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# Motivational Interviewing in Primary Care

Tim Anstiss

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**Abstract** Healthcare systems are in the process of reforming themselves to better meet the needs of people with, or at risk of developing, chronic diseases and long term conditions. One goal of these efforts is the coproduction of activated, informed, engaged and motivated patients and citizens. The clinical, public health and financial benefits of achieving such a goal may be dramatic. Motivational Interviewing (MI) is a proven and practical front-line approach which can help deliver this goal whilst also helping to deliver such policy objectives and intermediate outcomes as increased levels of patient centered care, participatory or shared decision making, evidence-based healthcare and improved clinician-patient relationships. Until now, MI has been passively diffusing through the system as a result of the innovation and early uptake by insightful individuals and organizations. If healthcare systems want to breakthrough to higher levels of performance, investment in the conscious and deliberate implementation of MI into front-line settings may prove helpful.

**Keywords** Motivational interviewing · Brief interventions · Primary care · Chronic disease management · Healthcare reform · Patient centered care · Shared decision making

Motivational Interviewing (MI) is an evidence-based clinical approach delivering a wide range of benefits to patients, clinicians and healthcare organizations alike. However, its full potential to improve both individual and

population health and wellbeing outcomes is a long way from being realized. This article provides a description of MI, where it comes from, evidence of its effectiveness and how its potential might be better realized.

Chronic or long term conditions are common, costly and result in a huge burden of ill-health and disability in many nations (Pomerleau, Knai, & Nolte, 2008; Mokdad, Marks, Stroup, & Gerberding, 2004). In developed nations a combination of population ageing and advancing medical technology means the prevalence of long term conditions is increasing (Yach, Hawkes, Gould, & Hofman, 2004). Data from the Centers for Disease Control and Prevention indicate that just four modifiable behavior risk factors—tobacco use, unhealthy diet, physical inactivity and excess alcohol consumption—cause up to 40% of mortality in the US (Mokdad et al., 2004).

Faced with this growing burden of partially preventable and modifiable ill-health (World Health Organization [WHO], 1998; Sabate, 2003; Ashenden, Silagy, & Weller, 1997), healthcare systems are experimenting with a range of policies and strategies (Rosen, Asaria, & Dixon, 2007) to improve the way they respond to, engage with, activate and support patients with long term conditions, with the goal of helping them change their behavior, engage in more self care (Lorig et al., 1999) and live longer, more independent, higher quality lives (UK Department of Health, 2008).

A recent review (Singh, 2005) of interventions targeting the way care for people with long term conditions is organized and delivered found evidence to support the beneficial impact of a range of initiatives on patient and system outcomes including: the use of broad chronic care management models; involving people with long term conditions in decision making; greater reliance on primary care; providing accessible structured information; self-management education and the use of nurse led strategies.

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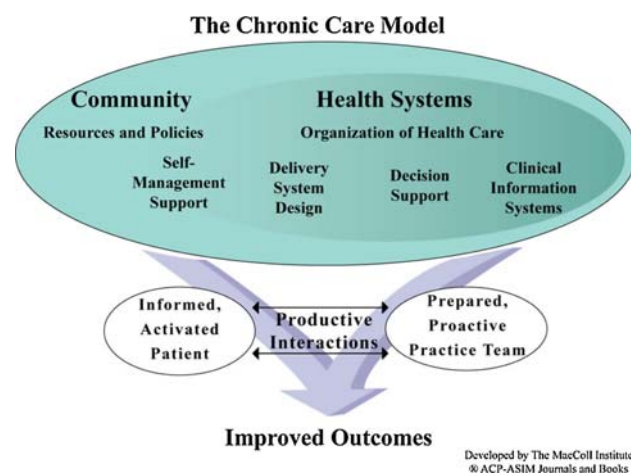
## An Evidence-Based Model to Inform System Reform

Perhaps the most empirically informed and extensively tested model relevant to the redesign of primary care systems to improve care and outcomes for people with long term conditions is the Chronic Care Model (Bodenheimer, Wagner, & Grumbach, 2002) developed by Ed Wagner and the MacColl Institute (Wagner, Davis, Schaefer, Von Korff, & Austin, 1999; Wagner et al., 2001). Please see Fig. 1.

