

Motivational Interviewing in Health Promotion: It Sounds Like Something Is Changing

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Motivational interviewing (MI), initially developed for addiction counseling, has increasingly been applied in public health, medical, and health promotion settings. This article provides an overview of MI, outlining its philosophic orientation and essential strategies. Major outcome studies are reviewed, nuances associated with the use of MI in health promotion and chronic disease prevention are described, and future directions are offered.

Key words: motivational interviewing, health promotion, counseling, behavioral medicine, health psychology, public health

Motivational interviewing (MI), originally described by Miller in 1983 and more fully discussed in a seminal text by Miller and Rollnick in 1991, has been used extensively in the addiction field (Dunn, Deroo, & Rivara, 2001; Noonan & Moyers, 1997). There has been considerable recent interest on the part of public health, health psychology, and medical professionals in adapting MI to address other health behaviors and conditions, such as smoking, diet, physical activity, screening, sexual behavior, diabetes control, and medical adherence (Emmons & Rollnick, 2001; Resnicow, DiIorio, et al., 2002).

This article provides an overview of MI, describing its philosophic orientation and essential strategies, with an emphasis on application to health promotion and chronic disease prevention. Major outcome studies in which MI has been used in the context of health promotion and behavioral medicine are reviewed. Nuances that distinguish its use for changing chronic disease and nonaddictive behaviors are addressed, and future directions are offered.

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MI Overview

MI is neither a discrete nor entirely new intervention paradigm but an amalgam of principles and techniques drawn from existing models of psychotherapy and behavior change theory. MI can be thought of as an egalitarian interpersonal orientation, a client-centered counseling style that manifests through specific techniques and strategies. A key goal of MI is to assist individuals to work through their ambivalence about behavior change, and it appears to be particularly effective for individuals who are initially low in terms of readiness to change (Butler et al., 1999; Heather, Rollnick, Bell, & Richmond, 1996; Miller & Rollnick, 1991; Resnicow, Jackson, Wang, Dudley, & Baranowski, 2001; Rollnick & Miller, 1995).

The tone of the MI encounter is nonjudgmental, empathetic, and encouraging. Counselors establish a nonconfrontational and supportive climate in which clients feel comfortable expressing both the positive and negative aspects of their current behavior. Unlike some psychotherapeutic models that rely heavily on therapist insight or traditional patient education that entails providing information, in MI, the client is expected to do much of the psychological work, guided by the counselor. Clients are encouraged to talk as much as or more than counselors. There is generally no direct attempt to dismantle denial, confront irrational or maladaptive beliefs, or convince or persuade. Instead, the goal is to help clients think about and verbally express their own reasons for and against change, how their current health behavior may conflict with their health goals, and how their current behavior or health status affects their ability to achieve their life goals or live out their core values. To achieve these ends, MI counselors rely heavily on reflective listening and positive affirmations rather than on direct questioning, persuasion, or advice giving. Using a neutral yet inquisitive tone, counselors address discrepancies in client knowl-

edge, beliefs, or behaviors without instilling defensiveness or attempting refutation. An important element in learning MI is suppressing the instinct to respond with questions or advice.

MI counselors defer from providing information or advice until clients have first presented their own understanding of the situation or their own suggestions for overcoming obstacles to change. Ideally, it is the client rather than the counselor who makes the argument for change and describes the course of action. In the patient education paradigm, health practitioners often provide information about the risks of continuing a behavior or the benefits of change with the intent of persuasion. Within MI, information is presented in a more neutral manner, and the client is asked to do the work of interpretation. MI practitioners avoid giving “predigested” health messages and instead allow clients to process information, find their own personal relevance, evaluate their own risks and rewards, and convince themselves that change may be warranted. Whereas the essence of MI resides in its spirit, there are specific techniques and strategies that, when used effectively, help ensure that such spirit is evoked. Core MI techniques include the use of reflective listening, rolling with resistance, agenda setting, and eliciting self-motivational statements and change talk.

Reflective Listening

The goals of reflecting back to the client include demonstrating empathy, affirming client thoughts and feelings, and helping the client continue through the self-discovery process. Reflections involve several levels of complexity or depth, ranging from understanding content to exploring meaning and feeling (Carkhuff, 1993).

Rolling With Resistance

Confronting clients often results in defensiveness and ultimately poor therapeutic outcomes (Miller, 1983). MI counselors, therefore, avoid argumentation by “rolling with resistance” rather than contesting it. The MI encounter resembles a dance more than a wrestling match (Rollnick, Mason, & Butler, 1999).

