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FEATURE ARTICLE

Engaging clinicians in motivational interviewing: Comparing online with face-to-face post-training consolidation

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ABSTRACT: *Motivational interviewing (MI) is an evidence-based intervention that has been widely recommended in clinical settings where consumer behaviour change is a goal of treatment. Training clinicians in MI, as with other translational endeavours, does not always result in changes to clinical practice. The present study compares two post-training approaches to consolidate MI skills following a training workshop. We randomly assigned 63 clinicians working in mental health or drug and alcohol services to receive either face-to-face group consolidation sessions or to access a series of online consolidation resources. We compared clinician engagement and devised a new instrument to measure clinician outcomes. Participants who completed follow-up consolidation retained knowledge, attitudes, and practices, regardless of consolidation method. Face-to-face consolidation sessions were superior to online materials in engaging participants (mean sessions attended was 2.1 (maximum possible = 3) compared to a mean of 1.38 sessions, respectively* ($t(61) = -2.73$, $P = 0.008$, $d = 0.72$, 95% confidence interval: 0.19–1.25). Engagement to the completion of consolidation sessions was also influenced by previous training in MI. For every additional hour of previous MI training, there was a 10% increase in the odds that the participant would complete the final consolidation session.

KEY WORDS: *evaluation, face-to-face consolidation, motivational interviewing, online, training.*

INTRODUCTION

Up to 70% of clients with mental health issues have a co-occurring substance-related issue. Australians living with psychosis have twice the risk of developing an alcohol use disorder in their lifetime and four times the risk of developing an illicit substance use disorder compared to the rest of the community (Morgan *et al*. 2012). More than one-third of people in Australia who experience a substance use disorder also suffer from a co-occurring mood or anxiety disorder (Slade *et al*. 2009). It is important for mental health and drug and alcohol services to develop and maintain good working relationships in order to meet the needs of consumers with comorbid disorders. Mental health and drug and alcohol services in some areas have struggled to form strong working alliances due to factors, such as service provision delineation boundaries and clinicians' perceptions of their roles (NSW Health 2009). In Hunter New England Health (HNEH; Newcastle, NSW, Australia) Mental Health and Drug and Alcohol Services have worked closely together for many years, including a number of cross-service training initiatives, sharing online resources and collaborative meetings. The existence of a specialist comorbidity service within mental health services has assisted the development of a collaborative partnership between mental health and drug and alcohol services in the area.

The HNEH Mental Health and Drug and Alcohol Clinical Network identified staff training in the evidence-

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based practice of motivational interviewing (MI) (Miller & Rollnick 2013) as a clinical training need that was equally relevant across drug and alcohol and mental health services, and approval was obtained to deliver the two training workshops described in the present study. To enhance networking opportunities, each workshop had a mixture of clinicians from drug and alcohol and mental health services.

It is well established that attendance at training workshops does not typically engender widespread or enduring changes in clinical practice (Forsberg *et al*. 2010; Schwalbe *et al*. 2014). Training mental health professionals in MI has been explored using a variety of training techniques, study designs, and outcome measures with no clear agreement on the approach best suited to training (Barwick *et al*. 2012; Dray *et al*. 2014). Incorporating post-training enhancement methods (coaching) has been shown to improve MI training outcomes, specifically in MI spirit and overall competence (Bennett *et al*. 2007). A primary component of our collaborative MI training programme was the inclusion of post-training consolidation sessions. The aim of the sessions was to improve the retention of knowledge and skills gained in the workshops over time, thereby increasing the likelihood of the translation of these skills into clinical practice.

The aim of the evaluation component of this project was to determine whether face-to-face consolidation sessions are superior to that of online consolidation materials at engaging participants and enhancing the retention of knowledge gained in the MI workshops.

MATERIALS AND METHODS

The design for this quality evaluation was a pretest and post-test matched design, with random allocation to one of two follow-up conditions. All participants received identical baseline training via attendance at a 2-day workshop before being randomly assigned to either the face-to-face or online consolidation sessions, which are described in detail. The HNEH Research Ethics Committee was consulted, and approval was obtained to conduct this evaluation as a quality improvement exercise obviating the need for approval from the ethics committee.

Workshops

Two MI workshops were delivered, each comprising of two consecutive days of face-to-face training. The workshops were delivered by an external, recognized expert trainer, with input from a clinical nurse consultant (CNC) from mental health services and a CNC from drug and alcohol services. The curriculum of each workshop (workshop 1 and workshop 2) was identical.

Training took place in May (workshop 1) and August (workshop 2) 2013. An offsite training facility was chosen in order to limit work distractions. Each workshop comprised 14 hours of face-to-face training. A maximum enrolment for each workshop was set at 35 to promote discussion, personal involvement in workshop activities, and encourage networking opportunities. Training content was based on recently-revised MI material (Miller & Rollnick 2013), and the workshop delivery style was a combination of didactic material and interactive discussion.

