Annotated Bibliography

Choices and Changes: Motivating Healthy Behavior

Institute for Healthcare Communication

Institute for Health Care Communication
171 Orange Street, 2nd Floor 2R, New Haven, Connecticut 06510-3111
1-800-800-5907

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** Denotes reference from benchmark / classic literature*

Ackerman E, Falsetti SA, Lewis P, Hawkins AO, & Heinschel JA. (2011). **Motivational interviewing: A behavioral counseling intervention for the family medicine provider.** *Family Medicine,* 43(8): 582-585.

BACKGROUND AND OBJECTIVES: This study investigated whether adult participants who receive a brief motivational interviewing (MI) intervention delivered by a family medicine provider (family nurse practitioner or family medicine resident [MD]) progress to the next stage of change and increase physical activity.
METHOD: A pilot study that included enrollment of 30 patients who failed usual care counseling to increase physical activity by their family medicine provider. Each study participant received three MI sessions over a 3-month period and an initial face-to-face session followed by two telephone counseling sessions scheduled approximately a month apart. Stages of Change were measured by the Exercise Stages of Change Short Form, and physical activity was measured using the Community Healthy Activities Model Program (CHAMPS) activities questionnaire.
RESULTS: Among the study participants, 80% (n=24) progressed to the next stage of change. Study participants also increased activity from baseline to completion.
CONCLUSIONS: MI counseling offers promise as a valuable intervention that can be used by family medicine providers to address patients' ambivalence to promote advancement through the stages of change and increase physical activity in the overweight patients.

*Ajzen I, & Fishbein M. (1980). **Understanding attitudes and predicting social behavior**. Englewood Cliffs, NJ: Prentice-Hall.

CONCEPT OF PROBLEM DEVELOPMENT: A person's intention is a function of his/her attitude toward the behavior and the perception of the social pressures put on him/her to perform or not to perform the behavior (also known as the "subjective norm"). In order to define and measure behavior, one should determine whether the interest is in the behaviors or the outcomes of those behaviors.
CONCEPT OF CHANGE: Any behavior is described as having the following four elements: the action, the target at which the action is directed, the context in which it occurs, and the time at which it is performed. Behaviors have been found to be predictable from the intentions of individuals. However, unlike behaviors, outcomes are not completely under a person's volitional control. To be able to predict outcome, intentions should be measured, behaviors should be identified, and other factors that can potentially control the outcome must be addressed. The theory of reasoned action offers a conceptual understanding of attitudes and provides theoretical measures for predicting behaviors and outcomes of those behaviors. It has shown to be applicable to understanding and predicting areas of weight loss, women's occupational orientations, family planning behaviors, consumer behavior, voting in American and British elections, and the behavior of alcoholics.
INTERVENTIONS: Not specifically defined.

Allsop S. (2007). **What is this thing called motivational interviewing?** *Addiction*, 102: 343–345.

The authors review what is known about Motivational Interviewing, then pose critical questions:
- What theoretical models best help us understand and advance MI?
- How do we effectively assess the impact of MI and what does the current body of evidence tell us?
- Why, or by what processes, does MI work?
- How do we define, operationalize and measure the essence, or spirit, as well as the techniques of MI?
- How do we measure reliably and practically the effective application of MI?

*Anderson RM, Funnell MM, Butler PM, Arnold MS, Fitzgerald JT, & Feste CC. (1995). **Patient empowerment: Results of a randomized controlled trial.** *Diabetes Care*, 18(7): 943-949.

OBJECTIVE: The purpose of the study was to determine if participation in a patient empowerment program would result in improved psychosocial self-efficacy and attitudes toward diabetes, as well as a reduction in blood glucose levels.
DESIGN: This study was conducted as a randomized, wait-listed control group trial.
Interventions: The intervention group received a six-session (one session per week) patient empowerment education program; the control group was assigned to a wait-list. At the end of 6 weeks, the control group completed the six-session empowerment program. Six weeks after the program, both groups provided follow-up data
RESULTS: The intervention group showed gains over the control group on four of the eight self-efficacy subscales and two of the five diabetes attitude subscales. Also, the intervention group showed a significant reduction in glycoslyated hemoglobin levels. Within groups, analysis of data from all program participants showed sustained improvements in all of the self-efficacy areas and two of the five diabetes attitude subscales and a modelst improvement in blood glucose levels.
CONCLUSIONS: This study indicated that patient empowerment is an effective approach to developing educational interventions for addressing the psychosocial aspects of living with diabetes. Furthermore, patient empowerment is conducive to improving blood glucose control. In an ideal setting, patient education would address equally blood glucose management and the psychosocial challenges of living with diabetes

Apollonio DE, & Malone RE. (2009). **Turning negative into positive: Public health mass media campaigns and negative advertising.** *Health Education Research*, 24(3): 483-495.

Literature suggests that negative advertising is an effective way to encourage behavioral changes, but it has enjoyed limited use in public health media campaigns. However, as public health increasingly focuses on non-communicable disease prevention, negative advertising could be more widely applied. This analysis considers an illustrative case from tobacco control. Relying on internal tobacco industry documents, surveys and experimental data and drawing from political advocacy literature, we describe tobacco industry and public health research on the American Legacy Foundations truth campaign, an example of effective negative advertising in the service of public health. The tobacco industry determined that the most effective advertisements run by Legacys truth campaign were negative advertisements. Although the tobacco industrys own research suggested that these negative ads identified and effectively reframed the cigarette as a harmful consumer product rather than focusing solely on tobacco companies, Philip Morris accused Legacy of vilifying it. Public health researchers have demonstrated the effectiveness of the truth campaign in reducing smoking initiation. Research on political advocacy demonstrating the value of negative advertising has rarely been used in the development of public health media campaigns, but negative advertising can effectively communicate certain public health messages and serve to counter corporate disease promotion.

Arkowitz H, Westra HA, Miller WR, & Rollnick S. (2007). **Motivational interviewing in the treatment of psychological problems**. Guilford Press.

This book brings together leading experts to describe MI applications in the treatment of anxiety, depression, PTSD, suicidal behavior, obsessive-compulsive disorder, eating disorders, gambling addictions, schizophrenia, and dual diagnoses. Also addressed are MI approaches in the criminal justice system. Each chapter provides a concise overview of the disorder or population under discussion; describes how MI has been integrated with standard treatment approaches; illustrates the nuts and bolts of intervention, using vivid clinical examples; and reviews the empirical evidence base.

Ashford S, Edmunds J, & French DP. (2010). **What is the best way to change self-efficacy to promote lifestyle and recreational physical activity? A systematic review with meta-analysis.** *British Journal of Health Psychology,* 15(1): 265-288.

PURPOSE: Increasing self-efficacy is an effective method to increase physical activity. Despite this, the evidence concerning the most effective techniques to increase self-efficacy in physical activity interventions has not been systematically reviewed. The aim of the present research is to systematically gather, and meta-analyse, intervention studies which aimed to increase self-efficacy for physical activity; to estimate the association between intervention techniques used, and change in self-efficacy achieved.
METHODS: A systematic database search was conducted for papers reporting lifestyle or recreational physical activity interventions. Published intervention studies explicitly targeting self-efficacy in order to change physical activity behaviour in 'healthy' adults were eligible for inclusion.
RESULTS: The search strategy identified 27 unique physical activity intervention studies, with a total of 5,501 participants. A significant, yet small, relationship between the interventions and changes in self-efficacy was found (mean d =0.16, p <.001). Owing to significant heterogeneity, moderator analyses were conducted, examining the association of changes in self-efficacy with whether or not specific intervention techniques were used. Interventions that included feedback on past or others' performance produced the highest levels of self-efficacy found in this review. Vicarious experience was also associated with higher levels of self-efficacy. Persuasion, graded mastery, and barrier identification were associated with lower levels of self-efficacy. **CONCLUSIONS:** This meta-analysis forms an evidence base for which psychological techniques are most effective in increasing self-efficacy for physical activity. The results are presented in terms of recommendations for those developing interventions and directions for future research.

Balmford J, Borland R, & Burney S. (2010). **The influence of having a quit date on prediction of smoking cessation outcome.** *Health Education Research*, 25(4): 698-706.

The aim of this study was to explore whether factors predicting making a quit attempt are uniform within the preparation stage of the transtheoretical model (TTM). Participants were 283 smokers, all planning to quit in the next 30 days (preparation stage), who used a computer-generated tailored advice programme. Evidence of differences in prediction of making a quit attempt was found between smokers with and without a quit date, with the predictive power of a multivariate model markedly higher among those with a set date. In particular, one aspect of pros of smoking (smoking helps you feel better when things are bad) was predictive of progression among those with a quit date, but not among those without. The results suggest that factors predicting stage progression are not uniform within the preparation stage. The results

complement other recent research that has questioned the stage definitions used in the TTM and provide evidence in support of an alternative stage boundary defined by the commitment of setting a quit date.

*Bandura A. (2004). **Health promotion by social cognitive means.** *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 31(2): 143-164.

DESCRIPTION OF CONTEXT: This article examines health promotion and disease prevention from the perspective of social cognitive theory.

TOPIC/SCOPE: This theory posits a multifaceted causal structure in which self-efficacy beliefs operate together with goals, outcome expectations, and perceived environmental impediments and facilitators in the regulation of human motivation, behavior, and well-being. Belief in one's efficacy to exercise control is a common pathway through which psychosocial influences affect health functioning. This core belief affects each of the basic processes of personal change--whether people even consider changing their health habits, whether they mobilize the motivation and perseverance needed to succeed should they do so, their ability to recover from setbacks and relapses, and how well they maintain the habit changes they have achieved.

CONCLUSIONS/RECOMMENDATIONS: Human health is a social matter, not just an individual one. A comprehensive approach to health promotion also requires changing the practices of social systems that have widespread effects on human health.

*Bandura A. (1977). **Self-efficacy: Toward a unifying theory of behavioral change**. *Psychological Review*, 84(2): 191-215.

DESCRIPTION OF CONTEXT: An integrative approach to explaining the divergence of theory and practice in the field of behavioral change. The author suggests that cognitive processes mediate change and cognitive events are induced and altered most readily by the experience of mastery which arises from effective performance.

TOPIC/SCOPE: Through experience of mastery and effective performance, cognitive processes can play a role in the acquisition and cessation of behavior. Partly rooted in cognitive activities lies the state of motivation, which is concerned primarily with activation and persistence of a particular behavior. Motivation comes in two forms: cognitive representation and intervening influences of goal setting and self-evaluation. With this in mind, a conceptual theoretical framework for the analysis of behavioral change is presented. The theory is referred to as Self-efficacy. Self-efficacy is defined as one's perception, attitude, and beliefs about his/her ability to cognitively represent future outcomes, set goals, and to successfully execute a particular task. Expectations of personal efficacy (as opposed to expectations of outcome) can determine the length and amount of coping behavior that will be sustained in the face of obstacles to reach an outcome. Efficacy expectations can vary on three dimensions (magnitude, generality, and strength) and come from four sources (performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal). One source, performance accomplishments, is based on personal experiences of mastering the specific behavior. Another source, vicarious experience, refers to the concept of witnessing someone else perform the threatening activity without adverse consequences. A third source of self-efficacy expectations, verbal persuasion, accounts for the idea that people are led, through suggestion or another form of verbal communication, into believing that they can cope successfully with problems. A fourth source, emotional arousal, provides anxiety or vulnerability to stress as examples that affect self-efficacy expectations.

CONCLUSIONS/RECOMMENDATIONS: People process, weigh, and integrate diverse sources of information concerning their capability, while regulating choice behavior and effort expenditure accordingly.

Baranowski T, Baranowski J, Cullen KW, et al. (2003). **Squire's Quest! Dietary outcome evaluation of a multimedia game**. *American Journal of Preventive Medicine,* 24(1): 52-61.

BACKGROUND: Fruit, juice, and vegetable (FJV) consumption among children is low. Innovative programs are needed to enable children to increase FJV intake. Psychoeducational multimedia permits the delivery of interventions as designed and capitalizes on known behavior change principles.

DESIGN: Elementary school was the unit of recruitment, assignment, and analysis. Twenty-six elementary schools were pair matched on size and percentage of free or reduced-price lunch, and randomly assigned to treatment or control groups. Data were collected just before and just after the program.

SETTING/PARTICIPANTS: All fourth-grade students in participating elementary schools were invited to participate. Data were collected on 1578 students.

MAIN OUTCOME: Servings of fruit, 100% juice, and vegetables consumed.

INTERVENTION: Squire's Quest! is a ten-session, psychoeducational, multimedia game delivered over 5 weeks, with each session lasting about 25 minutes. Based on social cognitive theory, educational activities attempted to increase preferences

for FJV through multiple exposures and associating fun with their consumption, increase asking behaviors for FJV at home and while eating out, and increase skills in FJV preparation through making virtual recipes.

MEASURES: Four days of dietary intake were assessed before and after the intervention. Assessment was made by the Food Intake Recording Software System (FIRSSt), which conducts a multiple pass, 24-hour dietary intake interview directly with the children.

RESULTS: Children participating in Squire's Quest! increased their FJV consumption by 1.0 servings more than the children not receiving the program.

CONCLUSIONS: Psychoeducational multimedia games have the potential to substantially change dietary behavior. More research is warranted.

*Becker MH. (1974). **The Health belief model and personal health behavior**. Thorofare, New Jersey: Charles B. Slack, Inc.

CONCEPT OF CHANGE: An individual's perception and beliefs of health will affect his/her decision about the health behaviors. This assumes that cognition is necessary for attitude change and motivation is necessary for action. Central to this model are four beliefs: (1) perceived susceptibility--subjective risks of contracting a condition; (2) perceived seriousness--perception of the severity of a condition; (3) perceived benefits--subjective utility of taking an action, and (4) perceived barriers--impediments that individual beliefs will affect his/her decision to pursue a behavior change. In addition to the four beliefs, there are factors (both internal and external) that serve as cues to action. Some examples of these factors are the environment, family, friends, mood, and feelings.

INTERVENTION: Present in the model is the assumption that direct persuasion is one tactic to modify beliefs. Having said this, the model does not imply a strategy for change. Instead the model invites eliciting views of belief change from different aspects of the biopsychosocial realm. For one, people are social beings, always in contact with other people and actively engaging in their environment. Because of this, there are social and structural factors that affect behavior through the mediation of beliefs.

Biddiss E, & Irwin J. (2010). **Active video games to promote physical activity in children and youth: A systematic review**. *Archives of Pediatrics & Adolescent Medicine*, 164(7): 664-672.

OBJECTIVES: To systematically review levels of metabolic expenditure and changes in activity patterns associated with active video game (AVG) play in children and to provide directions for future research efforts.

