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ORIGINAL ARTICLE

Motivational Interviewing in the Reciprocal Engagement Model of Genetic Counseling: a Method Overview and Case Illustration

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Abstract Motivational Interviewing is a well-described counseling method that has been applied to a broad range of health behavior encounters. Genetic counseling is an emerging area of utilization for the method of Motivational Interviewing. The relational and technical elements of the MI method are described within the context of genetic counseling encounters. Case excerpts will be used to illustrate incorporation of MI methods into the Reciprocal Engagement Model of the genetic counseling encounter.

Keywords Motivational interviewing · Reciprocal engagement model

Introduction

The field of genetic counseling continues to formalize models, tenets, and theoretical basis for clinical practice. In their seminal article describing the Reciprocal Engagement Model (REM), McCarthy Veach et al. (2007) utilized an early definition of a nursing practice model (Reihl and Roy 1980) with four basic components: (1) *Tenet*- a principle, doctrine, or belief held in common by members of a group; (2) *Goal*- an aim for the activity; (3) *Strategy*- a careful plan or method, especially for achieving an end; (4) *Behavior*- an action or reaction utilized by the genetic counselor (Redlinger-Grosse et al. 2015). Motivational Interviewing is proposed as a defined, evidence-based method for *Strategy* and *Behavior* in the genetic counseling encounter.

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Motivational Interviewing Method

Motivational interviewing (MI) (Miller and Rollnick 2013) is a well-known, clinically validated method of counseling clients in the treatment of lifestyle problems and disease (Rubak et al. 2005). It is a "*collaborative, goal-oriented style of communication with particular attention to the language of change. It is designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion*" (Miller and Rollnick 2013). Multiple meta-analyses have demonstrated that MI outperforms traditional advice giving in the management of behavioral problems and disease management in medical care settings (Lundahl et al. 2013; Copeland et al. 2015; VanBuskirk and Wetherell 2014). The evocation and resolution of ambivalence is a central purpose of MI, and the counselor is intentionally directional in pursuing this goal (Rubak et al. 2005).

There are two active components of MI. First, MI describes a relational component focusing on counselor attitude and interview style (Miller and Rose 2009a). Second, MI describes technical components of counseling strategies (Moyers et al. 2005) to elicit and provide information, elicit and reinforce patient change talk and evoke patient motivation. Each component will be discussed in turn.

Motivational Interviewing Relational Component: MI Spirit

The most critical component of MI lies in the spirit of the interaction. MI draws from Carl Rogers' non-directive counseling (Rogers 1986) and operates on the

assumption of patient sufficiency, where the counselor seeks to evoke the patient's own motivations, with confidence in the individual's ability to develop in a positive direction. MI is fundamentally a way of being with clients that promotes a safe, collaborative atmosphere. Patients are regarded as experts on themselves, with an inherent knowledge of what is best for them. The counselor operates as an evocative guide in the patient's journey (Westra and Aviram 2013).

The professional demeanor demonstrating MI Spirit is referred to as equanimity. A counselor with equanimity is patient, composed, fair minded and balanced. This characteristic applies across patients and situations. The counselor integrates Partnership, Acceptance, Compassion and Evocation components of MI Spirit (Fig. 1) throughout the genetic counseling encounter.

Motivational Interviewing Technical Components: OARS Microskills

The microskills of ***O****pen questions,* ***A****ffirmations,* ***R****eflections and* ***S****ummaries* (*OARS*) are utilized to develop rapport, build a working alliance, and communicate effectively. MI requires a highly active counselor who is deliberately listening for key process markers, called *change talk*, *sustain talk* and *discord*, and responding to those signals by using specific skill sets, termed *equipoise* or *directional counseling*, to facilitate the collaborative goal of the conversation. The italicized terms will be defined based on their utilization in MI.

Open questions are questions that cannot be answered with a 'yes', 'no', or short 'three times per week' response. They help to create open dialogue where patients explore their perspectives or thoughts about change. Genetic counselors are often well versed at using open questions. A genetic counselor may strategically utilize open questions throughout the session to evoke patient understanding, ambivalence, exploration of values, or develop rapport. Open questions typically begin with "Tell me...", "What…", "When …", or "How."

Affirmations highlight the positive aspects of a person's inherent self-worth. Affirmation is an expression of empathy in two distinct ways (Linehan 1997): first, seeking to accurately understand a person's internal frame of reference and, second, demonstrating a genuine interest in the other. Affirmations comment on the values, strengths, efforts and insights of a patient. They are the spirit of MI in action. Affirmations are a way of thinking; the counselor is consciously seeking out patient strengths and good intentions. They are particularly valuable in health care interactions, where individuals may fear judgment or that health conditions represent a personal failure. Affirmation is not the same as praise. Praise infers an inequality of the relationship, where the patient seeks external approval and recognition of the counselor.

Reflections are a communication strategy where the listener responds to the speaker with a statement that invites further exploration or depth along the speaker's own thought process. It allows the listener to express empathy by focusing on the speaker's narrative, instead of the listener's understanding of it. True reflective listening results when the listener suspends his or her own judgment in the effort to give full understanding of the patient's experience. With skill, reflections elicit more meaningful insights and discussion from the patient, and can be used selectively to guide the conversation towards the collaborative goal. Utilizing reflective statements is less likely to evoke defensiveness from the patient and evokes continued exploration of underlying values, barriers, priorities and perspectives (Miller and Rollnick 2013). The essence of a reflection is that it makes a guess about what the person means, then verifies that guess to hone in on the exact meaning. Reflective listening is a learnable skill, facilitated by the immediate feedback provided by the speaker, and is a method of engagement with "patients as teachers" (Zahm et al. 2015).

