations include compliments to the client and genuine statements of appreciation for the client. Examples include:

- “You have been working really hard to quit drinking.”
- “I know you are quite busy and I appreciate you coming in today.”
- “Those are great ideas on how to reduce your drinking.”

3.) **Reflections.** Reflective listening is an essential part of MI. It occurs when the practitioner makes a statement that is a “guess” about the meaning of what the client has said. Ideally, reflections will move the session forward and highlight the client’s change talk. Unlike questions, there is not an upward inflection at the end of reflections.

However, the wording of reflections may be the same as questions. For example, a practitioner may say, “You don’t want to get caught drinking and driving again?” which

would elicit a response from the client. Said without the inflection, “You don’t want to be caught drinking and driving again,” conveys to the client a sense of understanding.

There are two main types of reflections: simple and complex. Simple reflections occur when a practitioner repeats or rephrases the client’s language. Complex reflections are deeper reflections that take a greater leap at what the client has said.

**Client:** “I have been to treatment six times. Nothing is going to work for me. I just can’t stop drinking.”

**Simple Reflection:** “You’ve been to treatment before and it hasn’t worked.”

**Complex Reflection:** “You’ve tried to quit drinking in the past and it hasn’t worked. You’re wondering if it’s going to be different this time.”

4). **Summarize.** Summary statements are used throughout MI sessions. They are used to transition from one part of the session to another to wrap up what the client has said at the end of the session, and to reinforce particular client statements. Summary statements simply consist of a number of ideas that have been discussed between the practitioner and client.

### **Importance and Confidence Rulers**

Importance and confidence rulers are a relatively easy way of assessing a client’s perspective on a behavior change. These rulers can be used with a variety of behaviors: drinking, smoking cessation, diet, exercise, etc. When using this ruler, the practitioner will ask, “*On a scale of zero to ten, where zero is ‘not at all important’ and ten is ‘very important,’ how important is it for you to quit smoking?*” This question is then followed with a “backwards” question that will elicit change talk from the patient. For example, if a client responds with a ‘four,’ then the practitioner would ask, “*Why are you a ‘four’*”



*and not a 'zero'?"* This type of “backwards” follow-up question sets up the patient to respond with change talk, rather than resistance. Asking why the client is not at a higher number would have the opposite and undesired effect of causing the patient to defend status quo (Miller, 2004).

*Confidence rulers are similar to importance rulers, except that they assess the patient's belief in their ability to change. For example, practitioners may ask, “On a scale from zero to ten, where ‘zero’ is ‘not at all confident’ and ‘ten’ is ‘extremely confident,’ how confident are you that you could quit smoking?” Practitioners can then ask why the client did not choose a lower number. An additional follow-up question might be “What would it take for you to go from a ‘four’ to a ‘six’?” (Miller & Rollnick, 2002).*

After the patient answers the practitioner’s “backward question,” the practitioner can follow up with an open question such as, “*What else?*” This type of question is intended to elicit further change talk from the patient. By listening reflectively and empathically to the patient, the practitioner will likely elicit reasons and arguments for change. After open questions the practitioner may summarize the patients statements, thus reinforcing their responses (Miller, 2004).

### **The Values Card Sort Exercise**

The Values Card Sort Exercise is a way to discuss with clients their values and possible goals. This exercise also facilitates a discussion of what the client deems important. The practitioner can discuss with clients how their substance use is interfering with these values and goals.

To begin this exercise, the practitioner asks the client to sort the cards into three categories: very important, important, and not at all important. After the client has finished sorting through all of the cards, they are asked to pick their top five most important values (It is not imperative that the client chooses five values. More or less values are fine). The practitioner then asks the clients what these values mean to them and why they are important. It is suggested that the practitioner listen empathically to their clients during this exercise. There may be opportunities for the practitioner to affirm the client or offer reflections to the client. The practitioner may ask the client, “How does alcohol fit in with this?” in an attempt to elicit change talk.

