

Testing Three Strategies for Implementing Motivational
Interviewing in Medical Inpatient Units:
See One, Do One, Order One

April 5, 2018

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Funded by NIDA R01 DA034243

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***THANK
YOU!***

Disclaimers

- I have no financial or other conflicts of interest to report related to this presentation.



Poll Question #1

- What is your primary role in VA?
 - student, trainee, or fellow
 - clinician
 - researcher
 - Administrator, manager or policy-maker
 - Other

Background



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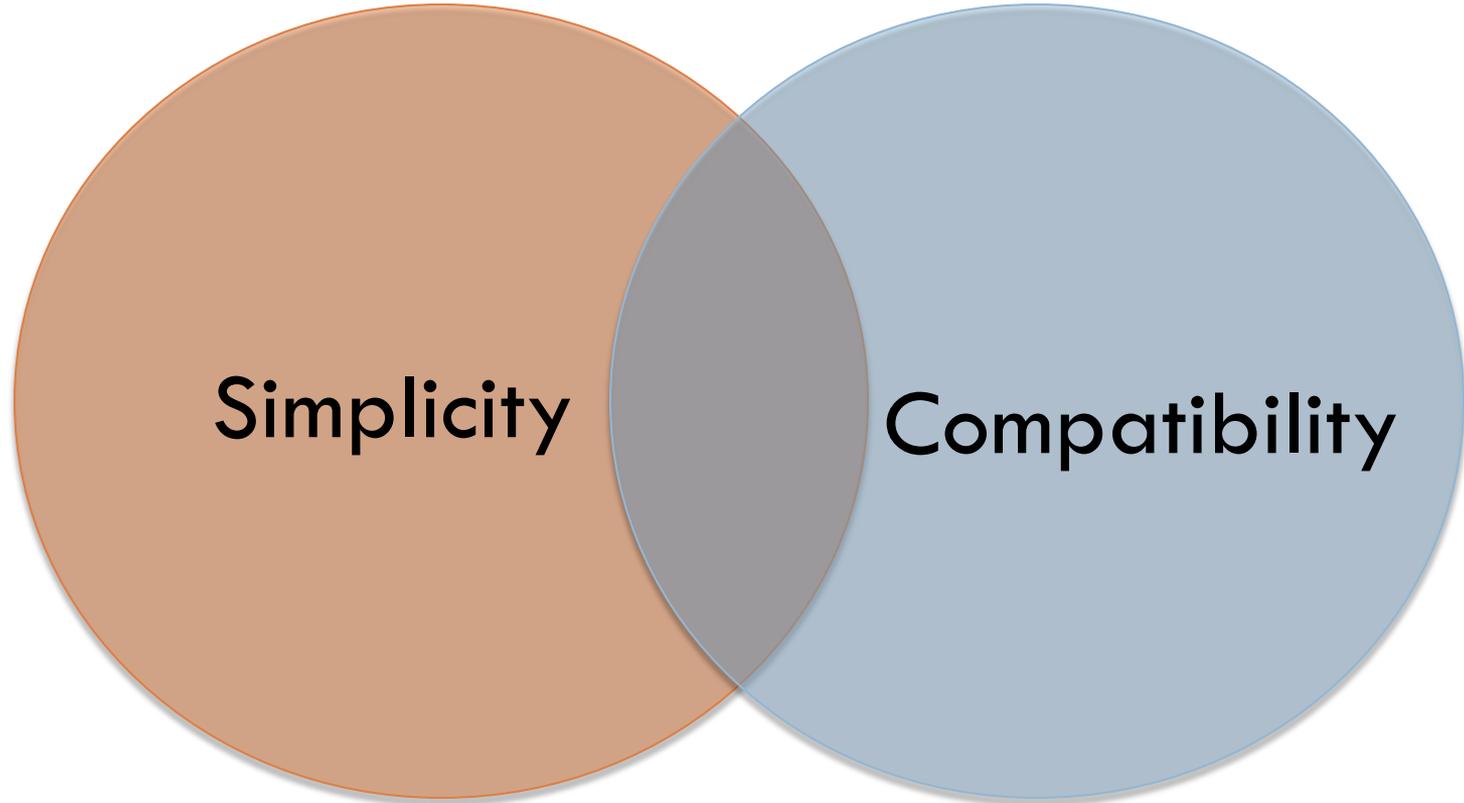
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- MI is a well-recognized, evidenced-based substance abuse practice in health care settings and can be taught to a broad range of health care clinicians
- Integration of substance use interventions into medical settings could improve health outcomes and reduce health care costs
- It is unclear which implementation strategies will lead to the efficient, proficient, and cost effective uptake of MI in general medical settings such as medical inpatient units