Implementation of the model has led to favourable outcomes in a range of conditions (Asch et al., 2005; Mangione-Smith et al., 2005; Schonlau et al., 2005; Vargas et al., 2007). According to the developers of the model, the essential element of good chronic illness care is a “productive interaction” in which the work of evidence-based chronic disease care gets done in a systematic way, and patient needs are met—including the delivery of behavioural support to help patients become better self-managers. To deliver superior outcomes (clinical, functional, financial and satisfaction) the model suggests healthcare systems must get better at creating “informed, activated patients”—patients who have goals and a plan to improve their health, along with the motivation, information, skills, and confidence required to manage their illness well.

### How Might this Best be Done? Motivational Interviewing (MI) as One Useful Approach

MI is an empirically supported (Rubak, Sandbæk, Lauritzen, & Christensen, 2005; Burke, Arkowitz, & Mechola, 2003), theoretically consistent (Markland, Ryan, Tobin, & Rollnick, 2005; Vansteenkiste & Sheldon, 2006) and rapidly diffusing approach which improves the quality of the clinician-patient interaction.



**Fig. 1** The Chronic Care Model

Defined as “a client centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence” (Miller & Rollnick, 2002) and more recently as “a person-centered method of guiding to elicit and strengthen personal motivation for change” (Miller & Rollnick, 2009) MI originated as a clinical method in the addiction field which was subsequently supported by empirical research and theoretical explanations. It is currently being used by clinicians and other professionals to deliver improved outcomes in a wide range of different fields and settings including public health and the workplace (Hersey et al., 2008), sexual health (Petersen, Albright, Garrett, & Curtis, 2007), dietary change (Vanwormer & Boucher, 2004), weight loss (Carels et al., 2007), voice therapy (Behrman, 2006), gambling (Wulfert, Blanchard, Freidenberg, & Martell, 2006), physical activity promotion (Bennett, Lyons, Winters-Stone, Nail, & Scherer, 2007), medication adherence (Cooperman, Parsons, Chabon, Berg, & Arnsten, 2007), diabetes (Channon et al., 2007), mental health (Arkowitz, Henny, Westra, Miller, & Rollnick, 2008)—including depression, anxiety, OCD, eating disorders and dual diagnosis—fibromyalgia (Ang, Kesavalu, Lydon, Lane, & Bigatti, 2007), chronic leg ulceration (Morris & White, 2007), criminal justice (Woodall, Delaney, Kunitz, Westerberg, & Zhao, 2007), vascular risk (West, DiLillo, Bursac, Gore, & Greene, 2007), stroke rehabilitation (Watkins et al., 2007), chronic pain (Rau, Ehlebracht-Konig, & Peterman, 2008), self-care (Riegel et al., 2006), domestic violence (Wahab, 2006) and child health (Schwartz et al., 2007). The approach is relatively systematic and has been (and continues to be) well evaluated from both an outcome and process perspective. Publications evaluating the effectiveness of MI have been doubling every 3 years (<http://motivationalinterview.org/library/biblio.html>).

The approach has a goal, a spirit and several principles. It requires competency in several core communication skills, and is commonly delivered with the aid of several tools or strategies. Key aspects of client speech guide the skilful practitioner in their efforts to be as helpful as possible to their patients.

The goal of MI is health behavior change—which might be medication taking, physical activity, smoking cessation, reduced illicit drug use, attending an appointment or practicing safe sex. The spirit of the approach is characterized as being collaborative, autonomy supporting and evocative. ‘Collaborative’ in that the clinician works with and alongside the patient, addressing their concerns and helping them make progress towards their goals rather than entering into a confrontation due to a mismatch of agendas and needs. ‘Autonomy supporting’ in that the practitioner never forgets that the patient is the active decision maker, and that making decisions may be good for people from a

personal development perspective even if the choice they make may not have been “technically” best. (This is consistent with Self-Determination Theory’s emphasis on autonomy as a “psychological nutriment” essential for healthy human development and thriving (Ryan & Deci, 2000)). ‘Evocative’ in that the practitioner seeks to draw concerns and solutions out of the patient, underpinned by a belief that the patient is the expert in their own lives and that, to quote a French mathematician: “People are generally better persuaded by the reasons which they themselves discovered, than by those which have come into the minds of others” (Blaise Pascal, 1669). And this is not just theoretical—a clinician’s ability to manifest the spirit of the approach can be reliably measured (Moyers, Martin, Catley, Harris, & Ahluwalia, 2003; Madsen & Campbell, 2006) and seems to be a predictor of both increased client responsiveness and treatment outcome (Gaume, Gmel, & Daepfen, 2008; Moyers, Martin, Houck, Christopher, & Tonigan, 2008).