Recruitment

All clinicians working in HNEH mental health services (approximately 1100) and drug and alcohol services (approximately 160) were eligible to enrol in a 2-day workshop with follow-up consolidation sessions. Invitations in the form of a flyer were distributed by email utilizing existing internal email groups of all mental health service and all drug and alcohol service employees. The flyer invited clinicians to attend a free 2 day workshop in MI. Attendance at either face-to-face post-training consolidation sessions or accessing online consolidation materials was stipulated as part of the training programme. Attendance at the workshops was voluntary. Clinicians' attendance at workshops required their managers' approval and endorsement for their involvement in either face-to-face or online consolidation session formats.

Anonymity

Participant anonymity was ensured by requesting participants to use a personal code (street number, month of birth, and mother's middle initial) to identify their responses at three time-points: pre-workshop (T1), immediately post-workshop (T2), and after final consolidation session (T3). Allocation to consolidation session type was recorded in the T3 data collection. The advantage of utilizing this process was that it facilitated the analysis of paired data for individuals, without requiring the recording of personal identifying details. It did, however, impact on our ability to map baseline data, including demographic information for those participants who failed to complete the T3 data collection 6 weeks after the initial training.

Randomization

Randomization of all workshop participants to one of the two post-training consolidation formats occurred at the completion of each workshop. The randomization process was facilitated by the two workshop co-facilitators, and involved all workshop participants' names being placed into a container and then blindly selected one at a time by an independent group participant. Each selected name was then

allocated to alternate consolidation conditions. Because of the significant geographical distances of the HNEH local health district, it was predetermined that participants who lived and worked in the New England area (>250 km away), and who were not able to travel to attend face-to-face consolidation sessions, would be reallocated to the online group. This occurred in three instances.

Consolidation sessions

Participants allocated to face-to-face consolidation sessions were scheduled to attend three 90 min sessions at fortnightly intervals commencing 2 weeks after the completion of the initial workshops. Email reminders were sent to participants several days before all scheduled face-to-face consolidation sessions. Face-to-face sessions were facilitated by the two CNC who were the co-facilitators of the workshops. The structure of the sessions was based on a coaching style of skill development that included participants offering examples of recent clinical practice where they had used MI strategies, provision of positive feedback, building on feedback through suggestions of additional MI strategies that might have been appropriate to use, and utilization of the considerable knowledge and experience of group members.

Participants allocated to the online material group were provided with materials loaded on to an HNEH intranet collaborative space (Moodle platform). Participants were asked to access three different sets of online materials at two weekly intervals. Participants were required to access the session materials within a set timeframe of 7 days. Email reminders were sent to participants several days before each window of access. Participants' access was verified via a unique login. The online learning materials comprised a series of MI video lectures, written material, and Internet resources. It was anticipated that each online session would be of 90 min duration.

Incentives were offered to participants who completed the requirements of each follow-up type. This incentive was the chance to win one of four copies of Miller and Rollnick's (2013) text on MI (the text on which the training was based).

Outcome measures

Engagement in follow-up consolidation sessions was recorded by a roll in the face-to-face sessions, and by monitoring whether clinicians engaged in any access of the specified online materials via unique log-in records. Total numbers of sessions were tallied for each participant ($n = 0$–3). Participants who did not complete a T3 outcome measure were classified as lost to follow up.

Motivational Interviewing Knowledge, Confidence, Attitudes and Practices scale

A pretest–post-test outcome measurement instrument, the Motivational Interviewing Knowledge, Confidence, Attitudes, and Practices (MIKCAP) scale was developed for this study by the three training facilitators, based on 20 years of experience in the practice and training of MI. The instrument included demographic items; items measuring constructs, including confidence in using general counselling skills; and 86 MI-related items measuring confidence in using MI strategies, confidence in assessing stage of change, knowledge of stage of change, knowledge of the principles, processes, strategies, and spirit of MI, and elements assessing participants' attitudes towards and practice in the use of MI. Sample items from the MIKCAP scale are provided in Appendix I.

The workshop facilitators/researchers distributed a pen and paper version of the MIKCAP scale to all participants on commencement of the MI workshop (T1). This process was replicated at the end of the 2-day workshop (T2). A third copy of the MIKCAP scale (T3) was distributed to all participants following completion of the consolidation sessions. Those present at the final face-to-face consolidation session were asked to complete a pen and paper version of the MIKCAP scale. Those who were absent from the final face-to-face consolidation session, as well as those enrolled in the online consolidation format, were sent a copy of the MIKCAP scale via email, and asked to print and post the completed questionnaire to the researchers via the health service's internal mail system.