Agenda Setting and Asking Permission

Clients are asked to help set the agenda for the encounter to ensure that they are active and willing participants in the process. This may include deciding what behavior(s) to talk about and what goals they have for the session (or the intervention in general).

Self-Motivational Statements: Eliciting Change Talk

A core strategy of MI is eliciting self-motivational statements or change talk, according to the principles that individuals are more likely to accept and act on that which they voice and that the more they defend a position, the greater their commitment to it becomes (Bem, 1972). To elicit change talk, many MI practitioners use a strategy originally developed (Rollnick, Butler, & Stott, 1997) for a brief smoking cessation intervention delivered by physicians (Butler et al., 1999). This technique begins with two questions. First, clients are asked to rate, on a scale of 0 to 10 (with 10 being the highest), how motivated–interested they are in making the behavior change (e.g., increasing their fruit and vegetable intake or increasing their physical activity). Second, they are asked to rate,

again on a scale of 0 to 10, how confident they are that they can make the change assuming that they wanted to do so. The first question focuses on desire to change, whereas the second taps efficacy for change (Rollnick et al., 1997). Alternatively, the first question may focus on the importance of change rather than on motivation or interest. Using the client’s numeric response, the counselor asks two probes: (a) “Why did you not choose a lower number, like a 1 or 2?” and (b) “What would it take to get you to a higher number?”

A related strategy is to help clients establish discrepancies between their current behavior and their personal core values or life goals. Clients are asked to choose from a list of the values that are most important to them. The counselor then inquires to see whether clients can make any connection between their current health behavior (or changing the behavior) and their ability to achieve these goals or live out these values.

Convergence and Divergence With Other Theoretical Models

MI is rooted in Rogers’s person-centered approach to psychotherapy. Similar to Rogerian therapy, MI counselors use reflective listening to express understanding of the client’s feelings and experience, and considerable effort is placed on understanding the client’s subjective reality. Although both MI and Rogerian therapy accept that change is ultimately up to the client, MI can be more directive and goal oriented (Rollnick & Miller, 1995). For example, when MI is applied in health promotion and public health settings, there may be desired outcomes for clients to modify behavior in a specific direction (e.g., quitting smoking or decreasing fat intake). Whereas in Rogerian psychotherapy a goal may be to help the client accept and integrate incongruent behaviors or socially unacceptable attributes, in MI greater emphasis is placed on resolving these discrepancies and building motivation for change (Patterson, 1986). The MI counselor operates from the assumption that some individuals are not ready to change, and the goal for such clients may simply be to allow them to express their ambivalence or disinterest in change, plant the seeds of discrepancy, and leave the door open for future intervention.

Although *prima facie* MI is similar to the transtheoretical model (TTM), in that both models emphasize the need to match interventions to the client’s readiness and pros and cons for changing behavior and MI intervention protocols often incorporate some elements of “staging,” there are subtle differences. Many TTM-based interventions function from the assumption that a person’s stage is a somewhat stable phenomenon, at least in terms of hours and days if not weeks. Clients receive prewritten messages tailored to their stage and subjective pros and cons for change (Aveyard et al., 1999; Campbell et al., 1999; King et al., 1998; Marcus & Simkin, 1994; Velicer, Norman, Fava, & Prochaska, 1999; Zimmerman, Olsen, & Bosworth, 2000). Intervention messages are largely yoked to an individual’s most recent stage classification. MI, on the other hand, assumes greater fluidity of stage. Within an MI encounter, readiness may fluctuate (in either direction) within a matter of minutes. An individual may begin as a precontemplator but, by working through his or her ambivalence, soon progress to the contemplation or preparation stage.

The distinction between MI and TTM is in part due to pragmatics, in that MI is generally provided as a “real-time,” face-to-face

(or telephone) intervention, whereas most TTM interventions have been delivered through audiovisual modalities, without direct or immediate interpersonal interaction. This allows MI to assume a more fluid conceptualization of stage. In this sense, MI can be considered a “real-time” application of TTM-based counseling. Finally, whereas many TTM-based messages (as well as health communication and social marketing campaigns) are designed to persuade, within MI, such direct appeals are largely discouraged. Instead, the goal is to help clients write their own “advertisement for change.”