The principles of the MI approach (Miller & Rollnick, 2002; Rollnick, Miller, & Butler, 2007) are summarized by the alliterative: Express Empathy; Develop Discrepancy; Roll with Resistance and Support Self-Efficacy and the acronym R.U.L.E.: Resist the righting reflex; Understand your patient’s dilemma and motivations; Listen to and Empower your patients.

The core communication skills which MI practitioners strive to master are: asking skilful open-ended questions; making well-timed affirmations; making frequent and skilful reflective listening statements and using summaries to communicate understanding. Significant progress can be made in helping patients explore and resolve their ambivalence about behavior change using just these four skills, remembered by the acronym O.A.R.S.

MI practitioners make use of several tools and strategies to develop empathy and help their patients explore and resolve their ambivalence about behavior change, but these tools and strategies are not unique to MI nor do they define it. Furthermore, unthinking, mechanical or inflexible use of these tools and strategies can get in the way of the spirit of the approach and the deployment of the principles, possibly interfering with the maintenance of empathy and rapport and reducing the chances of good outcomes. That being said, commonly used tools and strategies include: setting the scene; agreeing on the agenda; exploring a typical day; assessing importance and confidence; exploring two possible futures; looking back and looking forwards; exploring options; agreeing goals and agreeing to a plan.

In MI, two key aspects of client speech guide the practitioner in their efforts to help clients enjoy higher levels of future health and wellbeing: “change talk” and “resistance”. Change talk comprises client verbalizations that signal desire, ability, reasons, need, or commitment to

change (D.A.R.N—C) (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003) and MI practitioners are trained to recognize change talk, elicit it and develop it once it has occurred. Studies by Amrhein et al. (2003) using psycholinguistic analysis have shown that abstinence from illicit drugs can be predicted by the strength of client commitment language during MI sessions, a finding in line with other research indicating that client verbalization of specific implementation intentions predicts subsequent behavior change (Chiasson, Park, & Schwarz, 2001; Gollwitzer, 1999). Resistance, in contrast, can be considered a state of oppositional, angry, irritable or suspicious patient behavior which bodes poorly for treatment effectiveness (Beutler, Moleiro, & Talebi, 2002). MI practitioners use a range of strategies to avoid triggering resistance in the first place and “roll” with resistance as and when it is observed (Moyers & Rollnick, 2002). Recent process research suggests that attending to client language may help mediate client outcome and that MI may substantially increase change talk and reduce resistance relative to other approaches (Miller, Benefield, & Tonigan, 1993).

### Motivational Interviewing and its Relationship to Other Areas of Psychology

Whilst MI is sometimes spoken of as a form of cognitive behaviour therapy (CBT) and has its origins in behavioral approaches to the treatment of people with alcohol problems, there are important differences between MI and CBT approaches. Perhaps the most important is that the focus of MI is on helping the person resolve their ambivalence about behavior change—rather than helping them to acquire the cognitive, emotional, coping and behavioral skills required to live more healthily. Many people fail to change not because they can not, but because they have not yet decided that they want to. Once they have decided to change no further help may be needed. Of course many people do need help in changing and clinicians are well placed to support them, but in helping people acquire new skills they would be switching between MI and another approach—considered stage 8 in a recent paper exploring how people become more skilful in MI over time (Madson, Loignon, & Lane, 2009).