Data analysis

The readability of the MIKCAP scale was analysed utilizing the Flesch Reading Ease test (Flesch 1948). All MIKCAP scale responses were coded into SPSS 22.0 (IBM 2013) for analysis. Descriptive statistics were used to describe the characteristics of participants.

An analysis of the psychometric properties of the MIKCAP scale was undertaken. A coefficient alpha measure of homogeneity was conducted on each construct within the MIKCAP scale (knowledge, confidence, attitudes, and practices). A coefficient alpha of 0.7 was considered acceptable (Streiner & Norman 2008).

Test–retest reliability of each construct within the instrument from T1 to T2 was conducted utilizing a two-way mixed-effects model. Intraclass correlation coefficients (ICC) were calculated. These were interpreted according to criteria discussed by Streiner and Norman (2008), whereby a coefficient of >0.6 is excellent, 0.41–0.60 is fair, and <0.4 is poor.

For the present study, the majority of analyses involved comparisons between T2 and T3, as our research question related to determining differences in effect between the two consolidation session types. Univariate analyses were conducted to assess associations, including Student's *t*-tests, analysis of variance, and logistic regression.

RESULTS

Participant characteristics

Sixty-three clinicians (mental health clinicians: $n = 43$, drug and alcohol staff: $n = 16$, other: $n = 4$) were enrolled in the training programme. Attendance was determined on a first-to-register basis. A description of the participants in the training programme is provided in Table 1.

The randomization results appear in Table 2. During randomization, 75% of drug and alcohol staff were assigned to the online consolidation format. The four participants classified as 'other' were university employees undertaking a smoking-cessation intervention with mental health services at the time.

The study design and highlights of the relative retention rates for both of the consolidation formats are shown in Figure 1.

Psychometric properties of the MIKCAP scale

The evaluation of the readability of the MIKCAP scale was undertaken by interpretation of the Flesch Reading Ease test score. The text components of the MIKCAP scale produced a test score of 71.3, falling between categories of 'standard' and 'fairly easy' (DuBay 2004), indicating it was suitable for the intended purpose.

The 86-item MIKCAP scale demonstrated adequate internal consistency. The Cronbach's alpha statistic for the overall scale was 0.90. Cronbach's alphas for subscales were as follows: knowledge (65 items) 0.83, confidence (10 items) 0.92, and attitudes and practices (11 items) 0.73. The test–retest reliability of the MIKCAP scale was measured using ICC comparing T1 scores with T2 scores. Knowledge scores, which all consisted of binary data, were totalled and compared. The ICC for total correlation was 0.652 (95% confidence interval (CI): 0.425–0.790).

The attitudes and practices scale was comprised of six Likert scales and five binary items. The binary items were totalled. The mean scores were calculated for the combined Likert scales and binary item totals. These were compared for T1 and T2. The ICC for total correlation was 0.554 (95% CI: 0.263–0.730). The confidence scale was comprised of Likert scales for which the mean scores were

TABLE 1: *Participant characteristics*

		Workshop 1	Workshop 2	Overall
		Mean (SD)	Mean (SD)	Mean (SD)
Years worked in alcohol and drugs		1.7 (3.3)	3.8 (7.3)	2.8 (5.9)
Years worked in mental health		5.1 (5)	8.8 (9.2)	7.1 (7.7)
Previous MI training (hours)		12.1 (21.2)	6.7 (9.8)	9.2 (16.2)
Patients used MI strategies within past 2 weeks		5.0 (10)	10.0 (16)	7.6 (14)
		Count (%)	Count (%)	Count (%)
Current employer	Mental health	19 (65.5)	24 (70.6)	43 (68.3)
	Drug and alcohol	8 (27.6)	8 (23.5)	16 (25.4)
	Other	2 (6.9)	2 (5.9)	4 (6.3)
Sex	Female	21 (72.4)	27 (79.4)	48 (76.2)
	Male	8 (27.6)	7 (20.6)	15 (23.8)
Discipline	Nursing	11 (37.9)	13 (38.2)	24 (38.1)
	Psychology	8 (27.6)	8 (23.5)	16 (25.4)
	Social Work	2 (6.9)	4 (11.8)	6 (9.5)
	Medicine	2 (6.9)	1 (2.9)	3 (4.8)
	Occupational therapy	5 (17.2)	5 (14.7)	10 (15.9)
	Other	1 (3.4)	3 (8.8)	4 (6.3)
Highest qualification	Certificate	4 (13.8)	1 (2.9)	5 (7.9)
	Diploma	2 (6.9)	6 (17.6)	8 (12.7)
	Degree	12 (41.4)	14 (41.2)	26 (41.3)
	Graduate diploma	2 (6.9)	6 (17.6)	8 (12.7)
	Master	5 (17.2)	5 (14.7)	10 (15.9)
	PhD	2 (6.9)	2 (5.9)	4 (6.3)

No statistically-significant differences were identified between participant characteristics in workshops 1 and 2 using χ^2-test, Fisher's exact test, and *t*-test, as appropriate. Percentages relate to the mix of participants within each workshop. MI, motivational interviewing; SD, standard deviation.