MI can also be distinguished from cognitive behavior therapy (CBT). CBT often involves the counselor confronting a client’s irrational or maladaptive beliefs. MI, on the other hand, rarely involves direct confrontation of beliefs on the part of the counselor. However, the MI counselor may use reflective listening to clarify such beliefs and to “softly confront” how they influence current behaviors, as well as how these beliefs and actions may affect clients’ ability to achieve happiness and their broader life goals. In effect, clients are guided to confront their own inconsistencies in thought and action. If, through this process, a client expresses an interest in learning a CBT strategy such as thought stopping or imagery, the MI counselor may work with the client to learn such techniques.

With regard to behavior therapy, MI is inherently neither convergent nor divergent. When ambivalence has been resolved and there is expressed readiness to change, behavioral strategies such as self-monitoring, goal setting, shaping, and reinforcement can be incorporated in an MI-consistent manner (e.g., with the client’s permission and, ideally, client initiated).

Review of Outcome Studies

The efficacy of MI in the treatment of substance use and other problem behaviors has been examined in numerous studies (Anonymous, 1997; Burke, Arkowitz, & Dunn, 2002; Dunn et al., 2001; Miller & Rollnick, 1991; Noonan & Moyers, 1997). An emerging literature on the impact of MI in modifying chronic disease behaviors is reviewed in the sections to follow.

Diet and Physical Activity

We identified six studies in which MI was used to modify diet and physical activity behaviors. These studies included four secondary prevention trials (Berg-Smith et al., 1999; Mhurchu, Margetts, & Speller, 1998; Smith, Heckemeyer, Kratt, & Mason, 1997; Woollard et al., 1995) and two primary prevention trials (Harland et al., 1999; Resnicow et al., 2000, 2001).

The first of the secondary prevention trials was a pilot study conducted by Smith et al. (1997). Twenty-two overweight women (41% African American) with non-insulin-dependent diabetes mellitus were randomized to receive a 16-week group behavioral weight control intervention or the same intervention with the addition of three individual MI sessions. The MI intervention, delivered by experienced psychologists, involved one session before the group treatment began and two at midtreatment, and it included individualized feedback on glycemic control. At the 4-month posttest, among the 16 women for whom follow-up data were available, those in the MI group showed significantly better glycemic control than those in the standard intervention group, and

they were more likely to monitor their blood glucose. The MI group also showed significantly higher session attendance.

Mhurchu et al. (1998) randomized 121 patients (97 available at posttest) with hyperlipidemia to either MI-based counseling or a standard dietary intervention delivered by a dietitian. At 3-month follow-up, both groups showed significant improvements in dietary habits and body mass index. However, there were no significant between-groups differences in any of the main outcomes. As the authors suggested, the efficacy of MI may have been limited, because 80% of the sample was already making some dietary changes at baseline and thus may have been better suited for a more behavioral intervention.

Woollard et al. (1995) randomized 166 hypertensive patients in general medical practices to receive either “high” MI, consisting of six 45-min sessions every fourth week, or “low” MI, which comprised a single face-to-face session along with five brief telephone sessions. The MI was delivered by nurse counselors. Both groups received their usual general practitioner care in addition to an educational manual. A control group was also included that consisted only of the usual general practitioner care. At 18-week follow-up, there were no significant differences between the two MI groups. However, both groups had better outcomes than controls. The “high” MI group showed a significant reduction in both weight and blood pressure relative to controls, whereas the “low” MI group significantly decreased its alcohol and salt intake relative to controls. Physical activity and smoking were not significantly altered in any group. A limitation of this study is that the actual dose and quality of MI provided are unclear.

In the Dietary Intervention Study in Children, children initially 8–10 years of age with elevated low-density lipoprotein cholesterol received 3 years of dietary intervention (Berg-Smith et al., 1999). As the cohort moved into adolescence, the investigators elected to add an MI-based intervention to “renew” adherence to the prescribed diet among the original intervention group (there was no control group in this phase). The counselors were primarily master’s-level health educators and dietitians who received 18 hr of training. There was one in-person session and one follow-up session either in person or by telephone. Data from the first 127 youths to complete the two-session protocol indicated that the proportion of calories from fat and dietary cholesterol significantly decreased at 3-month follow-up, and overall adherence scores improved. Adolescents’ satisfaction with the MI intervention was high (Berg-Smith et al., 1999).