Multiple types of reflections facilitate the genetic counseling encounter. Simple reflections mirror closely the patient's words. They are useful in reflecting emotion, particularly anger, to communicate that the intensity of emotion is heard by the counselor. Complex reflections add meaning, emphasis or insight to the patient's original words. In genetic counseling, complex reflections highlight important values and goals for the patient to facilitate decision making. In this way, reflections are directional. The counselor strategically reflects with the purpose of engagement, or to develop the conversation towards a particular goal. With all reflections, it is imperative that the counselor consistently demonstrate unconditional positive regard, compassion and empathy for the patient.

Reflective listening provides a strategy for integrating multicultural counseling into genetic counseling practice. Multicultural competence can be used to inform the reflections that the counselor uses for hypothesis testing, or to provide a baseline for the counselor in working to understand the patient's world view. Utilizing MI Spirit, the genetic counselor uses reflective listening and hypothesis testing to individualize to that patient's interpretation or integration of discrete aspects of their culture.

Summaries are complex reflections that synthesize the relevant information and insights that have been elicited during the previous phase of the genetic counseling session. They are an opportunity to convey unconditional positive regard verbally, as they demonstrate that the patient has been heard, and critical aspects of the patient's unique experience have been incorporated by the counselor to facilitate patient perspective

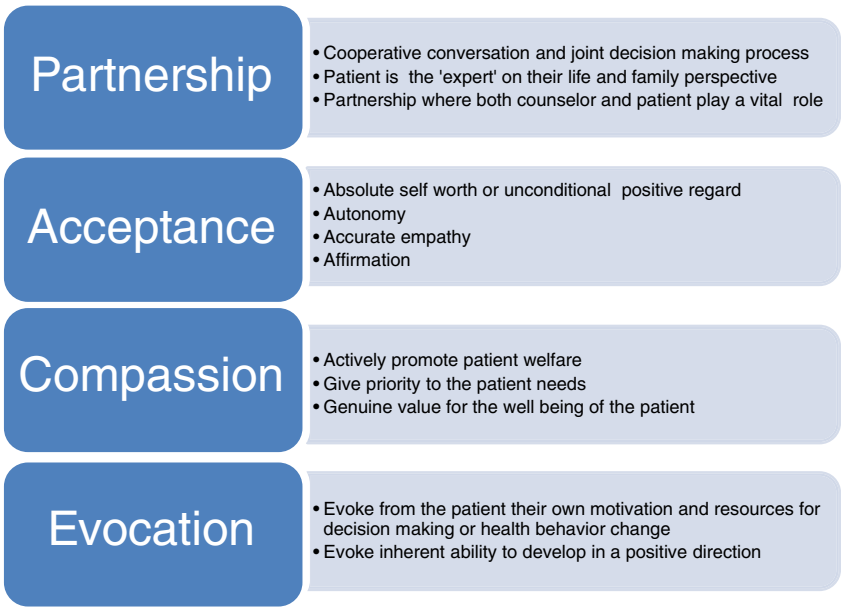

Fig. 1 Four components of MI spirit: PACE

and understanding. Summaries are directional, as it is impossible to reflect and summarize all information that is exchanged. They allow a person to hear various aspects of his or her own experience simultaneously to assist their interpretation. They serve an important function for the genetic counselor, as they can be used to re-establish direction in a genetic counseling encounter, clarify critical values for the patient who is stuck in decision making and condense detailed information in a brief, understandable statement.

Motivational Interviewing Technical Components: Eliciting Change Talk

MI is a directional counseling method in that it is intentionally focused on the exploration of ambivalence surrounding change. Patient *change talk* exists along a continuum beginning with 'low level' preparatory change talk where a person expresses their desire, ability, reasons or need for change. High level mobilizing change talk occurs when patients discuss their commitment, activation and taking steps towards the collaborative goal. *Sustain talk* also exists along a similar continuum, focusing on the desire, ability, reasons and needs *against* the action outcome. Sustain talk is not "negative" or problematic, but rather a patient's expression of one side of the ambivalence. Both change talk and sustain talk are in reference to each side of the patient's ambivalence surrounding a collaborative decision, not the quality of interaction between genetic counselor and patient. These statements are often provided spontaneously during the course of medical or family history. A skilled MI counselor recognizes and reflects these statements to efficiently guide the genetic counseling session.

An imbalance in the working alliance is referred to as *discord*. Discord requires two participants, as a single voice cannot yield dissonance (Miller and Rollnick 2013) and is an emotionally based reaction to the counselor. Counselor directiveness has been found to reliably increase discord (Beutler et al. 2011) whereas counselor validation and exploration of discord with empathy and emphasis on autonomy and collaboration has been demonstrated to reduce discord in the working alliance (Chan 2015). Discord can arise at the onset of a genetic counseling session if a patient's prior experience with genetic counseling or other medical encounters involves coercion, expectation of coercion within the genetic counseling session or how the person was treated by other medical professionals. MI has been found to be particularly effective for establishing a working alliance with people who are angry or defensive at the outset (Aviram and Westra 2011, Karno and Longabaugh 2005, Waldron and Miller 2001).