TABLE 2: *Randomization to consolidation condition*

		Face to face	Online	Total
		n (%)	*n* (%)	*n*
Sex				
	Female	23 (47.9)	25 (52.1)	48
	Male	6 (40.0)	9 (60.0)	15
Service				
	Mental health	24 (55.8)	19 (44.2)	43
	Drug and alcohol	4 (25.0)	12 (75.0)	16
	Other	1 (25)	3 (75)	4

Percentages relate to dispersion across consolidation formats.

compared for T1 and T2. The ICC for total correlation was 0.852 (95% CI: 0.756–0.911).

Workshop learning results

As can be expected from any successful training, the workshops produced significant improvements in participants' knowledge and attitudes. Scores relating to confidence on the MIKCAP scale also improved. When comparing baseline (T1) to end-of-workshop training (T2), MIKCAP scale scores improved significantly on each of the subscales (Table 3).

Preservation of knowledge, attitudes, practices, and confidence, T2–T3

The changes in MIKCAP scale mean scores between completion of the workshop (T2) and completion of the consolidation sessions (T3) are also illustrated in Table 3.

Consolidation format differences, T2 to T3

Demonstrating the study's hypothesis that face-to-face consolidation would foster greater improvements obtained during the training programme was complicated by the hypothesized poor engagement in the online consolidation group.

The mean overall MIKCAP scale scores for the face-to-face group showed a small improvement of 1.24, while the online group mean score dropped by 1.09 over the same period. This difference would not be clinically significant, nor did it reach statistical significance ($t(32) = -0.737$, $P = 0.467$). Details of MIKCAP scale score differences between consolidation formats are provided in Table 4.

Participant engagement with consolidation sessions

In order to test the hypotheses that face-to-face consolidation sessions would better engage participants and enhance the retention of knowledge gained in the MI training workshops than online consolidation materials, we first compared the retention rates between the face-to-face groups and the online groups. The mean number of follow-up sessions attended by people enrolled in the face-to-face sessions was 2.1 (maximum possible = 3) compared to a mean of 1.38 sessions for people enrolled in online sessions ($t(61) = -2.73$, $P = .008$, d = 0.72, 95% CI: 0.19, 1.25) (Fig. 2).

Differences in engagement related to consolidation format and between workshops

The number of sessions attended by participants for both online and face-to-face consolidation formats is shown in

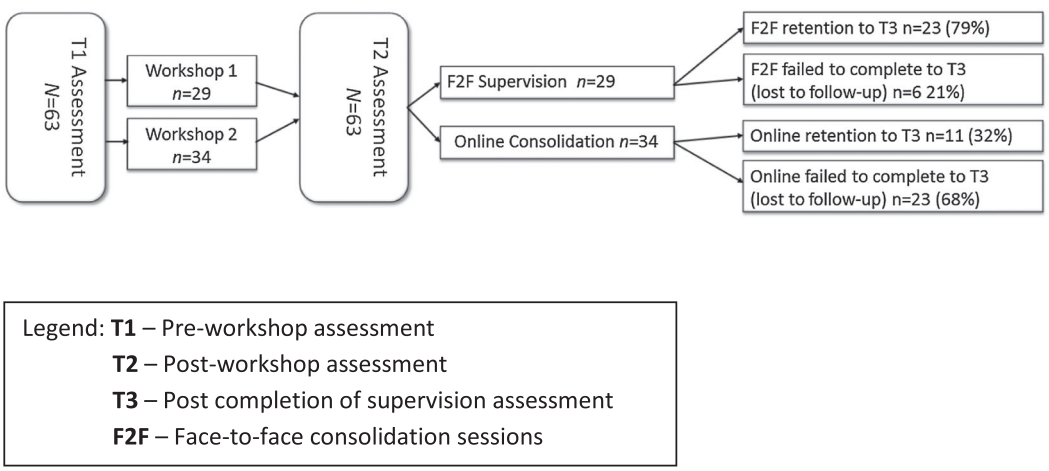

FIG. 1: *Study design and retention rates. T1, pre-workshop assessment; T2, post-workshop assessment; T3, post-completion of supervision assessment.*