### **Decisional Balance**

The decisional balance is a way to explore with clients the pros and cons of changing. Practitioners ask the client “*What are some of the good things about \_\_\_\_\_?*” “*What are some of the things you dislike about \_\_\_\_\_?*” *What are some reasons for keeping things the way they are?*” “*What are some reasons for making a change?*”

After the client has finished talking about the pros and cons of implementing a behavior change, the practitioner can summarize the reasons for *not* changing, followed by the reasons for changing. They can also ask “*Where does \_\_\_\_\_ fit into the future?*” “*Where does this leave you now?*” or “*What’s your next step?*”

### **Ask-Provide-Ask**

This technique allows practitioners to give advice or information to clients in an MI-consistent manner. To use this technique, practitioners first ask clients what they already know about a topic, for example, “*Tell me what you already know about drinking*

*and driving.*” After the client answers, the practitioner asks permission to offer the client information or advice. The practitioner may say, *“I’d like to share some information with you. Would that be alright?”* If the client agrees, and the practitioner gives the client advice or information, and then says, *“What do you make of that?”* This approach allows clients to share what they know first, gives the practitioner a chance to correct misconceptions, and then restores the client’s autonomy.

### **MI-Inconsistent Behaviors**

Responses that are not consistent with the MI approach include the question-answer trap, the confrontation-denial trap, and the expert trap. The question-answer trap occurs when providers use too many closed questions or are asking questions from an assessment battery. Although it may be necessary to gather this information from the client, it is not considered to be consistent with the motivational interviewing approach because MI stresses an opportunity for the client to guide the session. The confrontation-denial trap occurs when providers label, confront, or force a diagnosis on a client. Examples include, *“You must not realize how important it is for you to change”* or *“I know that you really need to stop drinking.”* In the expert trap, the provider highlights his or her position of authority with the client by giving the client information in an attempt to convince him/her to change or by taking a stance that is authoritative.

### **Encouraging Change Talk with Evocative Questions**

Evocative questions are open questions that are intended to elicit change talk from the client and are consistent with the MI approach. Examples of evocative questions include:

*“If we could give you a magic pill so that alcohol would no longer affect you, how would things be different?”*

*“Where do you see yourself in five years? How does alcohol fit into that?”*

*“What was life like for you ten years ago before your drinking was causing you problems?”*

*“What would be your perfect treatment plan?”*

*“How would you like things to be different?”*

### **Making an Action Plan**

If a client is willing to consider implementing a behavior change, the practitioner may want to develop a treatment plan together. Sample questions to begin a discussion about the treatment plan include:

- **What are your ideas for making a change in \_\_\_\_\_?**
- **What could you do? What are your options? What’s your goal?**
- **What’s your vision? How would you like things to turn out?**
- **What could you do?**
- **How might you do it?**
- **How might you make it happen?**
- **Will you make the change on your own or with the support of others?**
- **In (a week, one day, two days, near future) where would you like to be? What do you think it would take to get you there? What will you need to be able to do this?**
- **What might need to be different in your life for you to make this change?**

Asking questions like these allow both the practitioner and the client to consider all of the available options. Next, the practitioner may offer the client information and advice after first asking the client’s permission to do so. Then the practitioner and client can negotiate a specific treatment plan together. It is important for the practitioner to consider possible barriers to the treatment plan and to identify possible outlets of support for the client. At the end of the discussion, the practitioner can summarize the treatment

plan that they created and ask whether it accurately reflects/represents what the client wants to do.

## *Suggested Motivational Interviewing Sessions*

### ***Session One***

#### **Goals:**

- Establish rapport with client
- Provide an overview of treatment
- Assess client's motivation for change
- Complete decisional balance exercise with client

#### **Session Content**

The first MI session often begins with the practitioner explaining what the client can expect to occur in the forthcoming sessions. The practitioner may also give an overview of the MI approach. For example, the practitioner might say,

“The purpose of our meetings is to discuss your feelings regarding your substance use. Let me begin by saying that I’m not going to try to change you or make you do anything you don’t feel comfortable with. I’m hoping that we can discuss your feelings about your substance use and talk about your current situation, but I won’t be forcing you to make any type of change. If you decide to change, that’s great, but that has to be your decision. How does that sound?”

You might then ask the client “*What brings you here today?*” or another type of evocative question. In the first session, as in subsequent sessions, it is imperative that the practitioner listens to the client and conveys a sense of understanding. The MI approach suggests that practitioners ask open questions and offer reflections to the client in order to move the session along. It is also important that the patient is not pressured to change in this session; rather it is an open discussion between the practitioner and client.