DATA SOURCES: A review of the English-language literature (January 1, 1998, to January 1, 2010) via ISI Webof Knowledge, PubMed, and Scholars Portal using the following keywords: video game, exergame, physical activity, fitness, exercise, energy metabolism, energy expenditure, heart rate, disability, injury, musculoskeletal, enjoyment, adherence, and motivation.

STUDY SELECTION: Only studies involving youth (21 years) and reporting measures of energy expenditure, activity patterns, physiological risks and benefits, and enjoyment and motivation associated with mainstream AVGs were included. Eighteen studies met the inclusion criteria. Articles were reviewed and data were extracted and synthesized by 2 independent reviewers.

MAIN OUTCOME EXPOSURES: Energy expenditure during AVG play compared with rest (12 studies) and activity associated with AVG exposure (6 studies).

MAIN OUTCOME MEASURES: Percentage increase in energy expenditure and heart rate (from rest).

RESULTS: Activity levels during AVG play were highly variable, with mean (SD) percentage increases of 222% (100%) in energy expenditure and 64% (20%) in heart rate. Energy expenditure was significantly lower for games played primarily through upper body movements compared with those that engaged the lower body (difference, −148%; 95% confidence interval, −231% to −66%; P=.001).

CONCLUSIONS: The AVGs enable light to moderate physical activity. Limited evidence is available to draw conclusions on the long-term efficacy of AVGs for physical activity promotion.

Bodenheimer T, & Handley MA. (2009). **Goal-setting for behavior change in primary care: An exploration and status report.** *Patient Education and Counseling*, 76: 174–180.

OBJECTIVE: This paper explores the behavior change method of goal-setting and reviews the literature on goal-setting in primary care for patients with chronic conditions.

METHODS: A literature search was conducted resulting in eight articles meeting the criteria of goal-setting interventions in primary care for adults or adolescents with chronic conditions.

RESULTS: Hypotheses are advanced that goal-setting is generally conducted by collaboratively working with patients to set short-term and specific goals, with follow-up to provide feedback to patients. The articles reviewed generally confirmed these hypotheses. This review did not focus on clinical outcomes, but on the processes of engaging patients in goal-setting discussions.

CONCLUSION: Evidence that goal-setting is superior to other behavior change methods has not been shown. Since goal-setting is being utilized as a behavior change technique in many primary care sites, primary care practices can benefit from information on how best to implement this innovation.

PRACTICE IMPLICATIONS: Generally, clinicians are minimally involved in goal-setting discussions with their patients. Engaging patients in goal-setting can be done with interactive computer programs and nonclinical members of the primary care team.

*Bodenheimer T, Lorig K, Holman H, & Grumbach K. (2002). **Patient self-management of chronic disease in primary care.** *JAMA: The Journal of the American Medical Association*, 288(19): 2469-2475.

DESCRIPTION OF CONTEXT: Patients with chronic conditions make day-to-day decisions about--self-manage--their illnesses. This reality introduces a new chronic disease paradigm: the patient-professional partnership, involving collaborative care and self-management education.

TOPIC/SCOPE: Self-management education complements traditional patient education in supporting patients to live the best possible quality of life with their chronic condition. Whereas traditional patient education offers information and technical skills, self-management education teaches problem-solving skills. A central concept in self-management is self-efficacy--confidence to carry out a behavior necessary to reach a desired goal. Self-efficacy is enhanced when patients succeed in solving patient-identified problems.

CONCLUSIONS/RECOMMENDATIONS: Evidence from controlled clinical trials suggests that (1) programs teaching self-management skills are more effective than information-only patient education in improving clinical outcomes; (2) in some circumstances, self-management education improves outcomes and can reduce costs for arthritis and probably for adult asthma patients; and (3) in initial studies, a self-management education program bringing together patients with a variety of chronic conditions may improve outcomes and reduce costs. Self-management education for chronic illness may soon become an integral part of high-quality primary care.

*Bodenheimer T, Wagner EH, & Grumbach K. (2002). **Improving primary care for patients with chronic illness**. *JAMA: The Journal of the American Medical Association*, 288(14): 1775-1779.

DESCRIPTION OF CONTEXT: The chronic care model is a guide to higher-quality chronic illness management within primary care.

TOPIC/SCOPE: The model predicts that improvement in its 6 interrelated components-self-management support, clinical information systems, delivery system redesign, decision support, health care organization, and community resources-can produce system reform in which informed, activated patients interact with prepared, proactive practice teams

CONCLUSIONS/RECOMMENDATIONS: Case studies are provided describing how components of the chronic care model have been implemented in the primary care practices of 4 health care organizations.

*Bodenheimer T, Wagner EH, & Grumbach K. (2002). **Improving primary care for patients with chronic illness: The chronic care model, part 2.** *JAMA : The Journal of the American Medical Association*, 288(15): 1909-1914.

DESCRIPTION OF CONTEXT: This article reviews research evidence showing to what extent the chronic care model can improve the management of chronic conditions (using diabetes as an example) and reduce health care costs.

CONCLUSIONS/RECOMMENDATIONS: Thirty-two of 39 studies found that interventions based on chronic care model components improved at least 1 process or outcome measure for diabetic patients. Regarding whether chronic care model interventions can reduce costs, 18 of 27 studies concerned with 3 examples of chronic conditions (congestive heart failure, asthma, and diabetes) demonstrated reduced health care costs or lower use of health care services. Even though the chronic care model has the potential to improve care and reduce costs, several obstacles hinder its widespread adoption.

Bonvicini KA, Perlin MJ, Byland CL, Carroll G, Rouse RA, & Goldstein MG. (2009). **Impact of communication training on physician expression of empathy in patient encounters.** *Patient Education and Counseling,* 75: 3-10.

Note: The Institute for Healthcare Communication's Choices and Changes: Patient Action and Clinician Influence workshop was included as part of this RCTstudy. See also Haskard, et al. (2008).

OBJECTIVE: To examine whether an educational intervention that focused on physician communication training influenced physician empathic expression during patient interactions.

METHODS: This study used a quantitative research method to investigate the influence of communication training on physician-expressed empathy using two measures (global and hierarchical) of physician empathic behavior.

RESULTS: The differences in global empathy scores in the physician training group from baseline to follow-up improved by 37%, and hierarchical scores of physician empathic expression improved by up to 51% from baseline scores for the same group

CONCLUSION: The results strongly supported the hypotheses that training made a significant difference in physician empathic expression during patient interactions demonstrated by both outside observer measures of global ratings and hierarchical ratings of physician empathic behavior. Practice implications: These findings have significant implications for program design and development in medical education and professional training with the potential to improve patient outcomes.

*Botelho RJ, & Skinner H. (1995). **Motivating change in health behavior: Implications for health promotion and disease prevention**. *Primary Care*, 22(4): 565-589.

CORE ARGUMENT: Practitioners can motivate patients to reduce the risks and harms associated with unhealthy behaviors by utilizing effective motivational agents and a motivational approach to behavior change. Examples relate to smoking and excessive alcohol use but can be applied to a broad range of behavior modifications.

PRIMARY EVIDENCE: Practitioner approaches to health behavior change include Traditional Advice Giving ("Don't Drink!"), Patient-Centered Advice-Giving ("What really concerns me is that you don't seem to be bothered by your drinking.") and the Cognitive Behavioral Approach which assumes the patient lacks the skills to initiate and maintain change. The Motivational Approach to change assumes that most patients know how to change and have the skills to change but may lack the motivation to change. Practitioners are encouraged to utilize Motivational Interviewing techniques and apply the principles of Self-Determination Theory as patients move through the stages of change which consist of precontemplation, contemplation, preparation, action, and maintenance. These stages of change within the Transtheoretical Model give the practitioner a clear picture of the patient's progression toward behavior change. Practitioners are encouraged to assist patients in initiating change from within rather than being imposed from external or internal sources. Effective motivational agents to ensure that practitioners encourage movement through the stages of change include an empathic relationship, support of the patient's autonomy, provide information in a nonthreatening manner, work with rather than against patient resistance, and an understanding of personal assumptions about behavior that will affect the practitioner-patient relationship. The Motivational Approach is extensively outlined with numerous narrative examples that apply to the medical interview. Direct and indirect interventions initiated by the practitioner that help patients enhance their priorities for change and diminish their priorities against change are clearly outlined.

CONCLUSIONS/RECOMMENDATIONS: Practitioners are more likely to help patients initiate and maintain behavior change for health promotion and disease prevention if they use a Motivational Approach to behavior change rather than a controlling approach.

Boughton B. (2012). **Engaging patients in decision helps reduce antibiotic use**. *Canadian Medical Association Journal.*

Training physicians to engage patients in decision-making can reduce the prescription of unnecessary antibiotics for acute respiratory infections, according to a randomized trial of 359 patients in Quebec. In the cluster randomized trial, the use of antibiotics for acute respiratory infection was reduced by 25% among patients of Canadian physicians from 5 family practices who were trained in physician–patient shared decision-making compared with use among patients of physicians who provided "usual care" (27.2% vs 52.2%; adjusted relative risk, 0.48; 95% confidence interval, 0.34 - 0.68). As well as reducing use of antibiotics for acute respiratory infections, patients of physicians who took the training program took a more active role in decision-making about their treatment compared with patients of physicians in the control group ($P < .001$). Active patient decision-making was assessed by a questionnaire after the physician–patient consultation and the Control Preference Scale, which assessed patient perceptions that shared decision-making had occurred. The shared decision-making training program, known as DECISION+2, consisted of a 2-hour online tutorial followed by a 2-hour interactive seminar on shared physician–patient decision-making. The program included information about the scientific evidence for use of antibiotics in acute respiratory infection as well as training in communication with patients about the risks and benefits of antibiotic use. In the training program, physicians were also educated about ways to promote active patient participation in the decision of whether or not to use antibiotics. These techniques included asking patients about their preferences and values and verifying patient comfort with the final decision about use of antibiotics. The authors noted that training programs in shared patient–clinician decision-making might be useful in other settings such as emergency departments or to train nurses to help patients make informed decisions based on their values before visiting a physician or emergency department.

*Brown JB, Weston WW, & Stewart M. (2nd ed.) (2003). **Patient-centered medicine: Transforming the clinical method**. Radcliffe.

This book describes and explains the patient-centered model of medicine. The book covers the six interactive components of the method, and learning and teaching the method. It examines and evaluates qualitative and quantitative research on the patient-centered clinical method, including reviews and recent studies.

*Brownell KD, Marlatt GA, Lichtenstein E, & Wilson GT. (1986). **Understanding and preventing relapse**. *The American Psychologist*, 41(7): 765-782.

DESCRIPTION OF CONTEXT: Examination of the concept of relapse by integrating knowledge from addictive disorders of alcoholism, smoking, and obesity.

TOPIC/SCOPE: Commonalties are observed across many addictive behaviors. The term, lapse, refers to a single slip or mistake which may or may lead to the state of relapse. This term does not imply loss of control, but merely that corrective action can be taken so that a full blown relapse will not occur. Individual's responses to lapse will vary from person to person. So far, there have been no reliable measure to assess individual responses to lapse. However, findings from research have generated predictors of lapse and relapse. Predictors of lapse and relapse involve an interaction of the following: (1) individual and intrapersonal factors such as negative emotional states, inadequate motivation, response to treatment, and coping skills; (2) physiological factors (ie genetic factors, craving, and urges); and (3) environmental and social factors. From common findings across addictive behaviors, prevention of lapse and relapse were targeted to the stages of change model.

CONCLUSIONS/RECOMMENDATIONS: The concept of lapse (the process of slips or mistakes) and relapse (the outcome that resulted from slips and/or mistakes) has important implications for conceptualizing, preventing, and treating relapse.

Burke LE, & Fair J. (2003). **Promoting prevention: Skill sets & attributes of health care providers who deliver behavioral interventions**. *Journal of Cardiovascular Nursing*, 18: 256-266.

ABSTRACT: Preventive therapies have been shown to reduce morbidity and mortality from cardiovascular disease. However, health care providers are not addressing prevention and not treating patients according to evidence-based guidelines. Reasons frequently cited for not delivering health promotion/disease prevention oriented care is lack of training or skills to provide counseling, and a lack of confidence in health care provider skills. This article outlines the skills and attributes considered essential for a health care provider to promote behavioral change and risk reduction. The skills and attributes of the health care provider, such as expertise and knowledge, skills for assessing readiness for behavior change, relationship building skills, and skill in considering the patient's attitudes and beliefs about the disease or treatment are discussed. Principles of communication to guide the patient-provider encounter, key behavioral change strategies, and use of technology are reviewed and resources available to support prevention goals are presented.

Byrne C, Walsh J, Kola S, & Sarma KM. (2012). **Predicting intention to uptake H1N1 influenza vaccine in a university sample.** *British Journal of Health Psychology*, 17(3): 582–595.

OBJECTIVE: Global pandemic H1N1 was atypical of influenza in that it was associated with high symptom severity among young adults. Higher education institutions were therefore understandably concerned about the potential for high infection rates among students. This study examined intention to uptake H1N1 vaccine between November and December 2009, when the virus was classified by the World Health Organization (WHO) as being in the pandemic phase.

DESIGN: A cross-sectional survey design was employed.

METHOD: Two hundred university students completed a questionnaire battery comprised of health, belief/attitudes, and behavioural intention measures.

RESULTS: Findings suggested that non-intention to vaccinate is associated with a strong disbelief in its efficacy, in negative attitudes towards vaccinations, and in lack of perceived threat, which is underscored by a disinterest in others' opinions, including authoritative bodies. Findings also suggested that there is resistance to the idea of vaccinations being mandatory.

CONCLUSIONS: Vaccination intent is in some way linked to a range of attitudes and beliefs. The implication for health practitioners is that behaviour intent may be open to influence where psycho-education can create pro-vaccine attitudes and beliefs.

Cahill K, Lancaster T, & Green N. (2010). **Stage-based interventions for smoking cessation (review).** *Cochrane Database of Systematic Reviews,* Issue 11.

BACKGROUND: The transtheoretical model is the most widely known of several stage-based theories of behaviour. It proposes that smokers move through a discrete series of motivational stages before they quit successfully. These are *precontemplation* (no thoughts of quitting), *contemplation* (thinking about quitting), *preparation* (planning to quit in the next 30 days), *action* (quitting successfully for up to six months), and *maintenance* (no smoking for more than six months). According to this influential model, interventions which help people to stop smoking should be tailored to their stage of readiness to quit, and are designed to move them forward through subsequent stages to eventual success. People in the preparation and action stages of quitting would require different types of support from those in precontemplation or contemplation.