MI can be viewed through a “negative psychology” lens as an attempt to “fix” “repair” or “treat” someone who is somehow dysfunctional, or through a positive psychology (Seligman, Steen, & Peterson, 2005) lens as a way of helping a person reconnect with their values and experience positive emotions on their journey towards improved physical and psychological health. A recent paper by Wagner and Ingersoll (2008) explores how motivation involves a desire to experience positive emotions, and how

MI has the potential to elicit such positive emotions as interest, hope, contentment and inspiration as the practitioner helps clients imagine a better future for themselves, recall past successes and develop confidence in their ability to change and improve their lives. If MI does indeed help patients experience more frequent, intense or longer lasting positive emotional states, then this may be one of the mechanisms explaining the approach's effectiveness (Lyubomirsky, King, & Diener, 2005).

MI is complementary to and may even be synergistic with other treatment approaches (Hettema, Steele, & Miller, 2005). Clinicians can use the approach before, during or after other treatments, and the additional benefit may well be due to increased levels of patient engagement with and exposure to the effective elements of the other treatment.

In setting out their vision for a 21st century healthcare system the Institute of Medicine (2001) promotes patient centered care, defined as: "care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions". By explicitly asking patients about their concerns, hopes, aspirations and goals, by providing them with information on an as-needed basis to help them reach informed decisions, by helping them explore the advantages and disadvantages of different courses of action (not just in terms of clinical outcomes but in terms of other things which patients value) and by building their confidence in making successful health behaviour changes, MI can help clinicians deliver patient centered care.

Training in MI can also contribute towards improved clinician empathy. A systematic review of research into the verbal and non-verbal behaviors of primary care physicians (Beck, Daughtridge, & Sloane, 2002) identified 22 physician verbal behaviors and 16 specific non-verbal behaviors associated with favourable patient outcomes or patient characteristics, including: empathy; statements of reassurance or support; encouragement; explanations; addressing the feelings and emotions of patients; increased time on health education; friendliness; listening behavior; summarization; expression of positive reinforcement or good feelings in regard to certain patient's actions; receptivity to patient questions and statements; and allowing the patient's point of view to guide the conversation in the concluding part of the visit. Physician behaviors shown to be negatively associated with patient outcomes included: passive acceptance; formal behavior; antagonism and passive rejection; high rates of biomedical questioning; interruptions; a one way flow of information from patient to physician (information collection without feedback); irritation; and dominance. Whilst MI is not the only way to improve clinician communication skills in line with this evidence, its incorporation into a physician training program (Bonvicini et al., 2008) has been shown to improve physician global

empathy scores by 37% from baseline compared to a control group of physicians not receiving the training.

### How Motivational Interviewing can Help Health Systems Deliver Integrated Care

MI can help healthcare systems with the task of integration in several ways:

- (1) MI can help implement the CIC model of integrated chronic disease management care—not least the key model element of activated, informed patients.
- (2) MI can contribute towards the building of more integrated teams—helping different professional groups work together towards a common purpose. MI skills are equally relevant to a wide range of primary care professions, and can help ensure a consistency of approach when members of the team work with the same patient—e.g. on weight loss or medication adherence issues. Shared training in the approach works well and can help break down inter-professional barriers, building increased trust and understanding between different parts of the system. It can help build consensus around the preferred models, pathways and skills required to make high quality health behaviour change a reality in front line settings, whilst providing a common framework and language to talk about this key aspect of patient care and primary care improvement.
- (3) MI can help clinicians integrate evidence-based medicine with patient centered care and shared decision making. One of the key challenges in becoming an evidence-based practitioner is incorporating patient preferences into the decision making process during the clinical encounter (Barratt, 2008). Once the clinician has determined the best course of action for a patient from a technical and future health risk perspective, MI can help the clinician share the individualized evidence with the patient in a neutral, non-judgemental way—eliciting their views and preferences and incorporating this into the agreed way to move forward.
- (4) MI can help integrate physical and mental healthcare. Clinicians whose focus is physical healthcare can sometimes feel uncomfortable asking patients about mental health issues. By increasing clinician confidence with a guiding style of consultation, MI may serve to increase some clinicians' readiness to ask their patients about any associated mental health problems, and then to collaboratively explore options and ways forwards, supporting their patients in their efforts to recover lost mental and emotional health.