Motivational Interviewing Technical Components: Evoking Patient Motivation

Within MI the counselor can choose between two distinct strategies to guide the conversation towards resolution of ambivalence; equipoise or directional counseling. Genetic counselors may find that they are directional with a patient regarding one topic, while in equipoise with the same patient when discussing another topic in the genetic counseling encounter. The counselor

consciously chooses the strategy based on the goals of the session, the subject or the specific patient interaction.

Equipoise refers to a specific patient interaction or collaborative goal in which the counselor intentionally and consciously decides that they will not strategically favor the resolution of ambivalence in one particular direction. Particularly in genetic counseling encounters, elimination or complete resolution of ambivalence is unlikely to be achieved. The outcome for the genetic counseling encounter is a reduction in ambivalence, regardless of the direction in which it is resolved. Equipoise is a chosen practice, not a feeling or personality trait. Once a goal is mutually established, then the counselor actively decides whether they wish to be in equipoise regarding that particular change goal (Miller 2012).

Directional counseling has been the dominant practice of MI, as the method was developed for use in counseling scenarios where the counselor had a direct interest in developing patient motivation for specific behavior change, such as alcohol abuse, smoking cessation and safe-sex practice counseling. Whether a counselor chooses equipoise or directionality, the MI spirit of equanimity is still maintained.

Incorporation of Motivational Interviewing into the Reciprocal Engagement Model

Integration of MI spirit and strategies is an opportunity for genetic counselors to expand their skill set to better meet the needs of the patient, while providing a method for assessment and integration of the REM in genetic counseling encounters. Consider the concordance in language in the following statements from the MI literature and genetic counseling literature (Fig. 2).

MI interactions form a continuum of four overlapping, yet distinct processes of Engaging, Focusing, Evoking and Planning (Fig. 3). These MI processes incorporate REM tenets (Table 1) and goals into a strategic method for the genetic counseling session (Table 2). Each process builds upon the previous ones, and they may recur or overlap as a patient needs to address the central counseling issue.

Process 1:The Engaging Process in Motivational Interviewing

Engaging is the core foundational process in MI. The counselor must actively establish a solid working relationship early in the interaction and maintain it to proceed effectively and efficiently through the other processes.

The importance of effective contracting is mirrored in both the REM Goals (Table 2) and in the ABGC Practice Based Competencies. OARS microskills can be utilized in this interaction to establish engagement and provide the foundation for the focusing process. A genetic counselor using OARS might begin contracting with an open question, "Tell me what questions I can answer for you today?" followed by several reflections and/or affirmations to facilitate patient engagement. The contracting, personal and family history phases of genetic counseling are opportunities to utilize affirmations to promote engagement.

Clinical Illustration of MI in Genetic Counseling. The following excerpts paraphrase teaching examples.

A 66 year old female (P) was referred to a genetic counselor (C) from her gynecologic oncologist after her diagnosis of Stage 1A endometrial adenocarcinoma followed with total abdominal hysterectomy with bilateral oophorectomy/salpingectomy. No further treatment was required. The patient reported a sister with endometrial cancer at age 50.

C: Tell me what was explained about our meeting today? (*Open question*)

P: Well, actually I was not sure that this appointment was necessary. I don't need any other treatment after my surgery, but they said my family history was important, and I wanted to make sure I have all the information.

C: You're glad to be done with the current treatment, and at the same time, want to make sure you don't miss any information that could be valuable. (*Double-sided reflection*)

P: I've always been very healthy, and luckily have never really needed a doctor! I guess things will be a bit different now.

C: This came from left field for you (*Metaphor reflection*)

P: You could say that!

C: What questions can I make sure to answer for you today? (*Open question to build collaboration for the session*)

An area critical to development of engagement is in the medical and family history. Many genetic counselors default to a series of rapid fire closed questions in an effort to gain specific information in a time-efficient manner. This has the unfortunate consequence of eroding rapport, increasing the authoritative stance of the counselor, marginalizing the patient narrative and role of expert in their life, and missing opportunities to develop self-efficacy and recognize patient competence (Gaume et al. 2008). With skill development, the genetic counselor using MI can utilize open questions throughout the genetic counseling interaction to promote engagement, followed by closed questions as necessary to obtain facts. It is critical to gauge the response to the open question format, and adapt the information gathering strategy to one that works best for each particular patient.

During medical and family history, a genetic counselor should utilize complex reflections to maintain focus on the collaborative nature of the discussion, and affirm the patient's role as the expert in their own life experience. If the medical and family history is regarded as a prerequisite rather than the start of the working alliance, the patient is placed in a passive role in the genetic counseling session. If a counselor intends to