Implementation Framework



Three Implementation Strategies

- SEE ONE (workshop)
 - ▣ Training-as-usual
- DO ONE (workshop + bedside feedback/coaching)
 - ▣ *modus operandi* in medical education for centuries and relies upon a competency-based supervision training approach (compatible)
- ORDER ONE (workshop + CL Service)
 - ▣ Simple and compatible

Setting



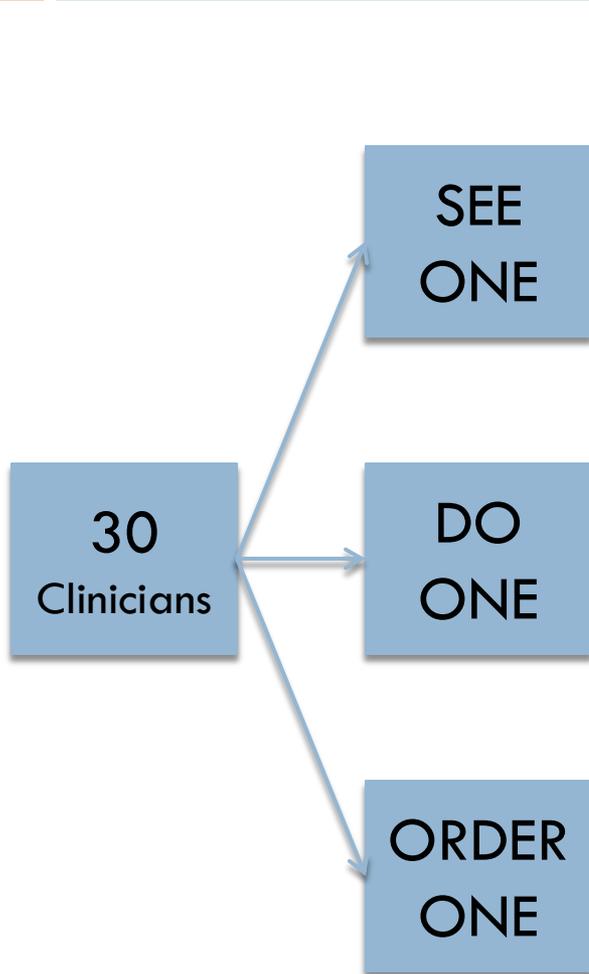
YALE NEW HAVEN HEALTH SYSTEM

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Hybrid Type 3 Effectiveness-Implementation Trial



Each clinician sees 40 patient participants consecutively assigned to them within the hospitalist service ($n = 1200$)

Assessments

Participant	Assessment Name	Baseline	Trial	Post-Trial
Clinician	Clinician Survey	x		
	Nursing Work Index – Revised	x		
	Workshop and Supervision Evaluation Forms		x	
	Beliefs about MI Survey	x		x
	Motivational Interviewing Questionnaire	x		x
	Clinician Rulers	x		x
	MI Uptake		x	
	Independent Tape Rating System (MI Integrity)		x	
	MISC 2.1 Client Language Coding System		x	
	Facilitators and Barriers Qualitative Interview	x		x
Patient	Confusion Assessment Method	x		
	NIAAA Guidelines/CAGE Questionnaire (Alc/Drugs)	x		
	Heaviness of Smoking Index	x		
	Timeline Follow-back	x		
	Mini-International Neuropsychiatric Inventory (Alc/Drugs)	x		
	Addiction Severity Index – Lite Composite Scores	x		
	Motivation for Change Scale	x		
	Patient Health Questionnaire (PHQ-9)	x		
	SF-12 Health Survey	x		
	Medical Record Review		x	

Primary Aims and Hypotheses

- **Primary Aim 1:** To assess the uptake of MI by clinicians on the medical units.
- **H1 a.** The percentage of MI interviews in the first 40 consecutive, study-eligible inpatients identified by the research team will be higher in the “DO ONE” than “SEE ONE” group;
- **H1 b.** The percentage of MI interviews in the first 40 consecutive, study-eligible inpatients identified by the research team will be higher in the “ORDER ONE” than “SEE ONE” group.

Primary Aims and Hypotheses

- **Primary Aim 2:** To assess the integrity of MI when clinicians use it on the medical units.
- **H2a.** DO ONE will result in more proficiently conducted MI sessions than SEE ONE;
- **H2b.** ORDER ONE will result in more proficiently conducted MI sessions than SEE ONE.