TABLE 3: *Combined group differences across three time points*

	Paired differences						
			95% CI of the difference				
	Mean (SD)	Mean difference (SD)	Lower	Upper	*t*	d.f.	Significance (two tailed)
Confidence T1	21.38 (6.56)	4.59 (4.40)	5.70	3.48	8.27	62	0.000
Confidence T2	25.97 (5.05)						
Confidence T2	26.82	1.68 (3.70)	2.97	0.39	2.64	33	0.012
Confidence T3	28.50 (5.19)						
Knowledge T1	40.34 (8.50)	13.04 (7.01)	14.81	11.27	14.76	62	0.000
Knowledge T2	53.38 (4.80)						
Knowledge T2	54.84	–1.41 (6.78)	0.95	3.78	–1.21	33	0.233
Knowledge T3	53.43 (7.82)						
Attitudes and practices T1	20.94 (4.39)	2.22 (4.55)	3.37	1.08	3.88	62	0.000
Attitudes and practices T2	23.16 (3.29)						
Attitudes and practices T2	23.82	0.22 (2.29)	1.02	–0.58	0.56	33	0.579
Attitudes and practices T3	24.04 (2.70)						
Total score T1	82.66 (15.20)	19.85 (10.02)	22.37	17.32	15.72	62	0.000
Total score T2	102.51 (9.85)						
Total score T2	105.49	0.49 (8.57)	3.48	–2.50	0.33	33	0.743
Total score T3	105.97 (9.99)						

Mean scores for time points vary due to differences in the number of valid pairs (loss to follow up). CI, confidence interval; SD, standard deviation; T1, pre-workshop; T2, immediately post-workshop; T3, after final consolidation session.

Figure 3. The trend of lower engagement in online consolidation sessions was evident through both workshops (workshop 1 mean attendance at online sessions was 1.75 compared to 2.54 face-to-face sessions ($t(27) = -2.142$, $P = 0.041$, 95% CI: −1.544, −0.033); in workshop 2, the mean attendance at online sessions was 1.06 compared to 1.75 face-to-face sessions ($t(32) = -2.023$, $P = 0.052$, 95% CI:−1.394, 0.005). There was also a significantly lower engagement to either consolidation format for people attending workshop 2 than for workshop 1 ($t(61) = -2.73$, $P = 0.008$, d = 0.72, 95% CI: 0.19, 1.25). Note that this *t* score for differences in engagement by workshop allocation is coincidentally identical to the *t* scores for differences in engagement by consolidation format illustrated in Figure 2.

The actual counts of attendances at face-to-face sessions and recorded access of online materials are displayed in Figure 4. Note that the x-axis in Figure 4 indicates the total number of sessions completed by participants.

Loss to follow up

Baseline demographic data for participants was able to be matched to outcome data for all participants who completed T3 data-collection information. However, individuals who failed to complete the T3 assessment at the end of the third consolidation session were regarded as lost to follow up; that is, no T3 data were available for non-completers to be included in the outcome analysis, including matching to baseline demographics.

Previous MI training

While people were randomly allocated to consolidation format, by chance there was a difference in previous level of

TABLE 4: *Mean preservation of knowledge, confidence, attitudes, and practice scores from time point 2 to time point 3*

	Face to face ($n = 23$)	Online ($n = 11$)		
	Mean (SD)	Mean (SD)	F	*P*-value
Knowledge	−0.89 (4.48)	−2.50 (10.27)	0.411	0.526
Confidence	1.96 (3.52)	1.09 (4.16)	0.400	0.532
Attitudes and practices	0.17 (2.25)	0.32 (2.49)	0.029	0.867
Overall	1.24 (6.33)	−1.09 (12.25)	0.543	0.467

SD, standard deviation.

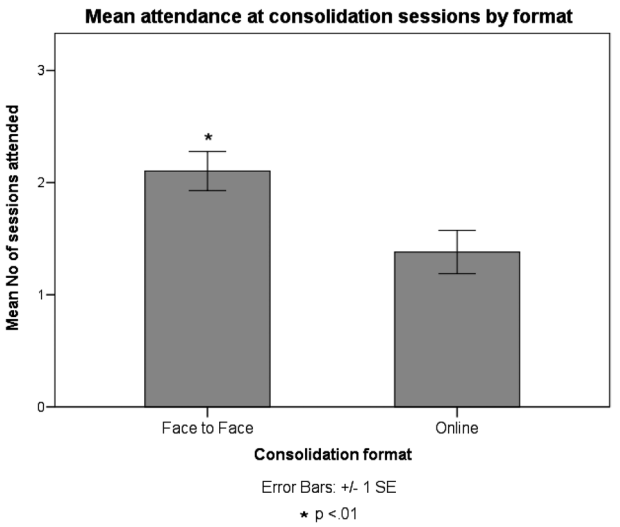

FIG. 2: *Mean overall attendance at consolidation sessions by format.* °P < *0.01. +/–, 1 standard error.*

MI training between the two consolidation types. The mean hours of previous MI training for those who completed face-to-face consolidation was 15.05 (standard deviation (SD): 21.29), while the mean hours of previous MI training for those who completed online consolidation was 10.80 (SD: 18.41). The mean number of hours of previous MI training for those who failed to complete MI consolidation in either format was 3.62 (SD: 5.76). The differences between people who completed either consolidation format and non-completers was statistically significant ($F(2, 55) = 3.261$, $P = 0.046$). Tukey multiple comparisons performed at the 0.05 significance level found that the mean previous training for the face-to-face completers was significantly higher than that for the non-completers.