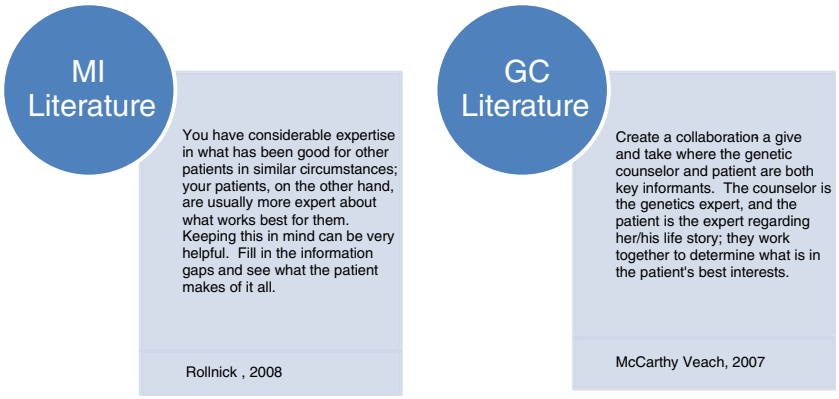

Fig. 2 Concordance of MI goals and REM goals

foster a strong therapeutic alliance to benefit the process and outcome, the use of multiple closed questions for data gathering, with minimal reflections between questions, should be avoided (Hartzler et al. 2010). From the practical standpoint, it is hypothesized that a genetic counselor can be far more time-efficient when the information gathering is combined with MI methods to promote patient engagement.

Excerpt from Medical History:
C: Tell me, what do you do for work? (*Open question*)
P: With a small chuckle. Well, it's funny you ask. I am a spiritual counselor.
C: That's a profession I am not familiar with. Tell me about your practice? (*Open question*)
P: Explains that she believes all health is spiritually related, and is a direct result of emotional imbalance. Spiritual counselors work with individuals to identify and correct those imbalances.
C: "This is more than a profession; it is part of your identity. (*Complex reflection: deepen conversation, affirmation)*
P: I was a spiritual counselor even before I knew what it was.
C: This diagnosis must have changed your perspective on your profession. (*Complex reflection: continuing the paragraph*)
P: Describes how her spirituality has been deepened by this diagnosis.
C: While unexpected, this diagnosis has allowed you to grow in ways you never anticipated. (*Complex reflection: Demonstrates competence of patient*)

Process 2: Focusing in Genetic Counseling

Effective engaging will naturally lead to a focus on a particular agenda, either initiated by the patient or the genetic counselor. Focusing is the process by which the counselor develops a collaborative goal, provides information and maintains direction during discussion of the genetic counseling agenda. Focusing is often the time intensive piece of the genetic counseling process, and incorporates the majority of REM goals (Table 1) into two distinct tasks: Establishing a collaborative goal and providing genetic information to the patient.

MI aims to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion (Miller and Rollnick 2013). The direction may come from the patient's own expressed desires, from the counselor's perspective, or from the context within which counseling occurs (Hettema et al. 2005). Collaborative goals in genetic counseling often surround a *decision* regarding genetic testing or health behaviors, as opposed to directive guidance towards a specific outcome (Resnicow and McMaster 2012). Examples include the type of prenatal

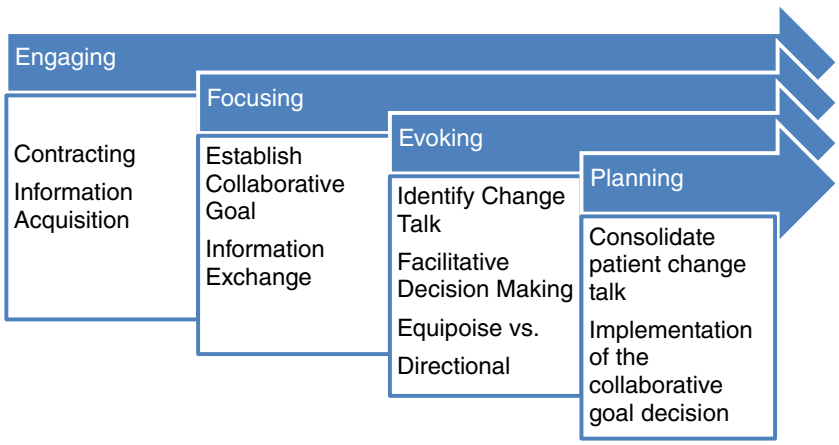

Fig. 3 Motivational Interviewing Processes in Genetic Counseling

Table 1 Five tenets of REM

1	Genetic Information is Key
2	Relationship is integral to genetic counseling
3	Patient autonomy must be supported
4	Patients are resilient
5	Patient emotions make a difference

testing to pursue, a decision regarding genetic testing for hereditary cancer predispositions, or a plan of medical management for a child with a genetic disorder.

P: I know my sister had this diagnosis, so I am a bit worried that there could be something in the family. But I don't have enough information, I am curious…."

C: Your instincts have raised this questions before. (*Complex reflection*) Today we can discuss what testing options are available, so you can make a decision that makes the most sense for you. (*Collaborative goal -decision regarding testing, emphasize autonomy*).

One tenet of REM 'genetic information is key' demonstrates the importance of communication of genetic information to our patients. Achievement of this tenet can be improved utilizing motivational interviewing skills. Increased collaboration between the genetic counselor and patient on the informing strategy allows both partners to become invested in the importance, structure, and individual goals of the information. The genetic counselor can use strategies to actively engage the patient in the discussion until a mutual understanding is reached regarding the meaning of the most pertinent and accurate information (McCarthy Veach et al. 2007). MI describes several communication methods to accomplish the REM goals of patient education (Table 3) to achieve the collaborative goal.