Secondary Outcomes

- In-session percent change talk as a proxy for patient outcomes
- Themes related to implementation facilitators and barriers identified through qualitative assessment.

Preparation

- Key informant interviews and focus groups with hospital administrators and clinicians before the trial and immediately after the MI workshop (clinicians only) to better understand substance misuse screening practices, interventions, and referrals and adjust our strategies

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- Efforts to get buy-in, establish functioning internal facilitators and champions, develop method for research staff to identify newly admitted patients with substance use problems, and have MI order placed in EMR

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- Clinicians were often sharing patient care; only first assigned clinician was given the opportunity to conduct MI

Clinician Eligibility Criteria

- Assignment to one of the general medical inpatient units during day-time shifts at York Street campus; intensive care units were excluded given the morbidity of patients.
- Agree to all trial procedures (randomization to training condition and of assigned patients, MI workshop, audio recording MI sessions, and completing assessments).
- Main exclusion criteria was if clinician only worked at night or weekends.
- All participants received CMEs and study payment

Clinicians

	Overall (N=38)		See One (N=13)		Do One (N=12)		Order One (N=13)	
	N	%	N	%	N	%	N	%
Marital Status								
Single	14	36.8	5	38.5	4	33.3	5	38.5
Cohabiting	1	2.6	1	7.7	0	0.0	0	0.0
Married	20	52.6	6	46.1	8	66.7	6	46.2
Divorced	3	7.9	1	7.7	0	0.0	2	15.4
Highest degree earned								
Associate's	4	10.5	1	7.7	2	16.7	1	7.7
Bachelor's	14	36.8	6	46.2	4	33.3	4	30.8
Master's	14	36.8	4	30.8	3	25.0	7	53.8
Doctorate	6	15.8	2	15.4	3	25.0	1	7.7
Type of clinician								
Physician's Assistant	14	36.8	5	38.5	4	33.3	5	38.5
Nurse	19	50.0	6	46.2	6	50.0	7	53.8
Doctor	5	13.2	2	15.4	2	16.7	1	7.7

Clinicians

	Overall		See One		Do One		Order One		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	p value
Age in years	35.3	11.0	39.2	13.2	34.4	8.9	32.2	10.1	0.268
Motivation to learn MI baseline									
Interested in using MI	8.1	1.7	8.2	1.6	7.8	2.2	8.2	1.2	0.829
Confident in ability to use MI	4.6	3.1	4.1	3.5	4.3	3.1	5.4	2.8	0.538
Likely to use MI	5.3	3.5	5.1	3.9	5.0	3.7	5.8	3.1	0.839
Mean score	6.0	2.3	5.8	2.5	5.7	2.6	6.5	2.0	0.680
Personal feelings about MI baseline									
Familiar with MI	3.5	0.9	3.8	0.8	3.7	0.8	3.0	0.8	0.027
Have used MI	4.0	0.8	4.1	0.7	4.3	0.8	3.6	1.0	0.140
Effectively implementing MI	4.0	0.7	4.2	0.7	4.3	0.5	3.7	0.8	0.082
Strong empirical support for MI	2.7	1.0	2.5	0.9	2.8	0.8	2.7	1.2	0.713
Mean Score	3.5	0.7	3.7	0.6	3.8	0.5	3.3	0.8	0.139
General feelings about MI baseline									
Colleagues use MI	3.1	1.0	3.1	1.1	3.1	1.0	3.2	0.9	0.977
Colleagues effectively use MI	3.2	0.9	3.0	1.1	3.3	0.9	3.2	0.8	0.755
MI would be effective	2.1	0.6	2.3	0.8	2.0	0.6	1.8	0.4	0.149
MI should be used	2.2	0.6	2.2	0.7	2.3	0.5	2.0	0.4	0.321
Mean score	2.6	0.6	2.7	0.8	2.7	0.5	2.6	0.4	0.884

Patient Eligibility Criteria

- 18 years of age or older.
- Acknowledge use of a substance within past 28 days and meets screening criteria consistent with substance (illicit drugs, licit drugs that are used in a non-medically indicated fashion, alcohol, or nicotine) use disorder.
- Have an expected length of stay of 3 days to provide sufficient time for clinicians/CL Service to conduct a MI.
- Are willing to consent to audio recording of interview.