With regard to primary prevention, Harland et al. (1999) recruited 523 general medical practice patients to evaluate the efficacy of MI in promoting physical activity. The sample consisted of sedentary but otherwise healthy lower income adults 40–64 years of age. The study included four intervention groups. Two groups received a single 40-min MI session, and two received six 40-min MI sessions delivered over 12 weeks. Approximately half of the participants in the MI groups also received vouchers for free aerobics classes. In addition, there was a control group that received neither the MI nor vouchers. Physical activity was assessed through questionnaires completed at 12-week and 1-year follow-ups. At the 12-week follow-up, there was a significant improvement in activity in the four aggregate intervention groups relative to the controls (38% improved vs. 16%) but no significant differences between the “high” and “low” MI groups. At the 1-year follow-up, there were no significant differences in physical activity

between the intervention groups, either combined or separately, and the control group. This was due both to a decay of effects in the intervention group and to a slight improvement among the control group. A limitation of this study is that the median number of MI sessions attended by those in the "high" group was only three of a possible six.

Resnicow et al. (2000, 2001) recently completed the Eat for Life Trial, a multicomponent intervention designed to increase fruit and vegetable consumption among African American adults recruited through Black churches. Fourteen churches were randomly assigned to three treatment conditions: (a) comparison, (b) culturally tailored self-help intervention with one telephone cue, and (c) self-help intervention, one cue call, and three MI counseling calls. Cue calls were intended to increase use of the self-help intervention materials and were not structured as MI contacts.

MI counselors, who were either registered dietitians or dietetic interns, participated in three 2-hr training sessions conducted by Ken Resnicow, and they were observed performing at least two phone counseling encounters before being certified. The primary outcome, examined at baseline and a 1-year follow-up, was fruit and vegetable intake, assessed by food frequency questionnaires (Resnicow et al., 2001). Change in fruit and vegetable intake was significantly greater in the MI group than in the comparison and self-help groups. The net difference between the MI and comparison groups was approximately 1.1 servings of fruits and vegetables per day, whereas the net difference between the MI and self-help groups was approximately 1.0 serving.

Smoking Cessation

Several published studies have involved the use of MI for smoking cessation, mostly in clinical settings (Butler et al., 1999; Colby et al., 1998; Ershoff et al., 1999; Glasgow, Whitlock, Eakin, & Lichtstein, 2000; Lando et al., 2001; Rollnick et al., 1997; Rollnick, Heather, & Bell, 1992; Schubiner, Herrold, & Hurt, 1998; Valanis et al., in press; Velasquez et al., 2000). Glasgow et al. (2000) evaluated a brief MI-based intervention versus advice to quit among 1,154 women attending planned parenthood clinics. Clinic staff delivered the MI intervention (in person and telephone follow-up), discussed a motivational video, and developed personalized strategies with patients based on their readiness to quit. Intent to treat analyses indicated that the intervention group achieved significantly higher 7-day abstinence rates at 6 weeks (10.2% vs. 6.9%) but not 6 months posttreatment. At both 6 weeks and 6 months, continued smokers in the MI group showed a significant reduction in number of cigarettes smoked. Limitations of this study include the relatively brief training in MI, insufficient data regarding counselor competence, and the low rate of completion for the telephone follow-up calls (43%).

Two other studies evaluated the effectiveness of MI in prenatal clinic settings (Ershoff et al., 1999; Valanis et al., 2001). Ershoff et al. (1999) did not find a treatment effect for MI on smoking cessation, but Valanis et al. (2001) found significant effects on self-reported quit rates both during pregnancy (29% vs. 39%) and 6 to 12 months after delivery (15% vs. 18%).

In another study, 536 smokers from 21 medical practices were randomized to receive either MI or brief advice to quit smoking from their general practitioner (Butler et al., 1999; Rollnick et al., 1997). Both interventions were delivered in a single session. At

6-month follow-up, significantly more participants in the MI group than controls reported quitting in the previous 24 hr (8% and 3%, respectively). Although there were no significant differences in self-reported 30-day abstinence between groups, there was a trend favoring MI counseling (quit rates of 1.5% in the brief advice group and 3% in the MI group). There was also a positive effect in the MI (vs. brief advice) group in terms of percentage making a quit attempt (18.8% vs. 11.4%). Of note, the differences between the MI and brief advice groups were generally larger among those in the precontemplation stage as opposed to later stages of change. Because practitioners were trained in both interventions, the authors concluded that the effects of MI may have been underestimated owing to inclusion of motivational elements while delivering brief advice.