At the conclusion of focusing, the genetic counselor has completed several REM tenets and goals utilizing MI methods. Establishment of a collaborative goal, identification of change talk and sustain talk, and utilization of collaborative informing strategies can deepen the working alliance, and sets the foundation for the REM tenet of informed patient decision making. A bridging method at this stage of the genetic counseling process is a reflective summary that reiterates the collaborative goal, synthesizes the change talk and sustain talk heard by the genetic counselor and provides a brief synopsis of the information exchange.

Process 3: Evoking in Genetic Counseling

Patients approach genetic counseling with different levels of commitment, readiness, and motivation for

Table 2 Correlation of MI processes and REM goals

Processes in MI	Definition	Observed skill in genetic counseling practice	Correlation to REM Goals
Engaging	Counselor builds and maintains a positive working alliance with the patient.	• Contracting • Use of OARS throughout the genetic counseling session • Information acquisition in an MI consistent method	• Counselor promotes maintenance of or increase in patient self esteem • Counselor facilitates the patient's feelings of empowerment • Counselor recognizes patient strengths • Counselor and patient establish a bond • Good counselor-patient communication occurs • Counselor's characteristics positively influence the process of relationship building and communication between counselor and patient
Focusing	Counselor and patient come to a mutual agenda for the session	• Establish a collaborative goal • Identify change talk • Identify sustain talk • Resolve discord • Information Provision	• Counselor facilitates patient's feelings of empowerment • Counselor establishes a working contract with the patient • Counselor helps the patient to feel informed • Counselor presents genetic information in a way that the patient can understand • The counselor knows what information to impart to each patient
Evoking	Counselor develops conversation in the direction for decision making	• Facilitative Decision Making	• Counselor and patient reach an understanding of the patient's family dynamics and their effects on the patient's situation • Counselor integrates the patient's familial and cultural context into the counseling relationship and decision making • Counselor works with the patient to recognize concerns that are triggering the patient's emotions • Counselor helps the patient to gain new perspectives
Planning	Counselor facilitates a patient-led decision	• Consolidation of patient change talk • Implementation of collaborative decision outcome	• Counselor helps the patient to feel in control • Counselor helps the patient to adapt to his or her situation • Counselor facilitates collaborative decisions with the patient

Table 3 Case illustration of MI informing strategies

Case Illustration Dialogue	MI Strategies in Information giving, Skills and Analysis
C: I'd like to review how genetics fits into cancer. When it comes to medical information, are you one who prefers all the details, or a general overview of how things work?	Strategy 1: Announcing. Counselor introduces the topic to be discussed Strategy 2: Collaborate with patient to determine optimal informing style for the patient
P: Oh, definitely details. I find this fascinating!	
C: Knowing the background helps you to put your diagnosis in perspective. Ok, we will first start with how cancer arises. What have you heard about how genes play a role with cancer?	Reflection Bridging statement to introduce topic Strategy 3: Elicit Provide Elicit (EPE): A three part strategy where the counselor uses an open question to elicit prior information from the patient, provides a discrete section of information, and then asks a second open question to invite patient interpretation of that section
P: Well, I know they work together. Something about how our genes control if we get cancer, and it is always there in our body? But there can be other things as well that cause cancer, like smoking.	
C: You are correct. There are many different factors that control whether cancer develops. Counselor provides description of sporadic vs hereditary cancers, housekeeper genes. How does this all fit together for you?	Reflection to validate patient competence Elicit Provide Elicit continued
P: In other words, this means our spiritual health could play a role, as it might regulate our housekeeper genes and how they function	Analysis: Patient immediately incorporates this information into her own world view
C: You see a direct connection with your own knowledge and insights. On the hereditary side, there is a fundamental difference. Counselor explains hereditary cancer predispositions. What questions have come up regarding this section?	Reflection Strategy 4: Chunk-Check-Chunk. A reverse of EPE. A manageable chunk of information is given, followed by an open question to 'check' understanding and interpretation, followed by a second chunk of information
P: So that means, since my sister and I had the same cancer, there is a chance that one of these genes could play a role.	
C: There is a chance, but not definitive based on the remainder of your history. Counselor reviews pedigree in detail.	Chunk Check Chunk continued
C: Excerpt from later in the session. When a person is identified with Lynch syndrome, they have several options for management. Some might elect for increased screening, others choose to enroll in clinical trials, and some individuals would consider surgery to reduce their risk of cancer. Which options should we discuss first?	Strategy 5: Menu of Options: Counselor provides a list or diagram of potential topics to be discussed, allowing patient autonomy to choose among topics
P: Increased screening makes sense, what would that entail?	
C: Proceeds with explanation of increased surveillance options using chunk-check-chunk and Elicit-Provide-Elicit	

their collaborative goals. Some arrive already decided and committed to decision making, some are ambivalent, and others have strong motivations against the genetic counseling topic and may resent even having the conversation at all. Each of these starting points influences the genetic counseling encounter. Change talk and sustain talk statements are, by definition, verbal and clarify the patient's thought process towards the collaborative goal. Genetic counselors attuned to change talk, sustain talk and discord from their patients can utilize MI methods to affect momentum in the focusing process. The more adept a genetic counselor becomes at identifying and responding to change talk, sustain talk, and discord, the more efficient and collaborative the genetic counseling process.