Patients

	Overall		See One		Do One		Order One	
Race/ethnicity	n	%	n	%	n	%	n	%
White, non Latino	669	57.0	193	57.4	225	59.4	251	54.8
Black, non Latino	353	30.1	98	29.2	106	28.0	149	32.5
Latino	139	11.9	42	12.5	45	11.9	52	11.4
Other, non Latino	12	1.0	3	0.9	3	0.8	6	1.3
Gender								
Male	639	54.5	184	54.8	197	52.0	258	56.3
Female	534	45.5	152	45.2	182	48.0	200	43.7
Primary Drug								
<u>Alcohol</u>	475	40.6	137	40.9	159	42.1	179	39.1
<u>Nicotine</u>	462	39.5	137	40.9	147	38.9	178	38.9
Opioids	86	7.3	24	7.2	29	7.7	33	7.2
Cannabis	64	5.5	14	4.2	20	5.3	30	6.6
Cocaine	49	4.2	16	4.8	10	2.7	23	5.0
Sedatives	30	2.6	7	2.1	11	2.9	12	2.6
Other	5	0.4	0	0.0	2	0.5	3	0.7

Patients

	Overall		See One		Do One		Order One	
	n	%	n	%	n	%	n	%
Age in years	46.7	14.3	46.8	14.0	46.3	14.5	46.9	14.5
Days with provider	1.9	1.4	1.8	1.5	1.8	1.0	2.1	1.5
Length of stay in days	6.9	7.2	6.9	8.3	6.9	6.7	6.9	6.7
Motivation for change score								
Important to quit	7.3	3.5	7.6	3.3	7.1	3.6	7.3	3.4
Could quit	6.8	3.2	6.7	3.1	7.0	3.2	6.8	3.3
Will try to quit	6.9	3.6	7.1	3.5	6.9	3.7	6.9	3.6
Average of 3 items	7.0	2.8	7.1	2.7	7.0	2.7	7.0	2.8

Patients

	Overall		See One		Do One		Order One	
Mental illness	363	30.9	101	30.1	115	30.3	147	32.1
Undefined symptoms	337	28.7	91	27.1	116	30.6	130	28.4
Circulatory system	311	26.5	80	23.8	94	24.8	137	29.9
Respiratory system	281	24.0	83	24.7	91	24.0	107	23.4
Digestive system	240	20.5	58	17.3	76	20.1	106	23.1
Endocrine, nutritional, metabolic diseases/ immunity disorders	226	19.3	57	17.0	73	19.3	96	21.0
Infectious and parasitic	157	13.4	35	10.4	53	14.0	69	15.1
Genitourinary system	148	12.6	39	11.6	44	11.6	65	14.2
Musculoskeletal system	122	10.4	30	8.9	38	10.0	54	11.8
Skin/subcutaneous tissue	119	10.1	31	9.2	34	9.0	54	11.8
Nervous system	117	10.0	31	9.2	37	9.8	49	10.7
Injury and poisoning	98	8.4	30	8.9	32	8.4	36	7.9
Blood/blood forming organs	92	7.8	23	6.8	31	8.2	38	8.3
Neoplasms	24	2.0	7	2.1	8	2.1	9	2.0
Residual codes	15	1.3	3	0.9	4	1.1	8	1.7
Pregnancy complications	8	0.7	2	0.6	3	0.8	3	0.7
Congenital anomalies	2	0.2	0	0.0	0	0.0	2	0.4

Poll Question #2

- What percentage of study-eligible inpatients in the See One condition received a MI?
 - 0-10%
 - 11-30%
 - 31-50%
 - 50-75%
 - >75%

Poll Question #3

- What percentage of study-eligible inpatients in the Do One condition received a MI?
 - 0-10%
 - 11-30%
 - 31-50%
 - 50-75%
 - >75%

Poll Question #4

- What percentage of study-eligible inpatients in the Order One condition received a MI?
 - 0-10%
 - 11-30%
 - 31-50%
 - 50-75%
 - >75%

MI Uptake



- See One – 3 sessions recorded by 2/13 clinicians
- Do One – 11 sessions recorded by 4/12 clinicians
- Order One – 100 sessions ordered/recorded by 13/13 clinicians/CL MI specialists
 - ▣ Clinicians ordered all sessions; none conducted MI on their own
 - ▣ Clinicians placed an order for 116 MIs in total; CL was able to complete 86% of these cases

ITRS Adherence & Competence Items

10 MI Consistent Items

- ❑ MI Spirit
- ❑ Open Questions
- ❑ Reflections
- ❑ Affirmations
- ❑ Fostering Collaboration
- ❑ Motivation to Change
- ❑ Developing Discrepancies
- ❑ Pros, Cons, and Ambivalence
- ❑ Client-centered Discussion/Feedback
- ❑ Change Planning

5 MI Inconsistent Items

- Unsolicited Advice
- Direct Confrontation
- Asserting Authority
- Emphasis on Abstinence
- Powerlessness/Loss of Control

Method: 1st 30 minutes and last 15 minutes of each MI intake rated.