- (5) MI can help clinicians integrate treatment with prevention. By increasing clinician skill and confidence about surfacing and talking about lifestyle issues, MI can contribute to the delivery of at least “1 minute for prevention” (Stange, Woolf, & Gjeltema, 2002), helping primary care reduce the future burden of disease in individuals and communities.
- (6) MI can help integrate treatment with wellness and wellbeing approaches. By helping clinicians raise awareness about the behaviours, activities and skills likely to be associated with increased happiness, wellbeing, and quality of life (Lyubomirsky, 2007), MI has the potential to integrate the emerging insights from positive psychology into traditional disease models of care provision. This may not only help primary care clinicians get better clinical results with their patients, but may also help their patients flourish as human beings, enjoying improved satisfaction with life, enjoyment, resilience, and possibly longevity, productivity and disease resistance.
- (7) MI can help integrate clinical care and self-care. Skilled MI practitioners can make the transition between MI and other approaches during the course of a consultation, providing confident diagnostic and clinical services when required but also placing responsibility for making changes to lifestyle and health behaviour with the patient, whilst increasing their patients confidence about making such changes and improvement to their self care.
- (8) And finally MI can help more fully integrate models for detecting and treating substance abuse into primary care settings. This may be by improving the frequency and quality of screening for drug and alcohol problems, improving the quality of the follow up questions asked after the screening questions, improving the delivery of brief interventions, improving the quality of the referral to specialist services and/or by encouraging the deployment of behavioural health specialists delivering MI informed behaviour change services in primary care settings. In view of the burden of disease related to alcohol usage, and the better outcomes associated with earlier interventions (Ernst, Miller, & Rollnick, 2007) more fully integrating substance misuse services into primary care has the potential to significantly improve the health output of primary care systems.

### Summary and Conclusion

Healthcare systems the world over are reforming and redesigning themselves to better meet the current and

future health and wellbeing of people with, or at risk of developing, chronic diseases and long term conditions. A major goal of these efforts is increased healthcare system effectiveness and efficiency at co-producing activated, informed, engaged and motivated patients and citizens. The clinical, public health and financial benefits of achieving such a goal may be dramatic. MI is a proven and practical front-line approach which can help deliver this overarching goal as well as several other policy objectives and intermediate outcomes including increased levels of patient centered care, participatory or shared decision making, evidence-based healthcare and improved clinician-patient relationships. Up until now, MI has been passively diffusing through the system as a result of the innovation and early uptake by insightful individuals and organizations. If healthcare systems want to breakthrough to higher levels of performance, investment in the conscious and deliberate implementation of MI into front-line settings may prove helpful.

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### References

- Amrhein, P. C., Miller, W. R., Yahne, C. E., Palmer, M., & Fulcher, L. (2003). Client commitment language during motivational interviewing predicts drug use outcomes. *Journal of Consulting and Clinical Psychology, 71*, 862–878. doi:10.1037/0022-006X.71.5.862.
- Ang, D., Kesavalu, R., Lydon, J. R., Lane, K. A., & Bigatti, S. (2007). Exercise-based motivational interviewing for female patients with fibromyalgia: A case series. *Clinical Rheumatology, 26*, 1843–1849. doi:10.1007/s10067-007-0587-0.
- Asch, S., Baker, D., Keeseey, J., Broder, M., Schonlau, M., Rosen, M., et al. (2005). Does the collaborative model improve care for chronic heart failure? *Medical Care, 43*, 667–675. doi:10.1097/01.mlr.0000167182.72251.a1.
- Ashenden, R., Silagy, C., & Weller, D. (1997). A systematic review of the effectiveness of promoting lifestyle change in general practice. *Family Practice, 19*, 239–263.
- Barratt, A. (2008). Evidence based medicine and shared decision making: The challenge of getting both evidence and preferences into healthcare. *Patient Education and Counseling, 73*, 407–412. doi:10.1016/j.pec.2008.07.054.
- Beck, R., Daughtridge, R., & Sloane, P. (2002). Physician-patient communication in the primary care office: A systematic review. *Journal of the American Board of Family Practice, 15*, 25–38.
- Behrman, A. (2006). Facilitating behavioral change in voice therapy: The relevance of motivational interviewing. *American Journal of Speech-Language Pathology, 15*, 215–225. doi:10.1044/1058-0360(2006/020).
- Bennett, J. A., Lyons, K. S., Winters-Stone, K., Nail, L. M., & Scherer, J. (2007). Motivational interviewing to increase physical activity in long-term cancer survivors: A randomized controlled trial. *Nursing Research, 56*, 18–27. doi:10.1097/00006199-200701000-00003.
- Beutler, L. E., Moleiro, C., & Talebi, H. (2002). Resistance in psychotherapy: What conclusions are supported by research?