Consider the following collaborative goals that a genetic counselor may encounter (Fig. 4). In Category A, several collaborative goals are described where the genetic counselor would have the desired outcome of resolving patient ambivalence in the direction of recommended management guidelines. In the collaborative goals described in Category B, patient ambivalence is high and the implications of the collaborative goal have significant competing values. In these situations genetic counselors would be very deliberate in counseling with equipoise.

In Category A, the genetic counseling process would be considered *directional*. The genetic counselor would utilize MI

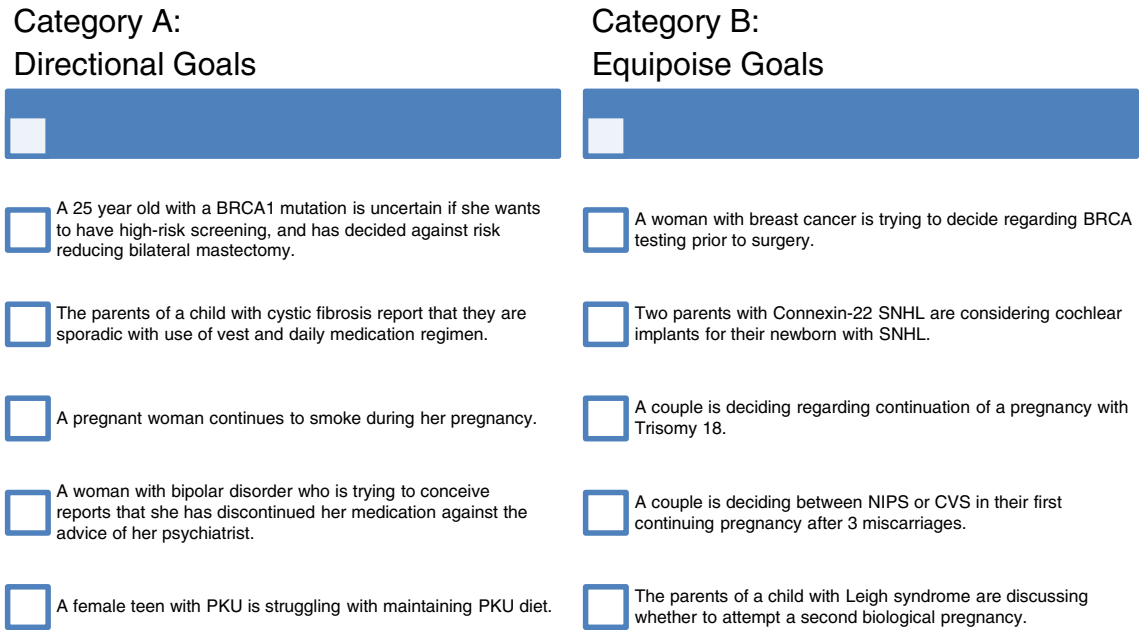

Fig. 4 Collaborative goals in genetic counseling

methods with the goal of adherence to best practice recommendations for each of these situations. Sustain talk would be elicited, validated and explored. Change talk would be amplified to facilitate internalized regulation of best practice recommendations. A recent publication highlights the potential role of the genetic counselor in a 'teachable moment' where directional genetic counseling regarding health behavior change could have significant impact in addressing health behaviors (Daly 2014).

Excerpt from Evoking: Directional Genetic Counseling regarding mammograms.

C: You mentioned that you have not had a mammogram since your early 40s. Tell me more about what your thoughts were about mammograms at the time?(Open Question)

P: Well, I had one or two. But I thought it was overkill. I was healthy. There was no history in my family. I believed that if something was wrong I would feel it (Sustain talk: reasons against mammogram).

C: You carefully thought through the pros and cons of that decision. (Complex Reflection). What are your thoughts on mammograms now, given your recent diagnosis? (Open question)

P: Things are different now. Now I know cancer can happen to me. Technology has changed, so that's important to consider. It seems better to know early, and be able to act on something when it is small. (Preparatory change talk- reasons)

C: While it was not the right choice for you in the past, your diagnosis has changed your perspective a bit. (Complex reflection)

P: I would have to think about it, keep in mind the safety of it. (Sustain talk: reasons)

C: What are your concerns about safety of mammograms? (Elicits and validates sustain talk)

P: I am concerned about the radiation, and also, how accurate is it?

C: Provides evidence based information regarding safety, specificity and sensitivity of mammograms. (Elicit-provide-elicit strategy of information giving)

P: Huh. Things have changed a lot. That is very different than before.

C: It is amazing how technology improves over time. (Reflection)

P: I was thinking. I will be meeting with my new GYN next month. I will also discuss mammograms with him (Mobilizing change talk - action) and then set up an appointment. (Mobilizing change talk: taking steps)

Genetic counselors may find that they are directional with a patient regarding health behaviors discussed in a genetic counseling session (mammograms) while in equipoise with respect to another topic (decision regarding testing). In Category B, a genetic counselor in equipoise remains active and engaged with the patient throughout the evoking process. The counselor guides the conversation so that a patient clarifies, develops, and analyzes his or her own ambivalence, and works toward resolution of competing values towards the collaborative goal. Without a doubt, this is one of the most challenging roles for the genetic counselor, as there is no single strategy or prescribed set of objectives on how to effectively guide an individual through ambivalence. The counselor may utilize several strategies to elicit change talk and sustain talk regarding the collaborative goal. Examples include summarizing reflections, importance/confidence rulers and decisional balance graphs to assist the patient to resolve or clarify ambivalence (Table 4).