Scoring

Adherence: 1=not at all, to 7=extensively

Competence: 1=very poor, to 7=excellent

Martino, S., Ball, S.A., Nich, C., Frankforter, T.L., & Carroll, K.M. (2008). Community program therapist adherence and competence in motivational enhancement therapy. *Drug and Alcohol Dependence*, 96, 37-48. PMC2692429

ITRS Adherence & Competence Items

10 MI Consistent Items

Fundamental MI Strategies

Advanced MI Strategies

5 MI Inconsistent Items

MI Inconsistent Strategies

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MI Adherence and Competence

	See One/Do One (N=14)			Order One (N=100)			U	p
	M=15.1 mins (sd =8.4)			M=24.5 mins (sd=8.0)				
	median	25%	75%	median	25%	75%		
Fundamental Adherence	4.30	3.80	4.80	5.20	4.80	5.60	393.5	<0.001
Fundamental Competence	4.00	4.00	4.40	4.60	4.40	5.00	373.0	<0.001
Advanced Adherence	4.30	3.60	4.60	4.80	4.40	5.20	515.0	0.012
Advanced Competence	4.00	4.00	4.60	4.40	4.20	4.78	547.5	0.025
MI Inconsistent Adherence	1.00	1.00	1.80	1.00	1.00	1.10	962.0	0.084

To test differences in adherence and competence scores, the non-parametric Wilcoxon-Mann-Whitney test was used, given the unequal sizes between groups.

MI Performance Thresholds

# of both adherence and competence items with score ≥ 4	See One/Do One (N=14)		Order One (N=100)		Fisher's exact p-value
	N	%	N	%	
≥ 5	13	93	100	100	0.123
≥ 6	11	79	100	100	0.002
≥ 7	9	64	90	90	0.020
≥ 8	6	43	68	68	0.078

To test differences between groups in the proportion of sessions meeting the threshold criterion, Fisher's exact test was used.

Client Language Rating

	Order One			See One/Do One			Mann Whitney U test	
	Median	Q1	Q3	Median	Q1	Q3	U value	p value
Change Talk %	80.6	66.4	89.3	78.3	69.2	88.5	788.5	0.9214

Qualitative Themes (Post-Trial)

- Training/Sustainability of MI
 - ▣ a wider dissemination of MI training would help with implementation (e.g., if all staff on a unit were trained)
 - ▣ a forum where they could discuss MI sessions with peers would be helpful
 - ▣ booster sessions would be helpful

Qualitative Themes (Post-Trial)

- Policy/Structural Changes to facilitate implementation and sustaining of MI
 - ▣ Reduce caseloads
 - ▣ Train a cohort (entire floor) so colleagues can cover while a MI session is in progress
 - ▣ Privacy issue needs to be addressed as a shared room is not the best place to conduct a MI session AND because there are constant interruptions with people in and out of the rooms
 - ▣ Bill for MI so that it is seen as a “valuable” service
 - ▣ Add screening for medication misuse to EPIC

Qualitative Themes (Post-Trial)

- Clinicians value MI
 - Clinicians reported implementing MI much more often than they recorded an interview. They felt recording was a burden
 - Clinicians said they used elements of MI in their work more broadly than only for a full interview or when the target is substance misuse; they claimed to apply MI to other health-related behavior change issues
 - Clinicians reported they were happy to have added MI to their skill sets

Protocol Paper

- Martino, S., Zimbrea, P., Forray, A., Kaufman, J., Desan, P., Olmstead, T.A., Gueorguieva, R., Howell, H., McCaherty, A., & Yonkers, K. A. (2015). See One, Do One, Order One: A Study Protocol for Testing Three Strategies for Implementing Motivational Interviewing on Medical Inpatient Units. *Implementation Science*, 10, 138. PMID: PMC4589113

Next Steps

- Writing up main outcome paper
- Cost effectiveness analyses
- Piloting an adaptation of Order One at VA Connecticut in which inpatient nurses place a consult to clinical health psychology to provide a brief MI-based intervention to patients who screen positive on the AUDIT-C. This is a performance measure for all VAs.

Questions or Comments



Contact Information

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