MI has also been used among adolescent smokers (Colby et al., 1998; Lawendowski, 1998; Schubiner et al., 1998). Colby et al. (1998) compared MI with brief advice among 40 adolescent smokers (38 available at 3-month posttest) recruited in a single hospital while they were seeking care for conditions generally unrelated to smoking. Participants in the MI group viewed four videotaped vignettes aimed at stimulating discussion. At follow-up, 20% reported 7-day abstinence in the MI group versus 10% in the brief advice group. In the MI group, 72% made a quit attempt, as compared with 60% in the advice group. These differences, in part due to the small sample size, were not statistically significant, however.

Medical Adherence

Kemp and colleagues tested the use of an MI-based intervention to promote medication adherence among people with psychosis (Hayward, Chan, Kemp, & Youle, 1995; Kemp, Hayward, Applewhaite, Everitt, & David, 1996; Kemp, Kirov, Hayward, & David, 1998). In a pilot study, they tested an MI-based approach designed to encourage medication adherence among patients prescribed neuroleptic drugs. Twenty-one patients diagnosed with schizophrenia or affective disorders were randomly assigned to MI-based compliance therapy or nondirective discussion. One trained therapist conducted both interventions, meeting with each patient for two or three 30-min sessions. Although there were no differences between the treatment and control groups in terms of attitudes toward medication, insight, or compliance, the changes in the MI group were in the expected direction. In a second study, psychiatric patients were randomly assigned to receive either MI-based compliance therapy or supportive counseling (Kemp et al., 1996). Each group received four to six MI sessions from a psychiatrist or clinical psychologist. Participants receiving MI showed significantly greater improvements in attitudes toward drug treatment, greater insight into their illness, and greater medical compliance than participants in the supportive counseling group at 6-month follow-up. In a subsequent study, participants who received four to six MI sessions demonstrated significantly greater insight, more positive attitudes toward treatment, and greater observer-rated compliance than participants receiving nonspecific counseling. These changes were retained over an 18-month follow-up period (Kemp et al., 1998).

HIV-Risk Behaviors

Carey et al. (1997) randomly assigned 102 women considered at risk for HIV infection to an MI-based treatment or wait-list control group. The MI participants met in groups of 8–13 for four 90-min sessions. The intervention, delivered by two trained therapists, included elicitation of self-motivational statements, summarizing concerns regarding HIV risk, and feedback about behaviors. Relative to the control participants, participants in the intervention group demonstrated significant increases in HIV knowledge and risk awareness and intentions to adopt safer sexual practices, and they engaged in fewer acts of unprotected intercourse.

Carey et al. (2000) replicated their first study with a second sample of 102 low-income women. Participants in the MI group increased their knowledge and their intentions to reduce their risky behaviors. Although there were no differences in the MI and control groups in regard to other outcomes, participants receiving MI who had less than perfect intentions increased their condom use, talked more with their partners about condoms and HIV testing, and were more likely to refuse unprotected sex.

Belcher et al. (1998) used MI as the basis for a single 2-hr session to promote HIV risk reduction practices among low-income urban women. There were no MI treatment effects for knowledge or self-efficacy relative to a control group that received a 2-hr education session; however, participants in the intervention did report significantly higher rates of condom use at follow-up.

Summary of Outcome Studies

These studies indicate that MI can be incorporated into a wide range of health promotion and disease prevention interventions, and it appears to have potential application across diverse professionals and health care settings. The outcomes of these initial interventions, although promising, have nonetheless been mixed. Negative findings in some studies could be attributable to methodological limitations, such as inadequate length of follow-up or low rates of treatment completion (Glasgow et al., 2000). A larger problem that may have affected study outcomes is intervention fidelity, which has generally not been adequately assessed or controlled for statistically. Negative or weak results in some studies may have been the result of poor intervention delivery as opposed to ineffective intervention per se. Few studies provided evidence of counselor competence or fidelity to MI principles and practices. Conversely, in positive studies, internal validity was threatened by the fact that the MI interventions were frequently additive to other interventions. Client contact was often not comparable across conditions, in that the comparison groups did not receive any “sham” or alternative counseling.