Ambivalence is an emotionally charged, distinctly unpleasant situation for patients. However, it is a normal state in the pathway to collaborative goals. It involves simultaneous conflicting motivations, and is therefore uncomfortable. One method of stepping out of the discomfort is the oft-heard question of genetic counseling "What would you do if you were me?" This type of question is a direct request for

Table 4 Case illustration of equipoise genetic counseling for collaborative goal

Case Illustration Excerpt	MI Strategies In Decision Making, Skills and Analysis
C: Provides explanation of genetic testing vs. tumor analysis for Lynch syndrome, including risks, benefits and limitations of each test. To summarize, one type of testing is already in progress to identify any tumor changes that would further indicate Lynch syndrome (MSI and IHC). In addition, there is the option of performing a blood test (GYN Cancer Panel) that would assess the genes involved with Lynch syndrome, as well as other genes aside from Lynch that could identify a hereditary cause for endometrial cancer. I'm wondering what your thoughts are on these options?	Linking summary Open question to elicit patient perspective
P: It's a lot to consider. So you're saying that one of these tests, the tumor one is already in the works. But I can decide about the other one.	
C: That's correct. The 'tumor' test detects about 95% of Lynch syndrome, but will not detect all cases. It will also not identify other causes for GYN cancers in the family.	
P: It is just so much to think about! I don't want to miss information that may help, but finding out information that we don't understand (VUS) would be very frightening. And I am not quite sure how all of this fits. In my mind, there are more important causes in a person's life that relate to cancer (referring to her beliefs as a spiritual counselor) and I don't quite know how to fit it all together. What do you think I should do?	Patient statement reflects the high level of ambivalence experienced by this patient in making this decision. The 'what would you do' question is a clear request for assistance in the decision making process
C: For many people this is a very difficult decision to make, as there are so many different factors to balance. It would be nice if there was an easy 'fix' that someone could provide for you. Over our conversation you have had some great insights into your experience, and these will be critical in helping you move forward. I can see you are really struggling with this decision. I do not want to influence your decision, but I may be able to help explore both sides in more detail. Would that be helpful to you?	Counselor informs patient of intention to be in equipoise during the decision making process. Counselor affirms patient strengths and insights, and affirms competence to make this decision
C: What would you hope to learn from this test? What ideas do you have for how you would manage those risks? What are some of the advantages/disadvantages of doing this test? Suppose you decided to do/not do ____. What is the best outcome that could happen? What is the worst case scenario? If you did/did not decide to _____ what do you hope would be different in the future?	Counselor asks a series of open questions to elicit change talk, and repeating questions to elicit the sustain talk. Following each open question the counselor reflects and summarizes the patient's language. The counselor pays attention to the strength of the change talk and sustain talk to continue the conversation until one side of the ambivalence emerges as the stronger.

assistance in navigating through the ambivalence, as opposed to a request for what the counselor would do, or what the counselor thinks *they* should do. Engagement is critical in this process as the counselor acknowledges and reflects the patient's discomfort that arises from exploring ambivalence in the evoking process. All evocative questions that are directional in MI become double sided when working in equipoise, with equal attention given to the patient's sustain talk and change talk.

With skillful use of equipoise, the MI genetic counselor will hear a gradual shift in the ratio of change talk to sustain talk. Initially, the genetic counselor will want to pay careful attention to equipoise and ensure that all evoking strategies are "double sided" and equal opportunity is allowed to explore the change and sustain talk surrounding the collaborative goal. As the patient tips the balance more towards one side of the collaborative goal, the genetic counselor can follow the patient's lead towards directional counseling and ask for elaboration of the stronger change or sustain talk they are hearing. The goal is to help patients be more specific about their desire, ability, reasons, need or plans.

Evoking is a flexible process. The goal of the counselor is to listen with curiosity and acceptance for the patient's change talk and sustain talk for the collaborative goal, and respond with equipoise first, evocation and directional MI second, as the patient moves along resolution or reduction of their own ambivalence. With equipoise and specific evoking strategies the counselor can facilitate movement through ambivalence to a patient-driven directional genetic counseling process.

Process 4: Planning in Genetic Counseling

In a number of genetic counseling sessions, the MI processes of engagement and focusing will allow a highly motivated patient to actively move through the evoking process simultaneous to focusing, with minimal focus on ambivalence. Use of MI methods in these sessions can efficiently summarize

change talk volunteered from the patient during the previous processes, and both patient and counselor can conclude the session with planning for the collaborative goal.

When a patient's direction reaches a threshold of readiness, the balance of ambivalence resolves in favor of one side of the collaborative goal. Signals of readiness for movement to the planning process include an increase in change talk (preparatory or mobilizing), resolve, envisioning, and questions about change. A key planning process strategy for the genetic counselor is to provide a collecting summary that synthesizes the strongest change or sustain talk provided by the patient, and then ask a version of the 'key question'; So where does this leave you? What do you see as your next steps? These open questions are not asking for commitment, but asking for the patient's interpretation of their own summarized motivations (Glynn and Moyers 2010).