OBJECTIVES: Our primary objective was to test the effectiveness of stage-based interventions in helping smokers to quit.
SEARCH STRATEGY: We searched the Cochrane Tobacco Addiction Group's specialised register for trials, using the terms ('stage* of change', 'transtheoretical model*', 'trans-theoretical model*, 'precaution adoption model*', 'health action model', 'processes of change questionnaire*', 'readiness to change', 'tailor*') and 'smoking' in the title or abstract, or as keywords. The latest search was in August 2010.
SELECTION CRITERIA: We included randomized controlled trials, which compared stage-based interventions with non-stage-based controls, with 'usual care' or with assessment only. We excluded trials which did not report a minimum follow-up period of six months from start of treatment, and those which measured stage of change but did not modify their intervention in the light of it.
DATA COLLECTION AND ANALYSIS: We extracted data in duplicate on the participants, the dose and duration of intervention, the outcome measures, the randomization procedure, concealment of allocation, and completeness of follow up. The main outcome was abstinence from smoking for at least six months. We used the most rigorous definition of abstinence, and preferred biochemically validated rates where reported. Where appropriate we performed meta-analysis to estimate a pooled risk ratio, using the Mantel-Haenszel fixed-effect model.
MAIN RESULTS: We found 41 trials (>33,000 participants) which met our inclusion criteria. Four trials, which directly compared the same intervention in stage-based and standard versions, found no clear advantage for the staging component. Stage-based versus standard self-help materials (two trials) gave a relative risk (RR) of 0.93 (95% CI 0.62 to 1.39). Stage-based versus standard counselling (two trials) gave a relative risk of 1.00 (95% CI 0.82 to 1.22). Six trials of stage-based self-help systems versus any standard self-help support demonstrated a benefit for the staged groups, with an RR of 1.27 (95% CI 1.01 to 1.59). Twelve trials comparing stage-based self help with 'usual care' or assessment-only gave an RR of 1.32 (95% CI 1.17 to 1.48). Thirteen trials of stage-based individual counselling versus any control condition gave an RR of 1.24 (95% CI 1.08 to 1.42). These findings are consistent with the proven effectiveness of these interventions in their non-stage-based versions. The evidence was unclear for telephone counselling, interactive computer programs or training of doctors or lay supporters. This uncertainty may be due in part to smaller numbers of trials.
AUTHORS' CONCLUSIONS: Based on four trials using direct comparisons, stage-based self-help interventions (expert systems and/or tailored materials) and individual counselling were neither more nor less effective than their non-stage-based equivalents. Thirty-one trials of stage-based self help or counselling interventions versus any control condition demonstrated levels of effectiveness which were comparable with their nonstage-based counterparts. Providing these forms of practical support to those trying to quit appears to be more productive than not intervening. However, the additional value of adapting the intervention to the smoker's stage of change is uncertain. The evidence is not clear for other types of staged intervention, including telephone counselling, interactive computer programs and training of physicians or lay supporters. The evidence does not support the restriction of quitting advice and encouragement only to those smokers perceived to be in the preparation and action stages.

Cameron KA. (2009). **A practitioner's guide to persuasion: An overview of 15 selected persuasion theories, models and frameworks**. *Patient Education and Counseling*, 74: 309-317.

OBJECTIVE: To provide a brief overview of 15 selected persuasion theories and models, and to present examples of their use in health communication research.
RESULTS: The theories are categorized as message effects models, attitude–behavior approaches, cognitive processing theories and models, consistency theories, inoculation theory, and functional approaches. **CONCLUSIONS**: As it is often the intent of a practitioner to shape, reinforce, or change a patient's behavior, familiarity with theories of persuasion may lead to the development of novel communication approaches with existing patients.
PRACTICE IMPLICATIONS: This article serves as an introductory primer to theories of persuasion with applications to health communication research. Understanding key constructs and general formulations of persuasive theories may allow practitioners to employ useful theoretical frameworks when interacting with patients.

Carels RA, Darby L, Cacciapaglia HM, Konrad K, Coit C, Harper J, Kaplar ME, Young K, Baylen CA, & Versland A. (2007). **Using motivational interviewing as a supplement to obesity treatment: A stepped-care approach.** *Health Psychology*, 26(3):369-74.

OBJECTIVE: This investigation was designed to improve behavioral weight loss program (BWLP) treatment outcomes by providing stepped care (SC) to individuals experiencing difficulties with weight loss during treatment. SC entails transition to more intensive treatments when less intensive treatments fail to meet treatment goals. In a BWLP, motivational interviewing (MI) may increase participants' motivation toward behavioral change and thus complement the acquisition of behavioral change skills. It was hypothesized that BWLP + SC (MI) participants (i.e., participants who failed to meet weight loss goals and received MI) would demonstrate superior treatment outcomes when compared with BWLP (SC matched) participants (i.e., participants who failed to meet weight loss goals but did not receive MI).

DESIGN: Fifty-five obese, sedentary adults were randomly assigned to a BWLP + SC or a BWLP. Main outcome measures: Changes in weight, cardiorespiratory fitness, self-reported physical activity, and diet (i.e., calories, percentage daily intake of fat, protein, and carbohydrates) in response to treatment were assessed.
RESULTS: Participants significantly decreased their weight, increased physical activity/fitness, and improved dietary intake (ps < .05). BWLP + SC (MI) participants lost more weight and engaged in greater weekly exercise than BWLP (SC matched) participants who did not receive MI (ps < .05).
CONCLUSION: For individuals experiencing weight loss difficulties during a BWLP, MI may have considerable promise.

Carter GL, Clover K, Whyte IM, Dawson AH & D'Este C. (2013). **Postcards from the Edge: 5-year outcomes of a randomized controlled trial for hospital-treated self-poisoning.** *The British Journal of Psychiatry*, Published online: *BJP* bjp.bp.112.112664; published ahead of print March 21, 2013, doi:10.1192/bjp.bp.112.112664.

BACKGROUND: Repetition of hospital-treated self-poisoning and admission to psychiatric hospital are both common in individuals who self-poison.
AIMS: To evaluate efficacy of postcard intervention after 5 years.
METHOD: A randomised controlled trial of individuals who have self-poisoned: postcard intervention (eight in 12 months) plus treatment as usual v. treatment as usual. Our primary outcomes were self-poisoning admissions and psychiatric admissions (proportions and event rates).
RESULTS: There was no difference between groups for any repeat-episode self-poisoning admission (intervention group: 24.9%, 95% CI 20.6-29.5; control group: 27.2%, 95% CI 22.8-31.8) but there was a significant reduction in event rates (incidence risk ratio (IRR) = 0.54, 95% CI 0.37-0.81), saving 306 bed days. There was no difference for any psychiatric admission (intervention group: 38.1%, 95% CI 33.1-43.2; control group: 35.5%, 95% CI 30.8-40.5) but there was a significant reduction in event rates (IRR = 0.66, 95% CI 0.47-0.91), saving 2565 bed days. **CONCLUSIONS:** A postcard intervention halved self-poisoning events and reduced psychiatric admissions by a third after 5 years. Substantial savings occurred in general hospital and psychiatric hospital bed days.

Chambers JA, O'Carroll RE, Hamilton B, Whittaker J, Johnson M, Sudlow C, & Dennis M. (2011). **Adherence to medication in stroke survivors: A qualitative comparison of low and high adherers.** *British Journal of Health Psychology*, 16(3): 592-609.

OBJECTIVES: The aim of this study was to investigate factors that may explain variance in adherence to medication in stroke patients.
DESIGN: A qualitative comparison of high and low adherers to medication.
METHODS: Thirteen participants, selected from a sample of 180 stroke survivors because they self-reported the lowest adherence to medication regimes, were matched with 13 reporting maximal adherence. All took part in semi-structured qualitative interviews.
RESULTS: Thematic analysis revealed that those with poor adherence to medication reported both intentional and non-intentional non-adherence. Two main themes emerged: the importance of stability of a medication routine and beliefs about medication and treatment. High adherers reported remembering to take their medication and seeking support from both family and health professionals. They also had a realistic understanding of the consequences of non-adherence, and believed their medicine did them more good than harm. Low adherers reported forgetting their medication, sometimes intentionally not taking their medication and receiving poor support from medical staff. They disliked taking their medication, had limited knowledge about the medication rationale or intentions, and often disputed its benefits.
CONCLUSIONS: Our findings suggest that appropriate medication and illness beliefs coupled with a stable medication routine are helpful in achieving optimal medication adherence in stroke patients. Interventions designed to target both intentional and non-intentional adherence may help maximize medication adherence in stroke patients.

Coleman K, Austin BT, Brach C & Wagner EH. (2009). **Evidence on the chronic care model in the new millennium.** *Health Affairs*, 28(1): 75-85.

Developed more than a decade ago, the Chronic Care Model (CCM) is a widely adopted approach to improving ambulatory care that has guided clinical quality initiatives in the United States and around the world. We examine the evidence of the CCM's effectiveness by reviewing articles published since 2000 that used one of five key CCM papers as a reference. Accumulated evidence appears to support the CCM as an integrated framework to guide practice redesign. Although work remains to be done in areas such as cost-effectiveness, these studies suggest that redesigning care using the CCM leads to improved patient care and better health outcomes.

Corabian P, & Harstall C. (2001). **Patient diabetes education in the management of adult type 2 diabetes**. HTA 23: Series 23, Health Technology Assessment, Alberta Heritage Foundation for Medical Research.

The Alberta Heritage Foundation for Medical Research conducted a review of reviews of diabetes education intervention.
TOPIC/SCOPE: Included in this review were 17 studies with at least one-year follow-up and more than one patient contact, including 3 meta-analyses, 7 systematic reviews and 7 additional trials.
CONCLUSIONS/RECOMMENDATIONS: The authors concluded that, although patient education is associated with short-term diabetes control, long-term outcomes have yet to be established. This report also concluded that providing patients with knowledge about diabetes is necessary, but insufficient to improve diabetes care. Goal setting, assessment of patient-specific barriers and a focus on behavioral strategies and problem-solving to address barriers appear to be important to produce an impact on diabetes outcomes.

*Corbin JM, & Strauss A. (1988). **Unending work & care: Managing chronic illness at home.** John Wiley & Sons Canada, Ltd.

ABSTRACT: Corbin and Strauss's Model for Chronic Illness Management provides a multi-dimensional framework for the study of the unfolding of a chronic illness that affects individuals and their social networks. The researchers identified the three tasks that persons with chronic illness need to attend: 1. take care of the illness; 2. carry out the normal activities of daily life; and 3. manage the emotional changes that accompany the experience of chronic illness.

*Corbin JM, & Strauss A. (1991). **A nursing model for chronic illness management based upon the trajectory framework.** *Scholarly Inquiry for Nursing Practice*, 5: 155-174.

As the nature of the American health care system and chronic illness change, theoretical models used to guide management of chronic conditions must be updated to keep abreast of these changes, while still retaining their core concepts. This article offers a revised version of the Corbin and Strauss Chronic Illness Trajectory Framework. The most notable changes include a greater emphasis on health promotion and illness prevention, streamlined language to make it more user friendly, and increased focus on the global influences on health care.

Coulter A. (2012). **Patient engagement—What works?** *Journal of Ambulatory Care Management*, 35(2): 80–89.

The recent focus on patient engagement acknowledges that patients have an important role to play in their own health care. This includes reading, understanding and acting on health information (health literacy), working together with clinicians to select appropriate treatments or management options (shared decision making), and providing feedback on health care processes and outcomes (quality improvement). Various interventions designed to help patients play an effective role have been evaluated in trials and systematic reviews. This article outlines the evidence in support of the most promising interventions.

Cummings SM, Cooper RL, & McClure Cassie K. (2009). **Motivational interviewing to affect behavioral change in older adults.** *Research on Social Work Practice,* 19(2): 195-204.

This article reviews and assesses the existing research literature on the efficacy of motivational interviewing (MI) to promote lifestyle changes and improve functioning among older adults confronting serious health challenges. A comprehensive literature review was conducted of intervention studies that tested the use of MI to achieve behavioral change among older adults with acute and chronic illnesses. Although limited in number, the studies revealed a significant improvement in physical activity, diet, cholesterol, blood pressure and glycemic control, and increased smoking cessation following MI. MI and its derivatives can be useful in dealing with a range of health issues faced by older adults. Further research to extend findings and address methodological issues is recommended. The integration of MI into social work courses focused on practice with older adults should be considered.

Dart M. (2010). **Motivational interviewing in nursing practice: Empowering the patient.** Guilford Press.

Motivational Interviewing in Nursing Practice: Empowering the Patient is a guide to learning Motivational Interviewing, a set of skills that utilizes therapeutic communication to promote behavior change. This text provides unique tools for nurses to implement and help patients take responsibility in their own health care, make informed decisions and provide guidance toward healthy behavior change, leading to improved health of our communities and country. This unique reference contains diagrams, tables, and case studies throughout to offer a better understanding of how to utilize the skills in daily practice. Clear objectives are at the beginning of each chapter and key points to remember are included at the end of each chapter. The skills learned will help nurses to accomplish the many healthcare goals and empower their patients through communication.

*Deci EL, & Ryan RM. (1985). **Intrinsic motivation and self-determination in human behavior**. New York: Plenum.

Conceptualization of the theories of intrinsic motivation and self-determination in understanding human behaviors.

TOPIC/SCOPE: Central to the psychology of behavior is the concept of motivation. The study of motivation is the exploration of the energization and direction of behavior. Building on the concept of motivation are four theories: (1) drive theories, (2) intrinsic motivation, (3) self-determination, and (4) alternative (nonmotivational) approaches. The drive theory formulates that individual behavior is said to be motivated when it is being pushed by some kind of driving force. According to Freud, there are two important drives (sex and aggression), whereas there are four (hunger, thirst, sex, and avoidance of pain) according to Hull. Complementing the theory of drive is intrinsic motivation, which suggests that there is an energy that comes from within the individual to motivate behavior. Adding on to the theory of intrinsic motivation is the theory of self-determination. This theory posits that behaviors are influenced by elements of volition, autonomy, choice, competence, and perceived locus of causality. Along the same line in the psychology of motivation and behavior is the notion of alternative approaches, or also known as the nonmotivational approach of operant psychology. Most clearly represented by cognitive-behaviorism and social learning theory, the theory of alternative approaches asserts that behavior is influenced by an individual's self-efficacy, efficacy expectations, and future reinforcements.
CONCLUSIONS/RECOMMENDATIONS: The concept of intrinsic motivation in concomitant with self-determination is useful in explaining human behaviors. Researchers have adopted this concept to understand behaviors in many areas, including learning and education, psychotherapy, employment, organizations and sports.

Deen D, Lu WH, Rothstein D, Santana L, & Gold MR. (2011). **Asking questions: The effect of a brief intervention in community health centers on patient activation.** *Patient Education and Counseling*, 84(2): 257-260.

OBJECTIVE: To evaluate the impact of a patient activation intervention (PAI) focused on building question formulation skills that was delivered to patients in community health centers prior to their physician visit.

METHODS: Level of patient activation and patient preferred role were examined using the patient activation measure (PAM) and the patient preference for control (PPC) measure.