Logistic regression analysis confirmed that participants who reported more hours of previous training in MI were more likely to complete consolidation sessions to T3 across both consolidation formats. The odds ratio of a clinician completing consolidation sessions to T3 was 1.10 (Table 5). This implies that for every additional hour of previous MI training, there was a 10% increase in the odds that the participant would complete the T3 consolidation.

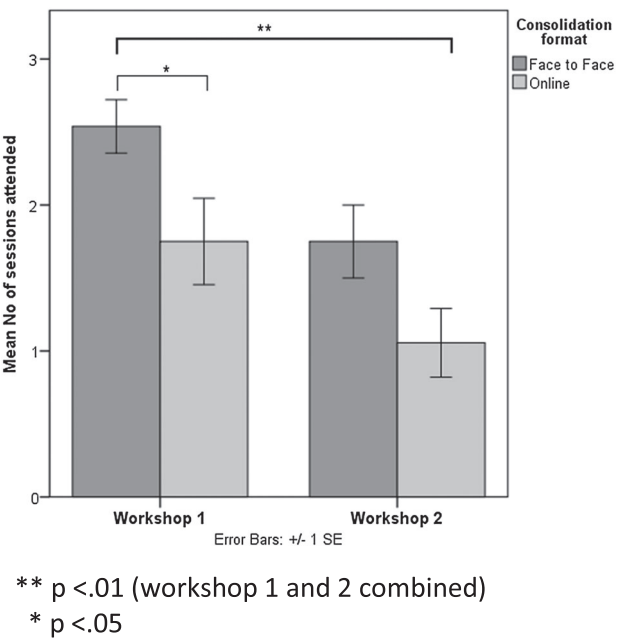

FIG. 3: *Mean attendance at consolidation sessions by workshop and consolidation format.* °P < *0.05,* °°P < *0.01 (workshops 1 and 2 combined). +/–, 1 standard error.*

DISCUSSION

Training in MI was identified as a priority by HNEH mental health services and drug and alcohol services, because MI is an evidence-based practice that has clinical applicability in both drug and alcohol (Hettema *et al*. 2005) and mental health settings (Baker *et al*. 2012). Obtaining the greatest benefit from any staff training should be a primary goal of clinical staff, educators, and managers alike. Improving client outcomes, enhancing clinical practices, expanding the skill mix of staff, and maximizing the use of limited organizational resources are all objectives of good staff training. Consolidation sessions following training were considered an important element for our MI training in order to optimize any improvement in clinical practice. We also felt it important to attempt to determine if face-to-face consolidation sessions were superior to the provision of online consolidation materials.

The two training workshops were well accepted by staff of both mental health and drug and alcohol services. Participating staff were positive about the prospect of participating in consolidation sessions and the randomization into one of the two follow-up formats. According to results from our MIKCAP scale outcome measure, we achieved acceptable learning outcomes from the training workshops, with MI knowledge, confidence, attitudes, and practices all improving. The greatest improvement of the domains was found in confidence in using MI.

Artefacts in the training workshop environment, such as the setting, the participants, facilitator, clinical environment, organizational attitudes, and participants' level of previous training might impact on engagement rates into follow-up sessions. This was demonstrated by differences in engagement following each workshop. The characteristics for attendees at workshops 1 and 2 were not significantly different, and the facilitators took no part in

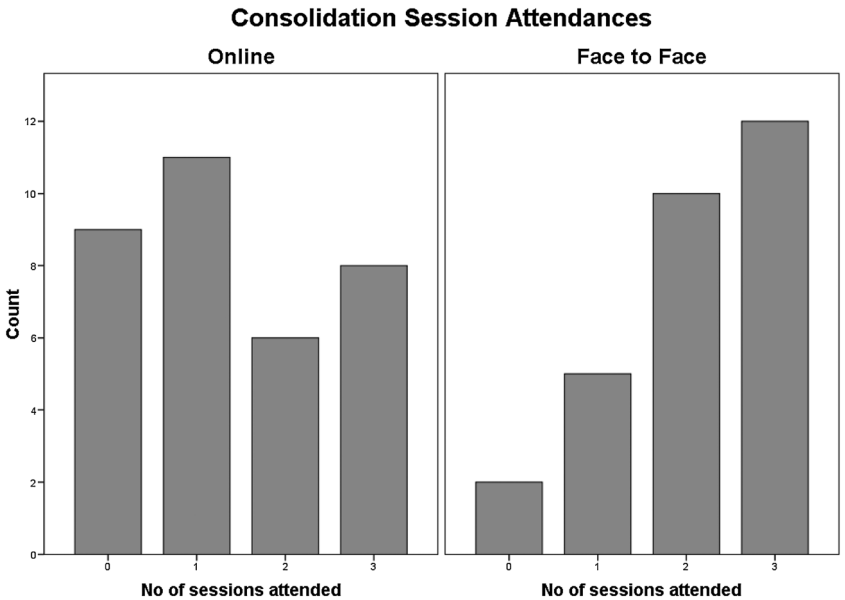

FIG. 4: *Counts of attendances at online (a) and face-to-face (b) consolidation sessions.*