MI for Health Psychology and Behavioral Medicine

Role of MI in Nonaddictive Versus Addictive Behaviors

The increased use of MI for nonaddictive behaviors raises some important questions regarding its delivery and effectiveness in this context. As noted earlier, an essential element of MI is working through ambivalence about change. It is possible that the nature and magnitude of ambivalence (which in the extreme can manifest as denial) differ for addictive and nonaddictive behaviors. In the case of nonaddictive behaviors such as fruit and vegetable intake

or physical activity, individuals may exhibit varying levels of readiness to change and palpable ambivalence; however, modifying these behaviors may not entail the same intensity of resistance or convey the same depth of psychological and interpersonal meaning as does ending alcohol or heroin use. One implication is that, in the case of nonaddictive behaviors, less time (although not necessarily less skill) may be needed to resolve ambivalence. Such encounters may comprise a more behavioral than cognitive focus. In a recent study (Resnicow et al., 2001) in which MI was used to modify fruit and vegetable intake, there was strong participant interest in eating more fruits and vegetables (i.e., the average interest rating was 7.0 on a 1–10 scale), and the major barriers were more pragmatic (e.g., insufficient time, taste preference, and lack of availability) than psychological.

Another difference may reside in the fact that, for many addictive behaviors, such as cigarette use, the behavior change process often entails a discrete “quit day.” Although target goals and timing are important for changing behaviors such as eating and physical activity, the pattern of change is often quite different. The concepts of abstinence and relapse are perhaps less tangible for some health-promoting behaviors.

In the case of many chronic disease behaviors, the change process generally involves modification or addition rather than elimination of a behavior (reshaping rather than abstaining). In addition, MI interventions for chronic disease behaviors may be incorporated as elements of multiple-risk-factor programs to control dyslipidemia, diabetes, high blood pressure, obesity, or recurrence of heart disease. Particularly for secondary prevention, changes in these domains must be long term, if not for a lifetime. MI could focus on helping such individuals come to grips with the chronic nature of their condition as well as identify ways to reduce what can be perceived as an overwhelming burden of long-term change. However, similar to addictive behaviors, reducing intake of favorite foods or sedentary behaviors can be perceived as unpleasurable and unwelcomed, as with withdrawal. Thus, a key goal for such individuals may be to reframe their thoughts about change in positive terms (e.g., what is gained vs. what is lost), as well as to conceptualize the change in other than hedonic terms (e.g., reduced anxiety about their disease risk rather than the taste of broccoli).

Proactive Versus Reactive Counseling

In medical settings, clients may seek care for an acute medical condition, and practitioners may raise health promotion issues such as smoking, diet, or exercise. There may be less interest on the part of clients to address such behaviors when they did not raise them. Not all health promotion encounters, however, are proactive. For example, some patients may specifically schedule a periodic checkup with their physician, with the expectation that their health behaviors will be addressed. Whether practitioner-initiated, proactive interventions function differently from client-initiated encounters merits examination.

Time Limitations

Perhaps the greatest challenge in using MI in public health and medical settings is client contact time. Whereas MI for addiction counseling or psychotherapy may involve multiple extended ses-

sions, in public health and medical settings, patient encounters typically range from 10 to 15 min (Emmons & Rollnick, 2001; Goldstein et al., 1998). Moreover, medical practitioners, particularly those in emergent care settings, may have only a single contact with a patient. For example, a patient may seek treatment for an acute condition, and during that encounter a physician may be able to broach the topic of behavior change (e.g., quitting smoking). However, the physician may never see that patient again. Similarly, in some managed care systems, patients are not always linked to specific practitioners. Even when there is continuity of care, difficulty obtaining reimbursement for behavioral counseling further limits practitioners' ability and motivation to deliver intensive MI. In many of the health promotion and medical settings where MI is being applied, the dose, both in terms of session duration (quantity) and interventionist skill (fidelity), may be quite different from the dose delivered in psychotherapy. Failure to differentiate full-blown MI from other permutations could result in Type III error, that is, erroneously concluding that an intervention failed when, in fact, it was not delivered with adequate dose or fidelity (Basch, Sliepevich, Gold, Duncan, & Kolbe, 1985).

Mode of Delivery

In medical and public health contexts, MI is often part of a multicomponent intervention that may include education materials as well as non-MI individual and group interactions (Glasgow et al., 2000; Resnicow et al., 2000, 2001; Resnicow, Jackson, et al., in press). In addition, when MI is delivered by telephone (Berg-Smith et al., 1999; Ludman, Curry, Meyer, & Taplin, 1999; Resnicow, Jackson, et al., in press; Resnicow et al., 2001; Sims, Smith, Duffy, & Hilton, 1998; Taplin et al., 2000; Woollard et al., 1995), both counselors and clients operate with limited nonverbal cues, which may affect depth of rapport and treatment impact (Soet & Basch, 1997).