RESULTS: More of the 252 patients evaluated were at lower levels of activation (PAM levels 1 or 2) than U.S. population norms before the intervention. Paired-samples t-test revealed a statistically significant increase from pre-intervention to post-visit PAM scores. One-third of participants moved from lower levels of activation to higher levels (PAM levels 3 or 4) post-intervention. Patients preferring a more passive role had lower initial PAM scores and greater increases in their post-intervention PAM scores than did those who preferred a more active role.

CONCLUSION: Patients exposed to the PAI demonstrated significant improvement on a measure of activation. The PAI may be useful in helping patients prepare for more effective encounters with their physicians.

PRACTICE IMPLICATIONS: The PAI was feasible to deliver in the health center setting and may be a useful method for activating low-income, racial/ethnic minority patient populations.

Del Canale S, Louis DZ, Maio V, Wang X, Rossi G, Hojat M, & Gonnella JS. (2012). **The relationship between physician empathy and disease complications: An empirical study of primary care physicians and their diabetic patients in Parma, Italy.** *Academic Medicine*, 87(9): 1243-1249.

PURPOSE: To test the hypothesis that scores of a validated measure of physician empathy are associated with clinical outcomes for patients with diabetes mellitus.
METHOD: This retrospective correlational study included 20,961 patients with type 1 or type 2 diabetes mellitus from a population of 284,298 adult patients in the Local Health Authority, arma, Italy, enrolled with one of 242 primary care physicians for the entire year of 2009. Participating physicians' Jefferson
Scale of Empathy scores were compared with occurrence of acute metabolic complications (hyperosmolar state, diabetic ketoacidosis, coma) in diabetes patients hospitalized in 2009.
RESULTS: Patients of physicians with high empathy scores, compared with patients of physicians with moderate and low empathy scores, had a significantly lower rate of acute metabolic complications (4.0, 7.1, and 6.5 per 1,000 patients, respectively, $P < .05$). Logistic regression analysis showed physicians' empathy scores were associated with acute metabolic complications: odds ratio (OR) = 0.59 (95% confidence interval [CI], 0.37–0.95, contrasting physicians with high and low empathy scores). Patients' age (≥69 years) also contributed to the prediction of acute metabolic complications: OR = 1.7 (95% CI, 1.2–1.4). Physicians' gender and age, patients' gender, type of practice (solo, association), geographical location of practice (mountain, hills, plain), and length of time the patient had been enrolled with the physician were not associated with acute metabolic complications.
CONCLUSIONS: These results suggest that physician empathy is significantly associated with clinical outcome for patients with diabetes mellitus and should be considered an important component of clinical competence.

De Ruddere L, Goubert L, Prkachin KM, Stevens MAL, Van Ryckeghem DML, Crombez G. (2011). **When you dislike patients, pain is taken less seriously.** *PAIN*, 152(10): 2342-2347.

ABSTRACT: This study examined the influence of patients' likability on pain estimations made by observers. Patients' likability was manipulated by means of an evaluative conditioning procedure: pictures of patients were combined with either positive, neutral, or negative personal traits. Next, videos of the patients were presented to 40 observers who rated the pain. Patients were expressing no, mild-, or high-intensity pain. Results indicated lower pain estimations as well as lower perceptual sensitivity toward pain (i.e., lower ability to discriminate between varying levels of pain expression) with regard to patients who were associated with negative personal traits. The effect on pain estimations was only found with regard to patients expressing high-intensity pain. There was no effect on response bias (i.e., the overall tendency to indicate pain). These findings suggest that we take the pain of patients we do not like less seriously than the pain of patients we like.

Detweiler JB, Bedell BT, Salovey P, Pronin E, & Rothman AJ. (1999). **Message framing and sunscreen use: Gain-framed messages motivate beach-goers.** *Health Psychology*, 18(2): 189-196

ABSTRACT: Prospect theory suggests that people respond differentially to factually equivalent messages depending on how these messages are framed (A. Tversky & D. Kahneman, 1981). A. J. Rothman and P. Salovey (1997) relied on prospect theory to predict that messages highlighting potential "gains" should promote prevention behaviors such as sunscreen use best. This experiment compared the effectiveness of 4 differently framed messages (2 highlighting gains, 2 highlighting losses) to persuade 217 beach-goers to obtain and use sunscreen. Attitudes and intentions were measured before and immediately following the delivery of the framed information, and after completing the questionnaire participants were given a coupon redeemable for a small bottle of sunscreen later that same day. People who read either of the 2 gain-framed brochures, compared with those who read either of the 2 loss-framed brochures, were significantly more likely to (a) request sunscreen, (b) intend to repeatedly apply sunscreen while at the beach, and (c) intend to use sunscreen with a sun protection factor of 15 or higher.

*DiClemente CC. (1986). **Self-efficacy and the addictive behaviors**. Journal of Social and Clinical Psychology, 4(3): 302-315.

DESCRIPTION OF CONTEXT: Review of the application of self-efficacy theory to a variety of addictive-behavior problems.
TOPIC/SCOPE: The construct of self-efficacy has been found to be useful in the process of smoking cessation. The challenges, however, are to define the target behavior for which self-efficacy is to be assessed, and to apply self-efficacy to the abstinence of the addictive behaviors. Currently, many self-efficacy scales exist that can accurately and reliably measure the three levels of self-efficacy expectations (generality, strength, and magnitude). Among them are smoking cessation scales, alcohol abstinence scales, and obesity and bulimic control scales. In addition to its relevance and usefulness for addictive behavioral change, the construct of self-efficacy has also been examined with other demographic, historical, habit, and personality variables. This relationship will further enhance our understanding of self-efficacy and addictive behaviors.
CONCLUSIONS/RECOMMENDATIONS: The function of self-efficacy has been explored in understanding the etiology and treatment of addictive behaviors. It can be applied to smoking cessation, excessive alcohol consumption, and eating disorders. It can also be used to assess demographic and personal predictors of the problem behaviors.

*DiMatteo MR, Giordani PJ, Lepper HS, & Croghan TW. (2002). **Patient adherence and medical treatment outcomes: A meta-analysis**. *Medical Care*, 40: 794-811.

BACKGROUND: Adherence is a factor in the outcome of medical treatment, but the strength and moderators of the adherence-outcome association have not been systematically assessed.
OBJECTIVES: A quantitative review using meta-analysis of three decades of empirical research correlating adherence with objective measures of treatment outcomes.
METHOD: Sixty-three studies assessing patient adherence and outcomes of medical treatment were found involving medical regimens recommended by a nonpsychiatrist physician, and measuring patient adherence and health outcomes. Studies were analyzed according to disease (acute/chronic, severity), population (adult/child), type of regimen (preventive/treatment, use of medication), and type and sensitivity of adherence and outcomes measurements.
RESULTS: Overall, the outcome difference between high and low adherence is 26%. According to a stringent random effects model, adherence is most strongly related to outcomes in studies of nonmedication regimens, where measures of adherence are continuous, and where the disease is chronic (particularly hypertension, hypercholesterolemia, intestinal disease, and sleep apnea). A less stringent fixed effects model shows a trend for higher adherence-outcome correlations in studies of less serious conditions, of pediatric patients, and in those studies using self-reports of adherence, multiple measures of adherence, and less specific measures of outcomes. Intercorrelations among moderator variables in multiple regression show that the best predictor of the adherence-outcome relationship is methodological-the sensitivity/quality of the adherence assessment.

*DiMatteo MR, Sherbourne CD, Hays RD, Ordway L, Kravitz RL, McGlynn EA, Kaplan S, & Rogers WH. (1993). **Physicians' characteristics influence patients' adherence to medical treatment: Results from the medical outcomes study.** *Health Psychology,* 12(2): 93-102.

OBJECTIVE: To examine the role of physicians' personal and practice characteristics as predictors of their patients' adherence
SETTING: Cross-sectional two-year longitudinal study Data is from the Medical Outcomes Study in three systems of care (HMOs, large multispecialty groups and solo practices) in three cities (Boston, Chicago, and Los Angeles)
SUBJECTS: Patients visiting providers in 5 medical specialties internal medicine, family practice, endocrinology, diabetology and cardiology. The study involved 186 nonpsychiatric physicians and 2,546 patients
Interventions: None
MEASURES: Patients in the longitudinal panel completed several self-report questionnaires and a telephone interview. Adherence items included baseline and 24-month patient assessment surveys. Three specific adherence subscales were derived to measure the frequency with which patients took all recommended medication, exercised regularly, and followed special diets--or all three. Provider demographics, style of practice, practice characteristics, and professional job satisfaction were assessed.
RESULTS: Patients' average general adherence improved slightly over the two years of the study. Exercise adherence did not change, and medication and diet adherence declined significantly over the two years. The only practice characteristic that was significant was the number of patients a physician saw in office practice per week. Patients of physicians who made definite future appointments for follow-up achieved better medication adherence. Physicians on average felt that responsibility for decision making lay somewhat more with the patient than the physician. They also tended to answer many rather than few of their patients' questions. Physicians who spent more hours per week seeing patients noted less job satisfaction than those who spent fewer hours in outpatient practice. Physicians who were likely to place responsibility for decision making on the physician were more likely to make follow-up appointments or arrange phone consultations. Physician specialty also affected patient adherence
CONCLUSIONS: Practice characteristics and practice style affected patient adherence. Medication adherence was better among patients of physicians who saw more patients per week (they may have tended to meet more often with patients to follow-up). Patient medication adherence was higher among physicians who made definite follow-up appointments. Physicians' self-reported willingness to answer all patients' questions had a positive effect on patient exercise adherence. Physician global job satisfaction has a positive effect on patients' general adherence.

Dunbar-Jacob J. (1990). **Predictors of patient adherence: Patient characteristics.** In: Shumaker S, Schron EB, Ockene JK, & McBee WL, eds. The Handbook of Health Behavior Change: Second Edition. New York, Springer Publishing Company.

DESCRIPTION OF CONTEXT: Review of the literature and discussion of patient characteristics that are likely to be predictors of adherence.
TOPIC/SCOPE: There are factors under the control of the providers (ie, prescribing regimens, lack of consistency in care providers, providers' behavior and attitudes, adequacy of instructions, and convenience) that are likely to lead to nonadherence in patients. However, this paper discusses not factors of the providers but characteristics of the patients which are likely to influence adherence or nonadherence. Four areas of patient characteristics have been found to predict adherence to medical regimen. These include psychological characteristics, cognitive-motivational factors, behavior, and somatic factors. Numerous studies have defined depression and anxiety as the two most important psychological characteristics of patients that would predict nonadherence to treatment. It was noted that depression and anxiety were related to the element of motivation. Henceforth, cognitive-motivational components were examined and found to be important. Specifically, patients' intention and self-efficacy levels were successful predictors of adherence. Patients' health beliefs showed inconsistency in predicting behavior and vary as a function of the population and setting studied as well as a function of the time of assessment. In the area of patients' health behavior, many studies have shown that the initial behavior predicts adherence to the same behavior in the future but were inconsistent in terms of adherence to a specific behavior being predictors of a set of different behaviors in the future. One study in the area of somatic factors concluded that beliefs about symptoms (i.e., mood or physical discomfort) may be important predictors of nonadherence. However, this area of somatic factors may have some overlap with health beliefs and perception of symptoms.
CONCLUSIONS/RECOMMENDATIONS: With nonadherence rates ranging from 20% to 80% in medical and research settings, it is imperative to understand and identify characteristics of the patients that will aid in predicting nonadherence or adherence. Psychological characteristics, cognitive-motivational factors, behavior, and somatic factors are the four areas of patient characteristics found to best predict adherence.

Eakin E, Reeves M, Winkler E, Lawler S, & Owen N. (2010). **Maintenance of physical activity and dietary change following a telephone-delivered intervention.** *Health Psychology*, 29(6): 566-573.

OBJECTIVE: To examine the maintenance of behavioral changes 6 months following a telephone-delivered physical activity and diet intervention.

DESIGN: Patients (*n* = 434) with Type 2 diabetes or hypertension were recruited from 10 primary care practices in a disadvantaged community; practices were randomized to a telephone-counseling intervention (TC; 5 practices, *n* = 228) or usual care (UC; 5 practices, *n* = 206).

MAIN OUTCOME MEASURES: Validated, self-report measures of physical activity and diet were taken at baseline, 12 months (end-of-intervention), and 18 months (6 months postintervention completion).

RESULTS: For physical activity, the significant ($p < .001$) within-groups improvements from baseline observed at 12 months remained at 18 months, in both the TC (62.2±14.2 minutes/week; 2.2 ± 0.3 sessions/week) and UC (74.7±14.9 minutes/week; 2.1 ± 0.4 sessions/week) groups. For all dietary outcomes, significant ($p < .05$) between-groups maintenance effects, similar to end-of-intervention outcomes, remained [TC-UC changes from baseline to 18 months (95% CI)]: total fat [−1.33 (−2.16,−0.50)% energy/day], saturated fat [−1.06 (−1.70,−0.43)% energy/day], fiber intake [1.90 (0.72, 3.15) grams/day], and fruit [0.22 (0.05, 0.40) servings/day]),except vegetables [0.59 (−0.01, 1.17) servings/day; p=.05]. Intervention effects across all health behavior outcomes were stronger for the subgroup (*n* = 145) adhering to the study protocol.

CONCLUSION: Telephone-delivered interventions can promote maintenance of health behavior change. Studies with longer-term follow-up are needed, particularly to determine how intervention duration and intensity might further enhance maintenance.

Efraimsson EÖ, Fossum B, Ehrenberg A, Larsson K, Klang B. (2012). **Use of motivational interviewing in smoking cessation at nurse-led chronic obstructive pulmonary disease clinics.** *Journal of Advanced Nursing*, 68(4):767-782.

AIM: This paper is a report of a study to describe to what extent Registered Nurses, with a few days of education in motivational interviewing based communication, used motivational interviewing in smoking cessation communication at nurse-led chronic obstructive pulmonary disease clinics in primary health care.

BACKGROUND: For smokers with chronic obstructive pulmonary disease the most crucial and evidence-based intervention is smoking cessation. Motivational interviewing is often used in healthcare to support patients to quit smoking.

METHOD: The study included two videotaped consultations, the first and third of three at the clinic, with each of 13 smokers. Data were collected from March 2006 to April 2007. The nurses' smoking cessation communication was analysed using the Motivational Interviewing Treatment Integrity scale. To get an impression of the consultation, five parameters were judged on a five-point Likert-scale, with five indicating best adherence to Motivational Interviewing.

RESULTS: *Evocation', `collaboration', `autonomy-support'* and *`empathy'* averaged between 1·31 and 2·23 whereas *`direction'* scored five in all consultations. Of communication behaviours, giving information was the most frequently used, followed by `closed questions', *`motivational interviewing non-adherent'* and *`simple reflections'. `Motivational interviewing adherent', `open questions'* and *`complex reflections'* occurred rarely. There were no important individual or group-level differences in any of the ratings between the first and the third consultations.