Excerpt from Case Illustration:
C: We've covered a lot of information regarding testing options today. What I have heard from you is that while completing the tumor testing would be helpful, you see more drawbacks with gene testing as that can provide inconclusive results. (*Summary*)
P: Yes, that sounds about right.
C: What do you see as your next step? (*Open question*)
P: Well, once I have those results from the tumor test, if they are normal I will stop there. If the tumor test is positive, then it makes sense to proceed with gene testing, because that could confirm things for my sister and family, and then I would be watched in a different way. (*Genetic counselor nods*) So for right now I will wait for those results, and talk to my doctor next week about scheduling a mammogram and a colonoscopy for this summer.

Planning encompasses both developing commitment to change and formulating a specific plan of action. For some patients, once they reach a decision for change, they may not need or want additional help with planning. For others, continued conversations in planning promote autonomous decision making, reinforcement of change talk, or adaptation to unanticipated challenges and new obstacles. Planning involves a collaborative discussion of change goals and plans, exchange of information, and specific next steps for implementation. Movement through these processes while integrating partnership, acceptance, compassion, and evocation is the hallmark of MI (Rollnick et al. 2008). It is common for the planning process to revisit evoking or other prior processes to consolidate motivation and confidence.

Summary of MI Applied to REM Genetic Counseling

Figure 5 demonstrates an internal dialogue for the genetic counselor to conceptualize the different processes of MI in action. It is also instructive to summarize what MI is not (Table 5) (Miller and Rollnick 2009b). Careful attention to the spirit of MI ensures that these strategies are not a technique to be used 'on' a patient, but a method of collaborative accomplishment of REM goals.

In summary, MI strategies of engaging, focusing, evoking and planning can be utilized to accomplish REM goals in the genetic counseling encounter. A genetic counselor can decide regarding a directional or equipoise approach to the individual patient or situation and utilize counseling strategies to facilitate the collaborative goals of the patient.

Fig. 5 Internal Questions for the Genetic Counselor in MI

Table 5 What motivational interviewing is not

What Motivational Interviewing is Not	Explanation
Just being nice to people	MI utilizes empathy and unconditional positive regard. It does not pander or praise people on a superficial level
Identical to client centered counseling	The focusing, evoking and planning processes of MI have a clear directional goal, and the counselor uses intentional strategic movement towards a collaborative goal
A Technique	MI is not a 'quick fix' or a series of techniques to use 'to' a person. It is a complex style that develops in proficiency over many years
A universal solution to any counseling problem	Spirit and style of MI can be used across a wide range of clinical tasks. However the evoking process that defines MI is not necessary in every clinical interaction. When motivation for change is already strong, move ahead to planning
A way of manipulating people into a preconceived outcome	MI cannot be used to manufacture motivation that is not already there. MI respects the autonomy of the patient, and the underlying spirit of compassion emphasizes that MI is to be used to promote the welfare of others, not the counselor

Limitations of MI as a Method for the REM

Genetic counseling is a diverse field, with counselors engaged in a myriad of professional tasks in daily practice. It is important to realize that counseling methods such as MI are not a global approach to every patient scenario (Miller and Rollnick 2009b). MI spirit, OARS microskills, and MI processes of engaging, focusing and planning can be universally applied to patient encounters; however the evoking process to resolve ambivalence that defines MI is not always applicable to each interaction. A genetic counselor trained in the method of MI will be able to recognize which MI processes are needed to accomplish REM goals, and apply them to meet the individual needs of the patient.

The proposed utilization of MI in genetic counseling needs to be formally assessed. Multiple published studies have assessed the efficacy of integrating MI into other health promoting behaviors such as oral health, dietary modification, cholesterol reduction and safe sexual practices (Michie et al. 2009). However, these studies have focused on disease-specific outcomes rather than behavioral outcomes (Martins and McNeil 2009). In addition, the populations studied in these applications of MI are individuals with physical illnesses or specific health risks, as opposed to individuals *at risk* for specific health conditions (Morton et al. 2015). A recent publication (Geus de et al. 2016) described utilization of MI by trained psychosocial workers to assist genetic counselees in informing at-risk relatives. However, utilization of MI in this study was ancillary to the genetic counseling process. Genetic counselor integration of MI could broaden the clinical skills available to the genetic counselor to effectively integrate REM tenets and goals.

Application of MI in genetic counseling correlates more closely to its use in primary care settings as described in (Dunn et al. 2001) and (Knight et al. 2006). The MI strategies with highest correlation to improved behavior outcomes in primary care settings are goal setting, action planning, and problem solving (Morton et al. 2015). A counterpoint to this conclusion is that individuals with less ambivalence surrounding behavior change outcomes will be capable of engaging in conversations that involve these tasks, and this represents a selection bias towards patients with better outcomes. Ambivalence is a common hallmark of many genetic counseling processes where patients struggle with complex decisions that involve many competing risks, outcomes, and values, and therefore careful analysis of MI in equipoise is imperative.

Similar to the evolution of practice models and formalization of the genetic counseling process, the method of MI has undergone intense focus to correlate specific elements of MI that predict behavior change outcomes. In order to definitively assess the utility of MI in delivery of REM tenets and goals, MI strategies must be specified with a high degree of precision to ensure valid assessment of MI effectiveness. There is a symbiotic potential for development in each of the respective fields by systematically evaluating the methods, process, and specific behavioral strategies of MI within the REM. Further research is necessary to determine the specific MI elements that have the strongest correlation to achievement of REM goals in the genetic counseling process.

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Conflict of Interest Erin Ash declares that she has no conflict of interest.

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