determining whether participants were enrolled in workshop 1 or 2. Therefore, these differences in engagement are attributed to artefacts in the delivery of the workshops, differences in workshop participants, and the training environment.

A key finding of the present study was that engagement was higher in people allocated to the face-to-face consolidation format in both mean number of consolidation sessions attended as well as the face-to-face completion rate.

Participants who reported more hours of previous training in MI were more likely to remain engaged in consolidation sessions. One possible explanation for this association is that previous completion of MI training predicts future completion of MI training.

The retention rates were unevenly distributed across the two workshops (workshop 1 greater than workshop 2) and across the two consolidation formats (higher in the face-to-face group). While we have no final outcome measure scores for those who dropped out, it is feasible to expect that scores would be worse for those who did not engage in or complete the follow-up sessions.

This training and consolidation programme was run collaboratively across mental health and drug and alcohol services. This approach supported cross-service networking, and this model of collaborative training is to be encouraged. The use of joint senior clinicians as facilitators positively models collaborative cross-service practice.

LIMITATIONS

In order to most accurately examine and assess clinical practice, the ideal model is to directly observe participants (Miller & Rollnick 2013). The gold standard teaching technique is to then provide immediate feedback following the observation. This level of direct observation and personalized feedback was not practical in this instance due to the resource intensity required.

Fidelity measures for assessing MI training outcomes have previously been developed and validated; for example, the Motivational Interviewing Treatment Integrity (MITI) scale (Moyers *et al*. 2008). However, for the present study, we did not have the option of utilizing independent coders who could assess audio-taped interviews. The present study needs to be replicated in different service settings and populations. The MIKCAP scale instrument, developed to evaluate changes in MI knowledge, confidence, attitudes,

TABLE 5: *Logistic regression: previous MI training as a predictor of completion*

		B	SE	Wald	d.f.	Significance	Exp(B)
Step 1[1]	Previous MI training	0.095	0.042	5.079	1	0.024	1.100
	Constant	–0.420	0.354	1.412	1	0.235	0.657

[1]Variable(s) entered on step 1: T1MITrain. MI, motivational interviewing; SE, standard error.

and practices, demonstrated acceptable psychometric properties. Future research should include measures of concurrent validity with scales, such as the MITI, and more detailed assessment of construct validity, including factor analysis with a sufficiently large sample.

One factor we identified that might possibly have contributed to poorer engagement in consolidation sessions was the participants' level of previous MI training. While people were randomly allocated to consolidation format, by chance there was a difference in previous level of MI training between the two formats: The mean hours of previous MI training was also higher in the face-to-face group than the online group. Similarly, despite the randomization process, by chance there was an unequal distribution of drug and alcohol workers between the consolidation types, with fewer being allocated to the face-to-face condition.

The randomization process employed in this service-based project was limited by the imposts of geographical distances. Prior to randomization, it was determined that participants who would need to travel more than 250 km to attend face-to-face consolidation would be reallocated to the online group. This occurred for three participants. The randomization was supervised by the workshop facilitators/researchers by inviting a workshop participant to blindly draw names from a container. Ideally, this would have been conducted independently from the facilitators/researchers. Future studies of this type might introduce permuted blocks as an improved method to avoid the possibility of unequal distribution of participants to intervention modality.

It is unclear whether the incentive of being entered into a raffle to win a textbook had any impact on engagement rates.

A limitation imposed by maintaining the level of anonymity was that individual characteristics of participants who were lost to follow up were unable to be matched to their allocated consolidation type.

CONCLUSION

Discontinuation in online education has been identified as a significant issue in nursing graduate coursework programmes (Gazza & Hunker 2014). The present study has uncovered a similar issue in an education programme of shorter duration, even when the majority of content was delivered face to face. Work is underway to develop tools for identifying individuals who are likely to complete online education (Hart 2014). These tools might help individuals and services choose the appropriate delivery method for continuing professional development as well. At present, we can conclude that online consolidation of training works well for individuals who maintain engagement, although significantly fewer people engaged in online consolidation than in face-to-face consolidation sessions in this project.