CONCLUSION: In smoking cessation communication the nurses did not employ behaviours that are important in motivational interviewing.

Elis A, Lishner M, & Melamed S. (2011). **Treatment beliefs and attending follow-up visits in a lipid clinic.** *British Journal of Health Psychology,* 16(1): 61-71.

OBJECTIVE: To explore the value of demographics, clinical parameters, and treatment beliefs in predicting attendance at follow-up visits in a lipid clinic.

DESIGN: Prospective cohort study.

METHODS: A total of 104 consecutive patients, who attended the Meir Medical Center lipid clinic for the first time, were followed for an average of 14 months. During the first visit, demographic and clinical parameters were obtained and a treatment beliefs and a self-rated health questionnaire were completed. Those who kept all scheduled follow-up visits were categorized as attendees and those who were lost to follow up as non-attendees. The two groups were compared on demographic and clinical parameters, as well as on treatment and health beliefs.

RESULTS: Lipid target level achievement was higher in attendees ($p < .001$). However, only 49 patients (47%) attended the scheduled clinic visits. None of the demographic or clinical parameters significantly predicted attendance. Both groups scored high on perceived risk-to-health of uncontrolled lipid levels and on perceived effectiveness and benefits of treatment. Non-attendees reported significantly more perceived barriers and treatment misconceptions/disbeliefs, and lower self-rated health.

CONCLUSIONS: Beliefs concerning lipid-lowering treatment should be identified so that they may be effectively addressed in order to improve patient attendance at follow-up visits to a lipid clinic.

Fernandez WG, Mitchell PM, Jamanka AS, Winter MR, Bullock H, Donovan J, George JS, Feldman JA, Gallagher SS, McKay MP, Bernstein E, & Colton T. **Brief motivational intervention to increase self-reported safety belt use among emergency department patients**. *Academic Emergency Medicine*, 15(5): 419-25.

OBJECTIVES: Brief motivational interventions have shown promise in reducing harmful behaviors. The authors tested an intervention to increase safety belt use (SBU) among emergency department (ED) patients.

METHODS: From February 2006 to May 2006, the authors conducted a randomized trial of adult ED patients at a teaching hospital in Boston. ED patients were systematically sampled for self-reported SBU. Those with SBU other than "always" were asked to participate. At baseline, participants answered a 9-item series of situational SBU questions, each scored on a 5-point Likert scale. SBU was defined as a continuous variable (9-item average) and as a dichotomous variable (response of "always" across all items). Participants were randomized to an intervention or a control group. The intervention group received a 5- to 7-minute intervention, adapted from classic motivational interviewing techniques, by a trained interventionist. Participants completed a 3-month follow-up phone survey to determine changes from baseline SBU. Continuous and dichotomous SBU were analyzed via analysis of covariance and chi-square testing.

RESULTS: Of 432 eligible patients, 292 enrolled (mean age 35 years, standard deviation [SD] +/-11 years; 61% male). At baseline, the intervention and control groups had similar mean (+/-SD) SBU scores (2.8 [+/-1.1] vs. 2.6 [+/-1.1], p = 0.31) and SBU prevalence (each 0%). At 3 months, 81% completed follow-up. The intervention group had significantly greater improvement in mean (+/-SD) SBU scores than controls (0.76 [+/-0.91] vs. 0.34 [+/-0.88], p < 0.001). Also, SBU prevalence of "always" was higher for the intervention group than controls (14.4% vs. 5.9%, p = 0.03).

CONCLUSIONS: Participants receiving a brief motivational intervention reported higher SBU at follow-up compared to controls. An ED-based intervention may be useful to increase SBU.

Fiore MC, Bailey WC, & Cohen SJ. (2000). **Treating tobacco use and dependence. A clinical practice guideline**. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service.

DESCRIPTION OF CONTEXT: Clinical Practice Guideline, published by the Agency for Health Care Research and Policy.

TOPIC/SCOPE: Systematic and comprehensive review of tobacco treatment intervention research. Meta-analyses were conducted to determine the efficacy of a wide range of clinical tobacco interventions, including brief advice and counseling, pharmacotherapy and behavioral and psychosocial treatments.

CONCLUSIONS/RECOMMENDATIONS: The Guideline documents the impact of brief clinician advice and counseling on smoking cessation outcome. A significant effect was noted for brief advice and a dose-response relationship was found for the intensity of clinician intervention (i.e., number of minutes of counseling) and smoking cessation outcome The guideline strongly recommends that clinicians to provide a 5A-based counseling intervention to every smoker at every visit. Nicotine replacement or other effective pharmacotherapy should be offered to all patients, if not contraindicated Clinician training in brief counseling and use of reminder and other organizational systems are also recommended.

Fiore MC, & Baker TB. (2011). **Treating smokers in the health care setting**. *The New England Journal of Medicine*, 365(13): 1222-1231.

At all health care visits, smokers should be en- couraged to quit and asked about their willingness to make an attempt to quit. For a patient who is initially unwilling to try to quit smoking, either motivational interviewing or the “five Rs” (discussion of personally relevant reasons to quit, risks of continued smoking, rewards for quitting, and roadblocks to successful quitting, with repetition of the counseling at subsequent clinic visits) should be used at each visit. There is more evidence in support of motivational interviewing, but it requires more time and training. In addition, patients who are willing to try to reduce their smoking should be encouraged to do so and to use nicotine-replacement therapy, generally for at least several months. For patients who are (or become) willing to attempt to quit, the clinician should provide practical advice on avoiding smoking triggers, such as exposure to other smokers and use of alcohol, and encourage the use of available resources for smoking cessation, including adjuvant counseling through a state quitline (e.g., 1-800-QUIT NOW), online resources (e.g., www.smokefree.gov or www.women.smokefree.gov), or both. The clinician should discuss the benefits and risks associated with various medications and address any misconceptions the patient may have (e.g., that nicotine-replacement therapy is as addictive as smoking). If the patient became ready to quit, we recommend combination nicotine-replacement therapy. Nicotine- replacement therapy has been shown to be safe and effective in persons with depressive symptoms and in persons with high levels of nicotine dependence (e.g., smoking within 5 minutes after awakening 49,50) and does not require close monitoring for symptoms. A follow-up visit should be scheduled 2 weeks after the quit day, at which time challenges associated with smoking cessation should be reviewed and support provided. This discussion should be repeated at

subsequent visits. Many smokers will not engage in counseling, especially if it involves long sessions or multiple visits. Therefore, patients should be offered options for quitting, including brief and accessible counseling. Nonadherence to medications for smoking cessation is common and is linked with beliefs that they are dangerous, ineffective, and should not be used if a person has had a relapse. Because nonadherence to medication regimens is related to failure of smoking cessation, the clinician should discuss with the patient any concerns regarding medications for smoking cessation and encourage adherence to the regimen for their use. More research is needed to identify effective strategies for increasing patients' acceptance and use of counseling and pharmacotherapy and to identify optimal combinations of treatments (both before and during attempts to quit smoking). Further research is needed on how to prevent relapse among newly abstinent patients and how best to integrate new forms of technology.

*Fishbein M, & Ajzen I. (1975). **Belief, attitude, intention, and behavior**. Addison-Welsey.

CONCEPT OF CHANGE: Beliefs about consequences of a particular behavior will influence one's attitude towards that behavior which in turn influences the intention to perform the behavior. With this assumption in mind, behavioral change can be achieved by targeting one's beliefs, attitudes, and intentions. The first principle of change asserts that "the effects of an influence attempt on change in a dependent variable depend on its effects on the primary beliefs underlying that variable." The second principle of change states "the effects of an influence attempt on change in a dependent variable are ultimately the result of changes in proximal beliefs and of impact effects." The third principle posits "the effects of an influence attempt on change in beliefs, attitudes, intentions, and behaviors depend, in that order, on an increasing number of intervening processes." Lastly, the fourth principle of change describes the effect of experimental manipulations. An experimental manipulation can affect the amount of change in a dependent variable only to the extent that it influences amount of change in proximal and external beliefs."

INTERVENTION: One strategy of change is that of active participation (as opposed to passive exposure). This strategy includes interpersonal contact, role playing, counter-attitudinal behavior, and choice between alternatives. A second strategy of behavioral change involves the use of persuasive communication to induce changes in beliefs, attitudes, and intentions.

Fjeldsoe B, Neuhaus M, Winkler E, Eakin E. (2011). **Systematic review of maintenance of behavior change following physical activity and dietary interventions.** *Health Psychology*, 30(1): 99-109.

OBJECTIVE: In the past decade, there has been no systematic review of the evidence for maintenance of physical activity and/or dietary behavior change following intervention (follow-up). This systematic review addressed three questions: 1) How frequently do trials report on maintenance of behavior change? 2) How frequently do interventions achieve maintenance of behavior change? 3) What sample, methodologic, or intervention characteristics are common to trials achieving maintenance?

DESIGN: Systematic review of trials that evaluated a physical activity and/or dietary behavior change intervention among adults, with measurement at preintervention, postintervention, and at least 3 months following intervention completion (follow-up).

MAIN OUTCOME MEASURES: Maintenance of behavior change was defined as a significant between-groups difference at postintervention and at follow-up, for one or more physical activity and/or dietary outcome. **RESULTS:** Maintenance outcomes were reported in 35% of the 157 intervention trials initially considered for review. Of the 29 trials that met all inclusion criteria, 21 (72%) achieved maintenance. Characteristics common to trials achieving maintenance included those related to sample characteristics (targeting women), study methods (higher attrition and pretrial behavioral screening), and intervention characteristics (longer duration [>24 weeks], face-to-face contact, use of more intervention strategies [>6], and use of follow-up prompts).

CONCLUSIONS: Maintenance of physical activity and dietary behavior change is not often reported; when it is, it is often achieved. To advance the evidence, the field needs consensus on reporting of maintenance outcomes, controlled evaluations of intervention strategies to promote maintenance, and more detailed reporting of interventions.

Forbes. (2012). **The blockbuster drug of the century: An engaged patient**. HL7 Standards, April 28th, 2013.

http://www.forbes.com/sites/davechase/2012/09/09/patient-engagement-is-the-blockbuster-drug-of-the-century

Leonard Kish, a health IT strategy consultant declares that patient engagement is the "blockbuster drug of the century". He compares the statins blockbuster with the patient engagement "blockbuster" and reviews the benefits of engaging patients in their care on health outcomes and healthcare costs.

Fortmann AL, Gallo LC, Philis-Tsimikas A. (2011). **Glycemic control among Latinos with type 2 diabetes: The role of social-environmental support resources.** *Health Psychology*, 30(3): 251-258

OBJECTIVE: Although active diabetes self-management is required to achieve glycemic control, adherence is poor among ethnic minorities, especially Latinos. Research shows that individuals who report greater social-environmental support resources for disease management manage their diabetes more effectively than those with fewer support resources.
METHODS: Path analysis was conducted to investigate the value of a multiple-mediator model in explaining how support resources for disease management influence hemoglobin A1c (HbA1c) levels in a sample of 208 Latinos with Type 2 diabetes recruited from low-income serving community clinics in San Diego County. We hypothesized that the relationship between support resources for disease-management and HbA1c would be mediated by diabetes self-management and/or depression.
RESULTS: Participants who perceived greater support resources for disease-management reported better diabetes self-management ($\beta = .40$, $p < .001$) and less depression ($\beta = -.19$, $p < .01$). In turn, better diabetes self-management and less depression were associated with tighter glycemic control (HbA1c; $\beta = -.17$, $p < .05$ and $\beta = .15$, $p < .05$, respectively). Once the indirect effects via diabetes self-management (95% CI [−.25; −.03]) and depression (95% CI [−.14; −.01]) were statistically controlled, the direct pathway from support resources to HbA1c was markedly reduced ($p = .57$).
CONCLUSIONS: These findings demonstrate the important connection that support resources for disease management can have with diabetes self-management, emotional well-being, and glycemic control among Latinos. Thus, programs targeting diabetes self-management and glycemic control in this population should consider culturally relevant, multilevel influences on health outcomes.

Frates EP, Moore MA, Lopez CN, & McMahon GT. (2011). **Coaching for behavior change in physiatry**. *American Journal of Physical Medicine & Rehabilitation*, 90(12): 1074-1082.

Behavior modification is vital to the prevention or amelioration of lifestyle-related disease. Health and wellness coaching is emerging as a powerful intervention to help patients initiate and maintain sustainable change that can be critical to physiatry practice. The coach approach delivers a patient-centered collaborative partnership to create an engaging and realistic individualized plan. The coaching process builds the psychologic skills needed to support lasting change, including mindfulness, self-awareness, self-motivation, resilience, optimism, and self-efficacy. Preliminary studies indicate that health and wellness coaching is a useful and potentially important adjunct to usual care for managing hyperlipidemia, diabetes, cancer pain, cancer survival, asthma, weight loss, and increasing physical activity. Physiatrists can benefit from the insights of coaching to promote effective collaboration, negotiation, and motivation to encourage patients to take responsibility for their recovery and their future wellness by adopting healthy lifestyles.

Free C, Knight R, Robertson S, Whittaker R, Edwards P, Zhou W, Rodgers A, Cairns J, Kenward MG, & Roberts I. (2011). **Smoking cessation support delivered via mobile phone text messaging (txt2stop): A single-blind, randomized trial.** *The Lancet*, 378(9785): 49-55.

BACKGROUND: Smoking cessation programmes delivered via mobile phone text messaging show increases in self-reported quitting in the short term. We assessed the effect of an automated smoking cessation programme delivered via mobile phone text messaging on continuous abstinence, which was biochemically verified at 6 months.
METHODS: In this single-blind, randomised trial, undertaken in the UK, smokers willing to make a quit attempt were randomly allocated, using an independent telephone randomisation system, to a mobile phone text messaging smoking cessation programme (txt2stop), comprising motivational messages and behavioural-change support, or to a control group that received text messages unrelated to quitting. The system automatically generated intervention or control group texts according to the allocation. Outcome assessors were masked to treatment allocation. The primary outcome was self-reported continuous smoking abstinence, biochemically verified at 6 months. All analyses were by intention to treat. This study is registered, number ISRCTN 80978588.
FINDINGS: We assessed 11 914 participants for eligibility. 5800 participants were randomised, of whom 2915 smokers were allocated to the txt2stop intervention and 2885 were allocated to the control group; eight were excluded because they were randomised more than once. Primary outcome data were available for 5524 (95%) participants. Biochemically verified continuous abstinence at 6 months was significantly increased in the txt2stop group (10·7% txt2stop vs 4·9% control, relative risk [RR] 2·20, 95% CI 1·80—2·68; p<0·0001). Similar results were obtained when participants that were lost to follow-up were treated as smokers (268 [9%] of 2911 txt2stop vs 124 [4%] of 2881 control [RR 2·14, 95% CI 1·74—2·63; p<0·0001]), and when they were excluded (268 [10%] of 2735 txt2stop vs 124 [4%] of 2789 control [2·20, 1·79—2·71; p<0·0001]). No significant heterogeneity was shown in any of the prespecified subgroups.
INTERPRETATION: The txt2stop smoking cessation programme significantly improved smoking cessation rates at 6 months and should be considered for inclusion in smoking cessation services.
FUNDING: UK Medical Research Council, Primary Care Research Networks.