- Journal of Clinical Psychology*, 58, 207–217. doi:10.1002/jclp.1144.
- Blaise Pascal. (1669). *Pensées*. Retrieved Nov 21, 2008, from <http://www.gutenberg.org/etext/18269>.
- Bodenheimer, T., Wagner, E., & Grumbach, K. (2002). Improving primary care for patients with chronic illness: The chronic care model, Part 2. *JAMA*, 288, 1909–1914. doi:10.1001/jama.288.15.1909.
- Bonvicini, K. A., Perlin, M. J., Bylund, C. L., Carrol, G., Rouse, R. A., & Goldstein, M. G. (2008). *Impact of communication training on physician expression of empathy in patient encounters*. Patient Educ Couns. Accessed Jan 27, 2008, from <http://www.sciencedirect.com/science/journal/07383991>.
- Burke, B., Arkowitz, H., & Mechola, M. (2003). The efficacy of motivational interviewing: A meta-analysis of controlled clinical trials. *Journal of Consulting and Clinical Psychology*, 71, 843–861. doi:10.1037/0022-006X.71.5.843.
- Carels, R. A., Darby, L., Cacciapaglia, H. M., Konrad, K., Coit, C., Harper, J., et al. (2007). Using motivational interviewing as a supplement to obesity treatment: A stepped-care approach. *Health Psychology*, 26, 369–374. doi:10.1037/0278-6133.26.3.369.
- Channon, S. J., Huws-Thomas, M. V., Rollnick, S., Hood, K., Cannings-John, R. L., Rogers, C., et al. (2007). A multicenter randomized controlled trial of motivational interviewing in teenagers with diabetes. *Diabetes Care*, 30, 1390–1395. doi:10.2337/dc06-2260.
- Chiasson, A. L., Park, D. C., & Schwarz, N. (2001). Implementation intentions and facilitation of prospective memory. *Psychological Science*, 12, 457–461. doi:10.1111/1467-9280.00385.
- Cooperman, N. A., Parsons, J. T., Chabon, B., Berg, K. M., & Arnsten, J. H. (2007). The development and feasibility of an intervention to improve HAART adherence among HIV-positive patients receiving primary care in methadone clinics. *Journal of HIV/AIDS and Social Services*, 6, 101–120. doi:10.1300/J187v06n01\_07.
- Ernst, D., Miller, W., & Rollnick, S. (2007). Treating substance abuse in primary care: A demonstration project. *International Journal of Integrated Care*, 7(e36), 1–8.
- Gaume, J., Gmel, G., & Daeppen, J.-B. (2008). Brief alcohol interventions: Do counsellors' and patients' communication characteristics predict change? *Alcohol and Alcoholism (Oxford, Oxfordshire)*, 43, 62–69. doi:10.1093/alcalc/agm141.
- Gollwitzer, P. M. (1999). Implementation intentions: Simple effects of simple plans. *American Psychologist*, 54, 493–503. doi:10.1037/0003-066X.54.7.493.
- Hersey, J., Williams-Piehot, P., Sparling, P., Alexander, J., Hill, M., Isenberg, K. B., et al. (2008). Promising practices in promotion of healthy weight at small and medium-sized US worksites. *Preventing Chronic Disease*, 5, A122.
- Hettema, J., Steele, J., & Miller, W. R. (2005). Motivational interviewing. *Annual Review of Clinical Psychology*, 1, 91–111. doi:10.1146/annurev.clinpsy.1.102803.143833. <http://www.motivationalinterview.org/library/biblio.html>. Accessed Dec 19, 2008.
- Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC.
- Lorig, K., Sobel, D., Stewart, A., Brown, B., Jr, Ritter, P., Gonzalez, V., et al. (1999). Evidence suggesting that a chronic disease self-management program can improve health status whilst reducing utilization and costs: A randomized trial. *Medical Care*, 37, 5–14.
- Lyubomirsky, S. (2007). *The how of happiness. A scientific approach to getting the life you want*. USA: Penguin.
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803–855.