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APPENDIX I: Motivational Interviewing Knowledge, Confidence, Attitudes, and Practices scale domains and sample items

CONFIDENCE

To assess participant's confidence in using motivational interviewing (MI) strategies and assessing stage of change, the Motivational Interviewing Knowledge, Confidence, Attitudes, and Practices (MIKCAP) scale contained 10 items relating to confidence in using MI strategies and counselling skills. Item scores related to a four-point scale, with anchors from 1 = not confident to 4 = very confident, leading to a possible total of 40. A sample of four of the 10 items is shown:

My level of confidence in using the following motivational interviewing strategies	Not confident	A little confident	Confident	Very confident
Typical day or typical session	□	□	□	□
Looking forward or looking back	□	□	□	□
Exploring goals	□	□	□	□
My level of confidence in assessing stage of change	□	□	□	□

KNOWLEDGE

To assess participants' knowledge assessing stage of change, the MIKCAP scale contained nine 'client statements' about their motivation to change. Respondents were asked to allocate each statement to a stage of change that best suits the statement. Correct responses attracted a score of one, and responses that selected the next most appropriate stage attracted a score of 0.5, leading to a maximum score of nine. A sample of two of the nine statements is shown:

Rate the stage of change:
'I stopped smoking for 2 weeks, then on Friday night I smoked four ciggies. I stopped again and haven't had any this week'.
Precontemplation □ Contemplation □ Determination □ Action □ Maintenance □ Relapse □
'I wish I was a non-smoker. I've tried a few times to stop. It's just too hard'.
Precontemplation □ Contemplation □ Determination □ Action □ Maintenance □ Relapse □

To assess participants' knowledge of the principles of MI, the MIKCAP scale contained 11 items, and participants were asked to correctly identify Miller and Rollnick's principles of MI. Each correct answer scored 1, leading to a possible score of 11. A sample of four of the 11 statements is shown:

Which of the following statements are principles in MI?:

Teach tolerance: Yes □ No □

Deploy discrepancy: Yes □ No □

Avoid argumentation: Yes □ No □

Disarm defences: Yes □ No □

To assess participants' knowledge of MI processes, the MIKCAP scale contained four items, and respondents were asked to name the four key MI processes. The first letter of each process was provided as a prompt. Each correct answer scored one, leading to a possible score of four. All four items are shown:

What are four key processes Miller and Rollnick discuss in their third edition text *Motivational Interviewing*: *Helping People Change* (2013)?:

1. E_____ 2. F_____ 3. E_____ 4. P_____

To assess knowledge of MI strategies, the MIKCAP scale employed 18 items to assess respondents' knowledge of counselling strategies used in MI. Six items required respondents to match the best-suited intervention to a stage of change (from a provided list of interventions).

The 'O' in the acronym 'OARS' refers to Open book □ Opening up □ Open questions □ Open posture □
The 'A' in the acronym 'OARS' refers to Affirming □ Asking □ Answering □ Allegory □
The 'D' in the acronym 'DARN CATS' refers to Desire □ Dessert□ Dopey □ Describe □
The 'A' in the acronym 'DARN CATS' refers to Asking □ Ability □ Answering □ Advise □
The 'C' in the acronym 'DARN CATS' refers to Cuddle □ Cooperation □ Commitment □ Calm □
The 'A' in the acronym 'DARN CATS' refers to Affirming □ Activation □ Answering □ Ask □

One item related to knowledge in eliciting change talk required respondents to choose between three alternatives relating to asking about the importance of change:

Which question would be 'least effective' in eliciting change talk when using a readiness ruler when asking about the importance of change?
□ Why are you a ___ and not a 10?
□ Why are you a ___ and not a 0?
□ What would it take for you to move from a ___ to a higher number?

To assess knowledge of MI spirit, the MIKCAP scale included 23 items to assess respondents' ability to correctly discriminate between terms consistent with the spirit of MI and those terms which were not consistent. Each correct answer scored one, leading to a possible score of 23. Four examples of terms are provided:

Which of the following are consistent with MI?:	
Pleading	□
Pressuring	□
Calming	□
Affirming	□

ATTITUDES

To assess respondents' attitudes and practices in relation to working within an MI framework, we included six items relating to attitudes, each scoring between one and four, leading to a maximum score of 24:

In this section, we want to find out how you usually work with people around changing behaviours	Strongly disagree	Disagree	Agree	Strongly agree
If someone doesn't want to change their behaviour, we should leave them alone	□	□	□	□
You should explain to people the reasons 'why' they should change	□	□	□	□
People who don't have insight will never 'get it'	□	□	□	□

Respondents' current practices in relation to MI were measured by asking them about their recent use of MI strategies (5 practices were provided, with each item attracting a score of one):

In the past 2 weeks, I have used the following MI strategies:	
Typical day or typical session	□
Looking forward or looking back	□
Exploring goals	□