Fryar CD, Hirsch R, Eberhardt MS, Yoon SS, & Wright JD. (2010) **Hypertension, high serum total cholesterol, and diabetes: Racial and ethnic prevalence differences in U.S. adults, 1999-2006**. Hyattsville, MD: National Center for Health Statistics.

Nearly half of all adults in the US have one chronic condition associated with an increased risk of cardiovascular disease, according to data from the National Health and Nutrition Examination Survey (NHANES). The report, from the Centers for Disease Control and Prevention, showed that 45% of individuals 20 years of age and older have hypercholesterolemia, hypertension, or diabetes. Of these, 3% of adults had all three conditions and 13% had two conditions. Hypertension and hypercholesterolemia were present in 9% of adults, and 3% of adults had high blood pressure and diabetes. "These findings indicate that a high percentage of the population have a condition associated with heart disease, the leading cause of death in the United States," according to Cheryl Fryar (Centers for Disease Control and Prevention, Hyattsville, MD) and colleagues in an April 2010 data brief from the National Center for Health Statistics. The prevalence of diagnosed or undiagnosed high blood pressure, elevated cholesterol levels, or diabetes varied by ethnicity, with non-Hispanic black individuals more likely than non-Hispanic white and Mexican American individuals to have at least one of these three conditions. Compared with Mexican Americans, non-Hispanic white individuals were more likely to have only one of these chronic conditions, while non-Hispanic black people were more likely than white individuals and Mexican American individuals, 16.4% vs 12.8% and 12.7%, respectively, to have two comorbid conditions. In total, 4.6% of non-Hispanic black people have hypertension, hypercholesterolemia, and diabetes. "These results emphasize the need for research to identify the reasons for the race/ethnicity differences and to identify factors that could be modified to mitigate the race/ethnicity differences," according to the researchers. The data also showed that approximately 8% of adults have undiagnosed hypertension, 3% have undiagnosed diabetes, and another 8% have undiagnosed hypercholesterolemia. In more than 15% of all US adults, one or more of these conditions is undiagnosed. The proportion of undiagnosed hypertension, elevated cholesterol levels, and diabetes was similar across racial/ethnic groups.

Fuller C, & Taylor P. (2008). **A toolkit of motivational skills: Encouraging and supporting change in individuals.** Guilford Press.

Motivational interviewing is a style of communication developed for working with substance abuse, but found to be effective for work with a variety of people who are struggling with the idea of behaviour change. This workbook is a complete guide to the motivational approach for any professional who needs to help others to change.

Galloway GP, Coyle JR, Guillén JE, Flower K, & Mendelson JE. (2011). **A simple, novel method for assessing medication adherence: Capsule photographs taken with cellular telephones.** *Journal of Addiction Medicine*, 5(3): 170-174.

OBJECTIVES: Medication nonadherence is an important factor in clinical practice and research methodology. Although many methods of measuring adherence have been investigated, there is as yet no “gold standard.” We compared the usefulness and accuracy of a novel measure of adherence, photographs taken by cellular telephones with 2 incumbents: capsule count and the Medication Event Monitoring System (MEMS).
METHOD: Twenty subjects participated in a clinical trial of the efficacy of modafinil for the treatment of methamphetamine dependence. Subjects were issued cell phones and medication in MEMS Cap equipped bottles and were instructed to take 1 capsule a day for 8 weeks, recording adherence with both systems. Pill counts were recorded at weekly inpatient visits. Subjects were paid for participation and for each capsule photograph and the returned medication bottle with MEMS Cap.
RESULTS: Capsule count-indicated adherence (proportion of prescribed medication taken) was 94.9%. When compared with capsule count, the novel method was found to underestimate adherence, whereas MEMS overestimated adherence. By using the dosing time data collected, we determined that subjects who dosed at a consistent time daily were more likely to adhere to the prescribed regimen. We also detected discrepancies in the timestamps recorded by MEMS.
CONCLUSIONS: Capsule photographs are a useful measure of adherence, allowing more accurate time measures and more frequent adherence assessment than MEMS or capsule count. Given the ubiquity of cellular telephone use, and the relative ease of this adherence measurement method, we believe it is a useful and cost-effective approach.

Gance-Cleveland B. (2007). **Motivational interviewing: Improving patient education**. *Journal of Pediatric Health Care,* 21: 81-88.

Many health care conditions require behavior change by the patient or parent to improve health outcomes. Poor outcomes may be attributed to the lack of adherence to the behavior change recommendations. A shift from the authoritarian, expert providing advice to a more family-centered, collaborative model using motivational interviewing (MI) results in improved adherence. The principles of MI are exploring ambivalence, reflective listening, reinforcing positive behavior, and rolling with resistance. The process for MI is establishing relationships; setting an agenda; assessing importance, confidence, and readiness; exploring importance; and helping families select an action plan and building confidence in their ability to change.

Gillison F, Sebire S, & Standage M. (2012). **What motivates girls to take up exercise during adolescence? Learning from those who succeed.** *British Journal of Health Psychology*, 17(3): 536-550.

OBJECTIVES: The present study explored factors that underpin increased internalization (i.e., perceived autonomy) in motivation towards exercise over a 1-year period in adolescent girls.
DESIGN: A mixed methods prospective study.
METHODS: A total of 107 girls (mean age = 13.28 years) reported their exercise behaviour, exercise goals, and a multidimensional measure of motivation towards exercise on two occasions, 1 year apart. Ten girls reporting increased autonomous motivation were then interviewed.
RESULTS: Two themes were extracted; growing up and seeking challenge. Most participants reported being more interested in exercising for their health as a result of growing up, through having greater understanding of the health-behaviour link and willingness to act now for future health gain. However, their motivation appeared to be only partially internalized, as health was still viewed primarily as a value promoted by respected others (parents, teachers, media). Furthermore, as many girls conflated being healthy with being thin, health for appearance-related weight control was experienced as an extrinsic (controlling) goal. The second theme was more suggestive of autonomous motivation; girls reported valuing exercise for the opportunity it provides to set and achieve personally meaningful challenges, facilitating a sense of competence and achievement.
CONCLUSIONS: The findings may have a useful application in suggesting how exercise settings could be manipulated to increase enjoyment and participation during adolescence. In particular, the findings suggest that means of increasing the salience of the rewarding nature of setting and reaching personal challenges in an exercise setting are investigated.

*Glasgow RE, Funnell MM, Bonomi AE, Davis C, Beckham V, & Wagner EH. (2002). **Self-management aspects of the improving chronic illness care breakthrough series: Implementation with diabetes and heart failure teams**. *Annals of Behavioral Medicine: A Publication of the Society of Behavioral Medicine*, 24(2): 80-87.

Self-management is an essential but frequently neglected component of chronic illness management that is challenging to implement. Available effectiveness data regarding self-management interventions tend to be from stand-alone programs rather than from efforts to integrate self-management into routine medical care.
TOPIC/SCOPE: This article describes efforts to integrate self-management support into broader health care systems change to improve the quality of patient care in the Chronic Illness Care Breakthrough Series. We describe the general approach to system change (the Chronic Care Model) and the more specific self-management training model used. The process used in training organizations in self-management is discussed, and data are presented on teams from 21 health care systems participating in a 13-month-long Breakthrough Series to address diabetes and heart failure care.
CONCLUSIONS/RECOMMENDATIONS: Available system-level data suggest that teams from a variety of health care organizations made improvements in support provided for self-management. Improvements were found for both diabetes and heart failure teams, suggesting that this improvement process may be broadly applicable. Lessons learned, keys to success, and directions for future research and practice are discussed.

Godin G, Sheeran P, Conner M, Bélanger-Gravel A, Gallani MCBJ, & Nolin B. (2010). **Social structure, social cognition, and physical activity: A test of four models.** *British Journal of Health Psychology*, 15(1): 79-95.

OBJECTIVE: This study investigated the combined influence of social structural factors (e.g. income) and cognitions in predicting changes in physical activity. Four models were tested: (a) direct effects (social structural factors influence behaviour controlling for cognitions), (b) mediation (cognitions mediate social structural influence), (c) moderation (social structural factors moderate cognition–behaviour relations), and (d) mediated moderation (cognitions mediate the moderating effects of social structural position).
DESIGN: Baseline and 3-month follow-up surveys.
METHODS: A random sample of 1,483 adults completed self-report measures of physical activity at baseline and 3-month follow-up. Measures of age, gender, education, income, material and social deprivation, intention, perceived behavioural control (PBC), and intention stability also were taken.
RESULTS: Apart from age, social structural factors exhibited very small or marginal effects on behaviour change, and only education moderated the intention–behaviour relation. In contrast, the magnitude of direct effects of the social cognition variables was comparatively large and intention stability mediated the moderating effect of education.
CONCLUSIONS: Stable intentions and PBC are the key predictors of changes in physical activity. Consequently, our findings would suggest the value of focusing on cognitions rather than social structural variables when modelling the determinants of physical activity.

*Goldstein MG, DePue J, Kazura A, & Niaura R. (1998). **Models for provider-patient interaction: Applications to health behavior change**. In: Shumaker SA, Schron E, Ockene J, & McBee WL (Eds.) (2nd ed.) The Handbook of Health Behavior Change. New York, Springer Publishing Company: 85-113.

In this chapter, we will first describe the barriers to delivery of behavior change interventions in health care settings. Then, we will describe several models which may be used to enhance provider-patient interaction to facilitate patient adherence and behavior change. We will review a Systems Model described by Walsh and McPhee (1992) and a Patient Path Model (Pommerenke & Dietrich, 1992), both of which integrate patient and provider factors with the health care delivery system and organizational factors which impact the delivery of care and patient outcomes. We also discuss three models which focus in more detail on the provider-patient interaction: the Transtheoretical Model (Prochaska & DiClemente, 1986); Motivational Interviewing (Miller & Rolnick, 1991); and a Patient-Centered Patient Education model (Grueninger, Duffy, & Goldstein, 1995). The latter approach integrates features from the first two, and emphasizes the importance of tailoring interventions to the specific needs of patients and utilizing counseling skills to enhance the outcome of the encounter. Examples of interventions are given to illustrate potential applications of these models.

*Goldstein MG, Whitlock EP, DePue J, & Planning Committee of the Addressing Multiple Behavioral Risk Factors in Primary Care Project. (2004). **Multiple behavioral risk factor interventions in primary care: Summary of research evidence.** *American Journal of Preventive Medicine*, 27(2 Suppl): 61-79.

BACKGROUND: An important barrier to the delivery of health behavior change interventions in primary care settings is the lack of an integrated screening and intervention approach that can cut across multiple risk factors and help clinicians and patients to address these risks in an efficient and productive manner.
METHODS: We review the evidence for interventions that separately address lack of physical activity, an unhealthy diet, obesity, cigarette smoking, and risky/harmful alcohol use, and evidence for interventions that address multiple behavioral risks drawn primarily from the cardiovascular and diabetes literature.
RESULTS: There is evidence for the efficacy of interventions to reduce smoking and risky/harmful alcohol use in unselected patients, and evidence for the efficacy of medium- to high-intensity dietary counseling by specially trained clinicians in high-risk patients. There is fair to good evidence for moderate, sustained weight loss in obese patients receiving high-intensity counseling, but insufficient evidence regarding weight loss interventions in nonobese adults. Evidence for the efficacy of physical activity interventions is limited. Large gaps remain in our knowledge about the efficacy of interventions to address multiple behavioral risk factors in primary care.
CONCLUSIONS: We derive several principles and strategies for delivering behavioral risk factor interventions in primary care from the research literature. These principles can be linked to the "5A's" construct (assess, advise, agree, assist, and arrange-follow up) to provide a unifying conceptual framework for describing, delivering, and evaluating health behavioral counseling interventions in primary healthcare settings. We also provide recommendations for future research.

*Gordon T. (1970, 2000). **Parent effectiveness training: The proven program for raising responsible children**. Three Rivers Press.

Thomas Gordon was an American clinical psychologist and student, then colleague of Carl Rogers. Dr. Gordon coined the term "active listening" as part of his work on Parent Effectiveness Training, which was first published in 1970 and most recently revised in 2000.

Grogan S, Flett K, Clark-Carter D, Gough B, Davey R, Richardson D, & Rajaratnam G. (2011). **Women smokers' experiences of an age-appearance anti-smoking intervention: A qualitative study.** *British Journal of Health Psychology*, 16(4): 675-689.

OBJECTIVES: This study was designed to investigate women's experiences of engaging in an age-appearance anti-smoking intervention.
METHODS: Ten 18- to 34-year-old women gave accounts of their experiences after engaging in an age-appearance facial morphing anti-smoking intervention in interviews (*n*= 7) and a focus group (*n*= 3), and 37 women gave their accounts while they were engaged in the intervention. Transcripts were analysed using a thematic analysis broadly informed by the procedures of Grounded Theory.
RESULTS: Women were very concerned about the impact of ageing on their faces in general, and in particular the additional impact of smoking on their skin. Women were concerned about other people's reactions to them as older smokers with wrinkled skin, and many experienced a physical shock reaction (including reports of nausea) to seeing how they would age if they continued to smoke. They reported that seeing their own face aged on the computer screen increased their perceived risk of skin wrinkling. Women reported being highly motivated to quit smoking as a result of the intervention, and many reported that they would take active steps to quit having seen how they would look if they continued to smoke. This was linked with increased perceived personal responsibility for quitting.

CONCLUSIONS: Results are discussed in relation to suggestions for anti-smoking interventions aimed at women in the 18- to 34-year-old age group. It is concluded that interventions incorporating age-appearance morphing techniques are likely to be effective in helping women to take active steps to quit smoking.

Guidetti M, Conner M, Prestwich A, & Cavazza N. (2012). **The transmission of attitudes towards food: Twofold specificity of similarities with parents and friends.** *British Journal of Health Psychology*, 17(2): 346-361.

OBJECTIVES: The present study explored whether similarity of students' food attitudes with those of their parents and friends varies as a function of both the food and type of measurement. We expected greater resemblance with parents for attitudes towards fruit and for implicit attitudes and greater resemblance with friends for attitudes towards snacks and for explicit attitudes.

DESIGN: We compared the resemblance in implicit and explicit attitudes towards fruit and preference for sweet over savoury snacks between target-parent and target-friend pairings. The parental-peer mutual influence effect was separated from cultural effect by comparing real and random dyads.