- Madsen, M. B., & Campbell, T. C. (2006). Measures of fidelity in motivational enhancement: A systematic review. *Journal of Substance Abuse Treatment*, 31, 67–73.
- Madson, M., Loignon, A., & Lane, C. (2009). Training in motivational interviewing: A systematic review. *Journal of Substance Abuse Treatment*, 36, 101–109.
- Mangione-Smith, R., Schonlau, M., Chan, K., Keesey, J., Rosen, M., Louis, T. E., et al. (2005). Measuring the effectiveness of a collaborative for quality improvement in pediatric asthma care: Does implementing the chronic care model improve processes and outcomes of care? *Ambulatory Pediatrics*, 5, 75–82.
- Markland, D., Ryan, R., Tobin, V., & Rollnick, S. (2005). Motivational interviewing and self-determination theory. *Journal of Social and Clinical Psychology*, 24, 811–831.
- Miller, W. R., Benefield, R. G., & Tonigan, J. S. (1993). Enhancing motivation for change in problem drinking: A controlled comparison of two therapist styles. *Journal of Consulting and Clinical Psychology*, 61, 455–461.
- Miller, W., & Rollnick, S. (2002). *Motivational interviewing* (2nd ed.). New York: Guilford Press.
- Miller, W. R., & Rollnick, S. (2009). Ten things that motivational interviewing is not. *Behavioural and Cognitive Psychotherapy*, 1–12 (in press).
- Mokdad, A., Marks, J., Stroup, D., & Gerberding, J. (2004). Actual causes of death in the United States, 2000. *JAMA*, 291, 1238–1245.
- Morris, T., & White, G. (2007). Motivational interviewing with clients with chronic leg ulceration. *British Journal of Community Nursing*, 12, S26–S30.
- Moyers, T. B., Martin, T., Catley, D., Harris, K. J., & Ahluwalia, J. S. (2003). Assessing the integrity of motivational interventions: Reliability of the Motivational Interviewing Skills Code. *Behavioural and Cognitive Psychotherapy*, 31, 177–184.
- Moyers, T. B., Martin, T., Houck, J. M., Christopher, P. J., & Tonigan, J. S. (2008). From in-session behaviors to drinking outcomes: A causal chain for motivational interviewing [Revision under review, *Journal of Consulting and Clinical Psychology*].
- Moyers, T., & Rollnick, S. (2002). A motivational interviewing perspective on resistance in psychotherapy. *Journal of Clinical Psychology*, 58, 185–193.
- Petersen, R., Albright, J., Garrett, J. M., & Curtis, K. M. (2007). Pregnancy and STD prevention counselling using an adaptation of motivational interviewing: A randomized controlled trial. *Perspectives on Sexual and Reproductive Health*, 39, 21–28.
- Pomerleau, J., Knai, C., & Nolte, E. (2008). The burden of chronic disease in Europe. In E. Nolte & M. McKee (Eds.), *Caring for people with chronic conditions. A health systems perspective* (pp. 15–42). UK: Open University Press.
- Rau, J., Ehlebracht-König, I., & Peterman, F. (2008). Impact of a motivational intervention on coping with chronic pain: Results of a controlled efficacy study. *Schmerz*, 22, 575–578, 580–585 (in German).
- Riegel, B., Dickson, V., Hoke, L., McMahon, J. P., Reis, B. F., & Sayers, S. (2006). A motivational counselling approach to improving heart failure self-care: Mechanisms of effectiveness. *Journal of Cardiovascular Nursing*, 21, 232–241.
- Rollnick, S., Miller, W., & Butler, C. (2007). *Motivational interviewing in health care. Helping patients change behavior*. New York: Guilford Press.
- Rosen, R., Asaria, P., & Dixon, A. (2007). *Improving chronic disease management. An Anglo-American exchange*. Kings Fund, London.
- Rubak, S., Sandbæk, A., Lauritzen, T., & Christensen, B. (2005). Motivational interviewing. A systematic review and meta analysis. *British Journal of General Practice*, 55, 305–312.

- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68–78.
- Sabate, E. (2003). *Adherence to long-term therapies. Evidence for action*. Geneva: WHO.
- Schonlau, M., Mangione-Smith, R., Chan, K. S., Keeseey, J., Rosen, M., Louis, T. A., et al. (2005). Evaluation of a quality improvement collaborative in asthma care: Does it improve processes and outcomes of care? *Annals of Family Medicine*, *3*, 200–208.
- Schwartz, R. P., Hamre, R., Dietz, W. H., Wasserman, R. C., Slora, E. J., Myers, E. F., et al. (2007). Office-based motivational interviewing to prevent childhood obesity: A feasibility study. *Archives of Pediatrics and Adolescent Medicine*, *161*, 495–501.
- Seligman, M., Steen, T., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, *60*, 410–421.
- Singh, D. (2005). *Transforming chronic care evidence about improving care for people with long term conditions*. UK: University of Birmingham, NHS Institute for Innovation and Improvement.
- Stange, K. C., Woolf, S. H., & Gjeltema, K. (2002). One minute for prevention—the power of leveraging to fulfil the promise of health behaviour change counselling. *American Journal of Preventive Medicine*, *22*, 320–323.
- UK Department of Health. (2008). *Raising the profile of long term conditions care. A compendium of information*. London: UK Department of Health.
- Vansteenkiste, M., & Sheldon, M. (2006). There's nothing more practical than a good theory: Integrating motivational interviewing and self-determination theory. *British Journal of Clinical Psychology*, *45*, 63–82.
- Vanwormer, J., & Boucher, J. L. (2004). Motivational interviewing and diet modification: A review of the evidence. *Diabetes Educator*, *30*, 404–419.
- Vargas, R., Mangione, C. M., Asch, S., Keeseey, J., Rosen, M., Schonlau, M., et al. (2007). Can a chronic care model collaborative reduce heart disease risk in patients with diabetes? *General Internal Medicine*, *22*, 215–222.
- Wagner, E., Austin, B., Davis, C., Hindmarsh, M., Schaefer, J., & Bonomi, A. (2001). Improving chronic illness care: Translating evidence into action. *Health Affairs*, *20*, 64–78.
- Wagner, E., Davis, C., Schaefer, J., Von Korff, M., & Austin, B. (1999). A survey of leading chronic disease management programs: Are they consistent with the literature? *Managed Care Quarterly*, *7*, 56–66.
- Wagner, C., & Ingersoll, K. (2008). Beyond cognition: Broadening the emotional base of motivational interviewing. *Journal of Psychotherapy Integration*, *18*, 191–206.
- Wahab, S. (2006). Motivational interviewing: A client centered and directive counselling style for work with victims of domestic violence. *Arête*, *29*, 11–22.
- Watkins, C. L., Auton, M. F., Deans, C. F., Dickinson, H. A., Jack, C. I. A., Lightbody, C. E., et al. (2007). Motivational interviewing early after acute stroke: A randomized, controlled trial. *Stroke*, *38*, 1004–1009.
- West, D. S., DiLillo, V., Bursac, Z., Gore, S. A., & Greene, P. G. (2007). Motivational interviewing improves weight loss in women with type 2 diabetes. *Diabetes Care*, *30*, 1081–1087.
- Woodall, W. G., Delaney, H. D., Kunitz, S. J., Westerberg, V. S., & Zhao, H. (2007). A randomized trial of a DWI intervention program for first offenders: Intervention outcomes and interactions with antisocial personality disorder among a primarily American-Indian sample. *Alcoholism: Clinical and Experimental Research*, *31*, 974–987.
- World Health Organization. (1998). Obesity: Preventing and managing the global epidemic. *Technical Report Series No 894*. Geneva.
- Wulfert, E., Blanchard, E. B., Freidenberg, B. M., & Martell, R. S. (2006). Retaining pathological gamblers in cognitive behavior therapy through motivational enhancement: A pilot study. *Behavior Modification*, *30*, 315–340.
- Yach, D., Hawkes, C., Gould, C., & Hofman, K. (2004). The global burden of chronic diseases. *JAMA*, *291*, 16–22.