Professional Development and Training Issues

In the addiction field, MI interventions have typically been delivered by individuals with extensive training in psychology or counseling. Training such professionals in the use of MI often represents only a minor "upgrade" or moderate reorientation of skills. Although within public health and medical settings, psychologists and social workers (Ludman et al., 1999; Resnicow, Jackson, et al., in press; Smith et al., 1997; Velasquez et al., 2000) have been used to deliver MI interventions, more commonly nurses (Doherty, Hall, James, Roberts, & Simpson, 2000; Velasquez et al., 2000; Woollard et al., 1995), physicians (Doherty et al., 2000; Rollnick et al., 1997), dietitians (Berg-Smith et al., 1999; Mhurchu et al., 1998; Resnicow et al., 2000, 2001), or health educators (Harland et al., 1999) are responsible for intervention delivery. In the case of these professionals, applying MI may represent a more dramatic shift in their orientation and skill set (Rollnick, 1996), because they have traditionally been trained to provide expert advice about the benefits of health behavior change (Goldstein et al., 1998). These disciplines often entail imparting information (Glanz, 1979; Rollnick, 1996). Practitioners not primarily schooled in client-centered counseling may be able to learn the basic techniques of MI, but without extensive training they

may be unable to achieve the whole that is greater than the sum of its parts. Technical skills are necessary but insufficient to achieve the spirit of MI. Such professionals may be able to use some of the basic MI skills and strategies with a few hours or days of training (e.g., asking open-ended questions, agenda setting, and basic reflective listening). However, mastering deeper level reflection, handling resistant statements or clients, and applying MI across a range of health behaviors often require a degree of training, practice, and supervision not practical in most health care settings (Velasquez et al., 2000). A challenge for many health care practitioners is adopting MI's more facilitative and collaborative spirit in contrast to the more prescriptive, expert-driven, practitioner-centered techniques traditionally used in medical settings.

Conclusion

MI appears to have broad application to health promotion and behavioral medicine. Although initial outcome studies have produced mixed results, delivered with adequate dose and fidelity, MI appears to have potential efficacy. Numerous questions remain, however, regarding how MI works with different conditions and individuals and which health professionals are best able to deliver MI with fidelity. It is also not clear how practitioners will be reimbursed for training and delivery of MI in these settings. Key research issues include the efficacy and cost-effectiveness of telephone versus in-person delivery of MI and the impact of MI across different ethnic, age, and sociodemographic populations.

It is also important to determine what effects of MI might be attributed to common elements of counseling, such as attention effects and empathy, not unique to MI. Internal validity of MI interventions can be established by comparing MI head to head with other counseling methods while holding dose and delivery modality constant. In addition, coding MI encounters based on degree of fidelity to the principles and practices of MI (with such systems as the Motivational Interviewing Skill Code; Miller & Mount, 2001) allows dose-response analyses to be performed. Studies that measure the dose and fidelity of MI interventions will help illuminate the essential elements and optimal intensity to achieve lasting behavior change.

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Call for Nominations

The Publications and Communications (P&C) Board has opened nominations for the editorships of *Contemporary Psychology: APA Review of Books*, *Developmental Psychology*, and *Psychological Review* for the years 2005–2010. Robert J. Sternberg, PhD, James L. Dannemiller, PhD, and Walter Mischel, PhD, respectively, are the incumbent editors.

Candidates should be members of APA and should be available to start receiving manuscripts in early 2004 to prepare for issues published in 2005. Please note that the P&C Board encourages participation by members of underrepresented groups in the publication process and would particularly welcome such nominees. Self-nominations are also encouraged.

Search chairs have been appointed as follows:

- ***Contemporary Psychology: APA Review of Books***: Susan H. McDaniel, PhD, and Mike Pressley, PhD
- ***Developmental Psychology***: Joseph J. Campos, PhD
- ***Psychological Review***: Mark I. Appelbaum, PhD

To nominate candidates, prepare a statement of one page or less in support of each candidate. Address all nominations to the appropriate search committee at the following address:

Karen Sellman, P&C Board Search Liaison
Room 2004
American Psychological Association
750 First Street, NE
Washington, DC 20002-4242

The first review of nominations will begin November 15, 2002. The deadline for accepting nominations is November 25, 2002.