METHODS: Target participants were 85 students who recruited one parent and one best friend each. All participants completed online two Implicit Association Tests and rated their liking for fruit and sweet/savoury snacks.

RESULTS: Our target participants' attitudes towards fruit were predicted by those of their parents rather than friends, with this relationship being detected through implicit but not explicit measures. Conversely, target participants' preference for sweet over savoury snacks was predicted with those of their friends but not parents, with this relationship being detected through explicit but not implicit measures.

CONCLUSIONS: Young adults' resemblance to parents and friends, in terms of food attitudes, seems specific both to the food type and to the attitude measure, suggesting that parents' influence concerns healthy food and is exerted at an implicit attitude level; whereas friends' influence concerns junk food and is exerted at an explicit attitude level. The theoretical and practical implications are discussed.

Guo J, Whittemore R, & He GP. (2011). **The relationship between diabetes self-management and metabolic control in youth with type 1 diabetes: An integrative review.** *Journal of Advanced Nursing,* 67(11): 2294-2310.

AIMS: The purpose of this integrative review was to describe the relationship between diabetes self-management and metabolic control in youth with type 1 diabetes and to explore factors which affect this relationship.

BACKGROUND: In the past 15 years, research has indicated that youth with type 1 diabetes face considerable self-management challenges and are at increased risk for poor metabolic control. To enhance the development of behavioural interventions for youth with type 1 diabetes, the relationship between diabetes self-management and metabolic control needs to be more clearly elucidated.

DATA SOURCES: Research studies that examined the relationship between diabetes self-management and metabolic control in youth with type 1 diabetes were included (*n*=18). The electronic databases searched included OVID, MEDLINE (1996 to present), SCOPUS (1996 to January 2010) and PubMed (1996 to January 2010). **REVIEW METHOD:** An integrative literature review was carried out using Whittemore's modified framework for data collection, analysis and synthesis.

RESULTS: A positive relationship between diabetes self-management and metabolic control in youth with type 1 diabetes was supported in longitudinal studies and in studies where the mean age was >13 years. Factors influencing this relationship are identified. Measurement of self-management was quite variable.

CONCLUSION: Interventions targeting self-management in youth with type 1 diabetes are indicated, particularly in families of diverse race and ethnicity globally. Further evaluation of the measures of self-management and more longitudinal research are also indicated.

Haeseler F, Fortin AH 6th, Pfeiffer C, Walters C, & Martino S. (2011). **Assessment of a motivational interviewing curriculum for year 3 medical students using a standardized patient case.** *Patient Education and Counseling*, 84(1): 27-30.

OBJECTIVE: We sought to evaluate a year 3 motivational interviewing (MI) curriculum using a standardized patient case.

METHODS: The 2-h small group MI curriculum included a didactic presentation followed by interactive role plays. During a clinical skills assessment at the end of year 3 the MI skills of 80 students who had participated in the curriculum were compared with those of 19 students who had not participated.

RESULTS: The standardized patient reliably rated the students on their performance of 8 items. Students who had participated in the MI curriculum were significantly more proficient than nonparticipating students in the performance of 2 strategic MI skills, importance and confidence rulers ($ps < .006$). The groups did not differ in their use of patient-centered counseling skills or collaborative change planning commonly used in MI. **CONCLUSIONS:** Third year medical students can learn to use MI skills that specifically aim to enhance patients' motivations for change.

PRACTICE IMPLICATIONS: Medical schools should consider providing students with MI training and MI skill assessments using standardized patient cases to help students prepare to counsel patients for behavior change.

Handley M, MacGregor K, Schillinger D, Sharifi C, Wong S, & Bodenheimer T. (2006). **Using action plans to help primary care patients adopt healthy behaviors: A descriptive study.** *Journal of the American Board of Family Medicine*, 19(3): 224-31.

PURPOSE: An action plan is an agreement between clinician and patient that the patient will make a specific behavior change. The goals of this study are to: determine whether it is feasible for patients to make action plans in the primary care visit; determine whether patients report carrying out their action plans; and describe the action plans patients choose.
METHODS: Forty-three clinicians in 8 primary care sites were recruited to hold action-plan discussions with patients. Research assistants contacted patients by telephone 3 weeks later to assess whether patients had conducted their action plans.
RESULTS: Eighty-three percent of enrolled patients (228) made an action plan during a primary care visit. Of the 79% who recalled making the action plan when interviewed by telephone 3 weeks later, 56% recalled the details of their action plan, and an additional 33% recalled the general nature of the action plan. At least 53% of patients making an action plan reported making a behavior change consistent with that action plan.
CONCLUSIONS: Most patients reported making a behavior change based on an action plan, suggesting that action plans may be a useful strategy to encourage behavior change for patients seen in primary care.

See also: Lorig K. (2006). **Action planning: A call to action**. *Journal of the American Board of Family Medicine,* 19: 324-325.

Haskard KB, Williams SL, DiMatteo R, Rosenthal R, Kemp White M, & Goldstein MG. (2008). **Physician and patient communication training in primary care: Effects on participation and satisfaction**. *Health Psychology,* 27(5): 513-522.

Note: The Institute for Healthcare Communication's Choices and Changes: Patient Action and Clinician Influence workshop was included as part of this RC T study. See also Bonvicini, et al. (2009).

OBJECTIVE: To assess the effects of a communication skills training program for physicians and patients.
DESIGN: A randomized experiment to improve physician communication skills was assessed 1 and 6 months after a training intervention; patient training to be active participants was assessed after 1 month. Across three primary medical care settings, 156 physicians treating 2,196 patients were randomly assigned to control group or one of three conditions (physician, patient, or both trained).
MAIN OUTCOME MEASURES: Patient satisfaction and perceptions of choice, decision-making, information, and lifestyle counseling; physicians' satisfaction and stress; and global ratings of the communication process. **RESULTS:** The following significant ($p < .05$) effects emerged: physician training improved patients' satisfaction with information and overall care; increased willingness to recommend the physician; increased physicians' counseling (as reported by patients) about weight loss, exercise, and quitting smoking and alcohol; increased physician satisfaction with physical exam detail; increased independent ratings of physicians' sensitive, connected communication with their patients, and decreased physician satisfaction with interpersonal aspects of professional life. Patient training improved physicians' satisfaction with data collection; if only physician or patient was trained, physician stress increased and physician satisfaction decreased.
CONCLUSION: Implications for improving physician-patient relationship outcomes through communication skills training are discussed.

Heilferty CM. (2009). **Toward a theory of online communication in illness: Concept analysis of illness blogs.** *Journal of Advanced Nursing*, 65(7): 1539-1547.

AIM: This paper is a report of a concept analysis of illness blogs and their relevance to nursing research on communication during illness.
BACKGROUND: Blogs are being used by patients and family members to describe the experience of illness, but very little is known about this phenomenon.
DATA SOURCES: Seventeen English language databases and one Internet search engine were searched from 1990 to 2007 using the truncated term `blog*'. Specific illness terms together with `blog*', for example, blog* and diabetes; and blog* and cancer, were used to expand the search.
REVIEW METHODS: Reports were included if they were of qualitative or quantitative research that included a definition of blogs or blogging and some identification or description of blog uses pertinent to the discipline. Specific emphasis was placed on blog use by individuals coping with illness experiences. `Meta' writings by authors about their own blogging intentions and experiences were excluded.
RESULTS: An illness blog is the online expression of the narrative of illness. Theoretical and operational definitions, defining attributes, uses, antecedents and consequences were developed. The literature search returned 45 works from 17 disciplines

referring to the definition and uses of blogging. Support is offered from the review of literature and analysis of the concept for the development of a theory of online communication during illness.

CONCLUSION: Reading and incorporating illness blogs into care will enhance patient-provider relationships. Analysis of the narratives being created online about the illness experience will contribute significantly to nursing's body of knowledge.

Heisler M, Cole I, Weir D, Kerr EA, & Hayward RA. (2007). **Does physician communication influence older patients' diabetes self-management and glycemic control? Results from the health and retirement study (HRS).** *Journal of Gerontology: Medical Sciences,* 62(12): 1435-1442.

BACKGROUND: Effective chronic disease self-management among older adults is crucial for improved clinical outcomes. We assessed the relative importance of two dimensions of physician communication—provision of information (PCOM) and participatory decision-making (PDM)—for older patients' diabetes self-management and glycemic control.

METHODS: We conducted a national cross-sectional survey among 1588 older community-dwelling adults with diabetes (response rate: 81%). Independent associations were examined between patients' ratings of their physician's PCOM and PDM with patients' reported diabetes self-management (medication adherence, diet, exercise, blood glucose monitoring, and foot care), adjusting for patient sociodemographics, illness severity, and comorbidities. Among respondents for whom hemoglobin A1c (HbA1c) values were available (n = 1233), the relationship was assessed between patient self-management and HbA1c values.

RESULTS: In separate multivariate regressions, PCOM and PDM were each associated with overall diabetes self management ($p < .001$) and with all self-management domains ($p < .001$ in all models), with the exception of PDM not being associated with medication adherence. In models with both PCOM and PDM, PCOM alone predicted medication adherence ($p = .001$) and foot care ($p = .002$). PDM alone was associated with exercise and blood glucose monitoring (both $p < .001$) and was a stronger independent predictor than PCOM of diet. Better patient ratings of their diabetes self management were associated with lower HbA1c values ($B = -.10$, $p = .005$). **CONCLUSION:** Among these older adults, both their diabetes providers' provision of information and efforts to actively involve them in treatment decision-making were associated with better overall diabetes self-management. Involving older patients in setting chronic disease goals and decision-making, however, appears to be especially important for self-care areas that demand more behaviorally complex lifestyle adjustments such as exercise, diet, and blood glucose monitoring.

Helfand BKI, & Mukamal KJ. (2013). **Healthcare and lifestyle practices of healthcare workers: Do healthcare workers practice what they preach?** *JAMA Internal Medicine*, 173(3): 242-244.

ABSTRACT: Interestingly, health care professionals are no better than most patients in adhering to healthy behaviours. In one population-based study conducted at the Center for Disease Control, researchers found that health care professionals did not differ significantly from the general population in the likelihood of "having a recent Papanicolaou test or dental visit, ever having a sigmoidoscopy or colonoscopy, being overweight or obese, drinking and driving, failing to wear a seatbelt, smoking, using smokeless tobacco, engaging in [HIV] risk behaviors, getting sunburned, or being dissatisfied with life."

Heron KE, & Smyth JM. (2010). **Ecological momentary interventions: Incorporating mobile technology into psychosocial and health behaviour treatments.** *British Journal of Health Psychology,* 15(1): 1-39.

PURPOSE: Psychosocial and health behaviour treatments and therapies can be extended beyond traditional research or clinical settings by using mobile technology to deliver interventions to individuals as they go about their daily lives. These ecological momentary interventions (EMIs) are treatments that are provided to people during their everyday lives (i.e. in real time) and in natural settings (i.e. real world). The goal of the present review is to synthesize and critique mobile technology-based EMI aimed at improving health behaviours and psychological and physical symptoms.

METHODS: Twenty-seven interventions using palmtop computers or mobile phones to deliver ambulatory treatment for smoking cessation, weight loss, anxiety, diabetes management, eating disorders, alcohol use, and healthy eating and physical activity were identified.

RESULTS: There is evidence that EMI can be successfully delivered, are accepted by patients, and are efficacious for treating a variety of health behaviours and physical and psychological symptoms. Limitations of the existing literature were identified and recommendations and considerations for research design, sample characteristics, measurement, statistical analyses, and clinical implementation are discussed.

CONCLUSIONS: Mobile technology-based EMI can be effectively implemented as interventions for a variety of health behaviours and psychological and physical symptoms. Future research should integrate the assessment and intervention capabilities of mobile technology to create dynamically and individually tailored EMI that are ecologically sensitive.

Hibbard JH, & Cunningham PJ. (2008). **How engaged are consumers in their health and health care, and why does it matter?** *Center for Studying Health System Change Research Brief*, 8: 1-9.

Patient activation refers to a person's ability to manage their health and health care. Engaging or activating consumers has become a priority for employers, health plans and policy makers. The level of patient activation varies considerably in the U.S. population, with less than half of the adult population at the highest level of activation, according to a new study by the Center for Studying Health System Change (HSC) (see Figure 1). Activation levels are especially low for people with low incomes, less education, Medicaid enrollees, and people with poor self-reported health. Higher activation levels are associated with much lower levels of unmet need for medical care and greater support from health care providers for self-management of chronic conditions.

Hibbard JH, Greene J, & Overton V. (2013). **Patients with lower activation associated with higher costs: Delivery systems should know their patients' 'scores'**. *Health Affairs*, 32(2): 216-222.

ABSTRACT: Patient activation is a term that describes the skills and confidence that equip patients to become actively engaged in their health care. Health care delivery systems are turning to patient activation as yet another tool to help them and their patients improve outcomes and influence costs. In this article we examine the relationship between patient activation levels and billed care costs. In an analysis of 33,163 patients of Fairview Health Services, a large health care delivery system in Minnesota, we found that patients with the lowest activation levels had predicted average costs that were 8 percent higher in the base year and 21 percent higher in the first half of the next year than the costs of patients with the highest activation levels, both significant differences. What's more, patient activation was a significant predictor of cost even after adjustment for a commonly used "risk score" specifically designed to predict future costs. As health care delivery systems move toward assuming greater accountability for costs and outcomes for defined patient populations, knowing patients' ability and willingness to manage their health will be a relevant piece of information integral to health care providers' ability to improve outcomes and lower costs.

Hibbard J, & Lorig K. (2012). **The dos and don'ts of patient engagement in busy office practices.** *Journal of Ambulatory Care Management*, 35(2): 129-132.

Hohman M. (2011). **Motivational interviewing in social work practice**. Guilford Press.

Motivational interviewing (MI) offers powerful tools for helping social work clients draw on their strengths to make desired changes in their lives. This reader-friendly book introduces practitioners and students to MI and demonstrates how to integrate this evidence-based method into direct practice. Melinda Hohman and her associates describe innovative applications for diverse clients and practice areas, including substance abuse treatment, mental health, child welfare, community organizing, and others. Extensive sample dialogues illustrate MI skills in action with individuals and groups. The book also presents best practices for MI training, teaching, and agency-wide integration.

Huttunen-Lenz M, Song F, & Poland F. (2010). **Are psychoeducational smoking cessation interventions for coronary heart disease patients effective? Meta-analysis of interventions.** *British Journal of Health Psychology*, 15(4): 749-777.