Throughout the session practitioners summarize the client’s thoughts. If the client is ambivalent about making a behavior change, the practitioner may want to explore the pros and cons of change with the client. The decisional balance exercise can be completed with clients in order to explore both sides of making a behavior change.

Key MI skills suggested in the first session are:

- Open questions
- Reflections
- Affirmations
- Summary statements

At the end of the first session, the practitioner should conclude the session by summarizing the client's thoughts throughout the session.

### Decisional Balance Exercise

<b>Good Things</b>	<b>Not So Good Things</b>

## Second session

**Goals:**

- Summarize key ideas from first session
- Enhance client's commitment for change
- Complete values card sort exercise
- Utilize evocative questions as a way of eliciting change talk from the client

**Session Content**

The second session should begin with the practitioner briefly summarizing the first session for the client. During this second session, the therapist should review the client's progress and renew the client's motivation. If the client committed to implementing a behavior change in the first session, the practitioner should have the client recommit to this behavior change in this session. If the client is ambivalent about implementing a behavior change, the practitioner should work to develop a discrepancy between the client's goals and values and their current behavior. This can be done with the values card sort exercise. It can be introduced to the client as a way for the practitioner to better understand the client. While completing this exercise, the practitioner should look for instances of change talk and highlight these statements through reflective listening. Another way to elicit change talk from the client is to ask evocative questions. The practitioner may ask these types of questions in an attempt to have the client verbalize benefits of change.

## Third Session

**Goals:**

- Summarize key ideas from second session
- Enhance client's commit for change
- Develop a treatment plan with the client

In the third session the practitioner should begin by summarizing the key ideas from the second session. In this session, the practitioner may want to develop a treatment plan with the client. A treatment plan should be initiated if the client has verbalized their intention to implement a behavior change. It is important not to force a client to make a treatment plan if they are ambivalent or unwilling to commit to a change since this will likely result in counter change talk, or client arguments against change. The practitioner can gauge the client's motivation to change by asking them how important it is for them



to change. This can be done using the Importance Rulers. The practitioner may say, “*On a scale of zero to ten, where zero is ‘not at all important’ and ten is ‘very important,’ how important is it for you to stop drinking?*” After the client responds, the practitioner can ask a follow up question, “*Why did you say \_\_\_ and not (lower number)?*” If the client feels it is important to make a behavior change, the practitioner can ask the client if he/she would like to develop a treatment plan. If the client is willing, the practitioner and client can work together to develop a treatment plan that suits the client’s needs. It may be necessary for the practitioner to give the client advice or permission. This can be done by first asking the client’s permission. After a treatment plan has been developed, the practitioner can assess the client’s self-efficacy regarding the treatment plan by using the Confidence Rulers.

Recommended Readings:

Miller, W. R. (2004). Motivational interviewing in service to health promotion. The Art of Health Promotion: Practical Information to Make Programs More Effective, January/February. American Journal of Health Promotion, 1-10.

Miller, W. R., & Rollnick, S. (1991). Motivational Interviewing: Preparing People to Change Addictive Behaviors. New York: Guilford Press.

Miller, W. R., & Rollnick, S. (2002). Motivational Interviewing (2<sup>nd</sup> Edition): Preparing People for Change. New York: Guilford Press.

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- Miller, W. R. (2004). Motivational interviewing in service to health promotion. The Art of Health Promotion: Practical Information to Make Programs More Effective, January/February. *American Journal of Health Promotion, 1*-10.
- Miller, W. R., & Rollnick, S. (1991). *Motivational Interviewing: Preparing People to Change Addictive Behaviors*. New York: Guilford Press.
- Miller, W. R., & Rollnick, S. (2002). *Motivational Interviewing (2<sup>nd</sup> Edition): Preparing People for Change*. New York: Guilford Press.
- Prochaska, J.O. & DiClemente, C.C. (1984) *The transtheoretical approach: Crossing traditional boundaries of therapy*. Homewood, IL Dow Jones, Irwin.
- Prochaska, J.O. & DiClemente, C.C. (1992) Stages of change in the modification of problem behavior. In Hersen, M., Eisler, R. & Miller, P.M. *Progress in behavior modification*. Vol. 28. Sycamore, IL. Sycamore Publishing.