PURPOSE: This systematic review aimed to assess the effectiveness of psychoeducational smoking cessation interventions for coronary heart disease (CHD) patients; and to examine behaviour change techniques used in interventions and their suitability to change behavioural determinants.
METHODS: Multiple bibliographic databases and references of retrieved articles were searched for relevant randomized controlled studies. One reviewer extracted and a second reviewer checked data from included trials. Random effects meta-analyses were conducted to estimate pooled relative risks for smoking cessation and mortality outcomes. Behaviour change techniques used and their suitability to change behavioural determinants were evaluated using a framework by Michie, Johnston, Francis, Hardeman, and Eccles.
RESULTS: A total of 14 studies were included. Psychoeducational interventions statistically significantly increased point prevalent (RR 1.44, 95% CI, 1.20–1.73) and continuous (RR 1.51, 95% CI, 1.18–1.93) smoking cessation, and statistically non-significantly decreased total mortality (RR 0.73, 95% CI, 0.46–1.15). Included studies used a mixture of theories in intervention planning. Despite superficial differences, interventions appear to deploy similar behaviour change techniques, targeted mainly at motivation and goals, beliefs about capacity, knowledge, and skills.
CONCLUSIONS: Psychoeducational smoking cessation interventions appear effective for patients with CHD. Although questions remain about what characteristics distinguish an effective intervention, analysis indicates similarities between the behaviour change techniques used in such interventions.

Hyde MK & White KM. (2009). **Communication prompts donation: Exploring the beliefs underlying registration and discussion of the organ donation decision.** *British Journal of Health Psychology*, 14(3): 423-435.

OBJECTIVES: To use a theory of planned behaviour (TPB) framework to explore the beliefs underlying communication of the donation decision for people who had not previously registered their consent on a donor register or discussed their decision with significant others.

DESIGN: Initially, a focus group study elicited the common TPB (behavioural, normative, and control) beliefs about registering and discussing the organ donation decision. The main study assessed the important TPB belief predictors of intentions to register and discuss the donation decision.

METHOD: University students and community members from Queensland, Australia (N = 123) completed items assessing their intentions and the TPB behavioural, normative, and control beliefs for registering and discussing their donation decision.

RESULTS: Structural equation modelling (SEM) analyses revealed significant paths between people's intentions to register their donation decisions and underlying behavioural (e.g. enabling efficient donation procedures), normative (e.g. friends, doctors/medical professionals), and control (e.g. lack of motivation, knowing details about transplant recipients) beliefs (R^2=.30). There were also significant paths between people's intentions to discuss their donation decision and underlying behavioural (e.g. feeling uncomfortable talking about death related topics) and normative (e.g. partner/spouse, family members) beliefs, but not control beliefs (R^2=.33). There was a significant path between intentions to register and intentions to discuss one's donation decision. **CONCLUSIONS:** Results highlight the importance of focusing on behavioural and normative beliefs about communicating the donation decision, specifically for people who have not previously communicated their decision, and suggest potential targets for interventions designed to promote decision communication.

*Janis IL, & Mann L. (1977). **Decision making: A psychological analysis of conflict, choice, and commitment**. The Free Press: A Division of Macmillan Publishing Co., Inc.

CONCEPT OF PROBLEM DEVELOPMENT: Internal conflicts are likely to arise whenever an important decision (whether it be marriage, business, or health) has to be made. These decisional conflicts usually serve as sources of psychological stress.

CONCEPT OF CHANGE: There are five stages involved in arriving at a stable decision: (1) appraising the challenge; (2) surveying alternatives; (3) weighing alternatives; (4) deliberating about commitment, and (5) adhering despite negative feedback. The first stage involves confronting the problem. It asks "are the risks serious if I don't change?" The second stage involves being aware that there are alternatives and searching for them. The question to ask in this stage is "Is this (salient) alternative an acceptable means for dealing with the challenge? Have I sufficiently surveyed the available alternatives?" The third stage of decision making involves being cognitive about the pros and cons of the alternatives so that subjective utility can be used to determine decision. "Which alternative is best? Could the best alternative meet the essential requirement?" The fourth stage asks, "shall I implement the best alternative and allow others to know?" Lastly, the fifth stage is concerned with "are the risks serious if I don't change? Are the risks serious if I do change?" A Conflict Model of Decision Making initially describes behaviors and decisions that occur in emergency situations. The model assumes that there are five basic coping patterns that affect the quality of decision-making: (1) unconflicted adherence--when one judges the magnitude of the threat to be negligible, he or she will most likely continue with the behavior; (2) unconflicted change--even when the threat is perceived as minimal, the individual may want to change due to a myriad of reasons; (3) defensive avoidance--when the individual perceived the risks to take a particular action is potentially serious, he/she may feel the need to find a better escape; (4) hypervigilance--feeling of panic when there is the perception that entrapment will follow and time is limited, and (5) vigilance.

INTERVENTION: The use of a balance sheet is one technique for facilitating cognitive and motivational aspects of decision-making and planning for future actions. This technique should be used to supplement the Conflict Model of Decision-Making. Unfortunately, there is no dependable way to objectively assess the success of a decision. However, to best determine the quality of decision-making, one should examine the quality of the procedures used by the decision maker in selecting a course of action. Seven criteria are given for the decision maker which will help in directing decision making to the desired outcome: (1) consider a wide range of alternative courses of action; (2) survey the full range of objectives to be fulfilled and the values implicated by the choice; (3) carefully weigh the cost and risks of consequences; (4) search for new information regarding alternatives; (5) consider new information or expert judgment; (6) re-examine the pros and cons of all alternatives, and (7) make detailed provisions for implementing or executing the chosen course of action.

Jebb SA, Ahern AL, Olson AD, Aston LM, Holzapfel C, Stoll J, Amann-Gassner U, Simpson AE, Fuller NR, Pearson S, Lau NS, Mander AP, Hauner H, & Caterson ID. (2011). **Primary care referral to a commercial provider for weight loss treatment versus standard care: A randomised controlled trial.** *The Lancet*, 378(9801): 1485-1492

ABSTRACT: People who attended a commercial weight-loss program, Weight Watchers, lost twice as much weight over a year as those who were given standard care by their primary-care provider, a new randomized, controlled trial shows. The study, conducted in the UK, Australia, and Germany, is the first to illustrate that a commercial provider--for which people normally pay themselves--is more effective for weight loss than primary-care management. Jebb et al assigned 377 overweight or obese participants to the Weight Watchers program, of whom 230 (61%) completed the 12-month assessment. In this study, the participants attended Weight Watchers free of charge. The remaining 395 overweight or obese people were assigned to standard of care in their given country, of whom 214 (54%) completed 12 months. Of those who completed the 12 months, those attending Weight Watchers lost a mean of 6.7 kg compared with 3.3 kg in those who got standard care. The greater weight loss in those assigned to Weight Watchers was accompanied by larger reductions in waist circumference and fat mass than in participants assigned to standard care.

Jha AK, Aubert RE, Yao J, Teagarden JR, & Epstein RS. (2012). **Greater adherence to diabetes drugs is linked to less hospital use and could save nearly $5 billion annually.** *Health Affairs*, 31(8): 1836-1846.

ABSTRACT: Improving adherence to medication offers the possibility of both reducing costs and improving care for patients with chronic illness. We examined a national sample of diabetes patients from 2005 to 2008 and found that improved adherence to diabetes medications was associated with 13 percent lower odds of subsequent hospitalizations or emergency department visits. Similarly, losing adherence was associated with 15 percent higher odds of these outcomes. Based on these and other effects, we project that improved adherence to diabetes medication could avert 699,000 emergency department visits and 341,000 hospitalizations annually, for a saving of $4.7 billion. Eliminating the loss of adherence (which occurred in one out of every four patients in our sample) would lead to another $3.6 billion in savings, for a combined potential savings of $8.3 billion. These benefits were particularly pronounced among poor and minority patients. Our analysis suggests that improved adherence among patients with diabetes should be a key goal for the health care system and policy makers. Strategies might include reducing copayments for certain medications or providing feedback about adherence to patients and providers through electronic health records.

Johnson B, Abouassaly R, Ghiculete D, & Stewart RJ. (2013) **Evaluating the effectiveness of a smoking warning label on raising patient awareness of smoking and bladder cancer.** *Journal of Urology,* 2013 Mar 6. pii: S0022-5347(13)03526-X.

PURPOSE: To assess the knowledge of patients with regard to the association between smoking and bladder cancer and to examine the impact of a novel smoking warning label on raising awareness of this issue.
MATERIALS AND METHODS: We conducted a prospective cross-sectional study involving patients who presented to urology and family practice clinics. A questionnaire was used to assess knowledge regarding the association between smoking and various diseases. Participants were also asked to evaluate a novel smoking warning label for bladder cancer.
RESULTS: A total of 291 (97%) patients responded to the questionnaire: 143 (95.3%) in urology clinics vs. 148 (98.7%) in family practice clinics. Overall, only 45.2% of people were aware of the association between smoking and bladder cancer compared to 97.4% who knew that there was an association between smoking and lung cancer. There were not significant differences in knowledge between those in urology and family practice clinics. After viewing the warning label, 58.1% of responders stated that it had changed their opinion on smoking and bladder cancer and 74.8% felt that this label would be an effective tool to raise awareness of the issue. Patients who changed their opinion had statistically significant less initial knowledge about the association between smoking and bladder cancer (36.7% vs. 57.5% the ones who did not change their opinion, $p<0.001$).
CONCLUSIONS: Awareness regarding the link between smoking and bladder cancer remains low. The use of a smoking warning label may help raise awareness of this important public health issue.

Johnson SS, Paiva AL, Cummins CO, Johnson JL, Dyment SJ, Wright JA, Prochaska JO, Prochaska JM, & Sherman K. (2008). **Transtheoretical model-based multiple behavior intervention for weight management: Effectiveness on a population basis.** *Preventive Medicine*, 46: 238-246.

The increasing prevalence of overweight and obesity underscore the need for evidence-based, easily disseminable interventions for weight management that can be delivered on a population basis. The Transtheoretical Model (TTM) offers a promising theoretical framework for multiple behavior weight management interventions.
METHODS: Overweight or obese adults (BMI 25-39.9; n=1277) were randomized to no-treatment control or home-based, stage-matched multiple behavior interventions for up to three behaviors related to weight management at 0, 3, 6, and 9 months. All participants were re-assessed at 6, 12, and 24 months.
RESULTS: Significant treatment effects were found for healthy eating (47.5% versus 34.3%), exercise (44.90% versus 38.10%), managing emotional distress (49.7% versus 30.30%), and untreated fruit and vegetable intake (48.5% versus 39.0%) progressing to Action/Maintenance at 24 months. The groups differed on weight lost at 24 months. Co-variation of behavior

change occurred and was much more pronounced in the treatment group, where individuals progressing to Action/Maintenance for a single behavior were 2.5-5 times more likely to make progress on another behavior. The impact of the multiple behavior intervention was more than three times that of single behavior interventions.

CONCLUSIONS: This study demonstrates the ability of TTM-based tailored feedback to improve healthy eating, exercise, managing emotional distress, and weight on a population basis. The treatment produced a high level of population impact that future multiple behavior interventions can seek to surpass.

Johnson VB, Lorig K. (2011). **The internet diabetes self-management workshop for American Indians and Alaska Natives.** *Health Promotion Practice*, 12(2): 261-70.

ABSTRACT: Type 2 diabetes disproportionately affects American Indians and Alaska Natives (AI/ANs). In the larger population, patient self-management has become an increasing focus of the health care system to help reduce the impact of diabetes. However, little is known about patient self-management programs designed for AI/ANs. This study reports on the feasibility of implementing the Stanford Internet Diabetes Self-Management Workshop within the AI/AN population using a participatory research approach. This is a continuation of self-management studies to assist in meeting the needs of both patients and the health care system for health services that are effective (evidence based), efficient, and culturally appropriate. To our knowledge, this is the first study examining the effectiveness of an Internet-based diabetes patient self-management program among AI/ANs. This article reports on a pilot for a larger randomized study that is ongoing.

Kaplan S, & Elliott H. (2011). **Using motivational interviewing to meet core competencies in psychiatric resident training.** *Academic Psychiatry*, 35(1): 46-50.

OBJECTIVE: The authors propose that motivational interviewing (MI), a brief intervention designed to manage ambivalence regarding complex behavior change, is well suited for integration into psychiatric residency training programs.

METHODS: The authors provide a brief description of MI. In addition, based on a review of the literature the authors explore which core competencies the empirically validated, client-centered, and directive method of MI would address.

RESULTS: The authors argue that psychiatric residency programs can effectively address several core competencies through the addition of MI training in their curricula, including Brief Psychotherapy, Patient Care, and Interpersonal and Communication Skills.

CONCLUSION: The implementation of MI training offers psychiatric residency programs potential benefits in several key areas. However, the authors provide guidance for important research questions to more confidently ascertain whether MI training for psychiatric residents is worthwhile.

*Kaplan SH, Greenfield S, & Ware JE Jr. (1989). **Assessing the effects of physician-patient interactions on the outcomes of chronic disease**. *Medical Care*, 27(3 Suppl): S110-27.

OBJECTIVE: To present evidence that specific aspects of physician-patient communication can affect health outcomes and to report on the results of studies where attempts were made to change physician and patient behavior by training patients to take a more active role in their own care.

DESIGN: Three randomized controlled trials among patients with chronic diseases (ulcer disease, hypertension and diabetes) and a fourth nonequivalent controlled trial of breast cancer patients in which physician-patient conversations were taped.

SETTING: Patients in these studies were from four very different settings and had considerable variation in sociodemographic characteristics. The settings range from a free clinic to private office practices; from VA Hospital to a University teaching hospital.

SUBJECTS: The participants are as varied as their locations.

INTERVENTIONS: Intervention: In the first three studies, patients were given individualized medical care information in the form of their medical records, formulas describing disease management and how to interpret the information, and coaching in strategies to increase participation in their own care during office visits. This involved learning techniques to improve question asking, negotiating skills, and methods to decrease barriers to communication with their physicians. In control interventions patients were provided with more general information on their conditions and the importance of self monitoring and self care.

MEASURES: Audiotapes of patient office visits before and after the interventions were analyzed. Codes were grouped into 3 categories: control, communication, or emotion. Then several indicators of the style of communication that combined these codes within the speaker were devised. The researchers then compared data from the analyzed tapes with patient functional status and with self-reported evaluations of health obtained from questionnaires. Eight to 12 weeks after the second visit, patients were mailed a questionnaire.

RESULTS: Patients who were more controlling (asked more questions, made more attempts to direct the conversation) during the baseline visit reported fewer functional limitations and health problems. Patients whose physicians had more

control in the baseline visits had poorer reported health. Patients in the experimental group exerted more control during the visit. They were more effective in obtaining information from their physicians after the intervention than the controls. The results of the breast cancer patients were similar. There was a relationship between the number of health problems reported and indicators of physician patient communication. More patient and less physician control, more affect (particularly negative affect expressed by both patient and physician) and more information provided by the physician in response to effective questioning and information seeking were related to better patient clinical health status.
CONCLUSIONS: The studies emphasize the importance of the physician patient relationship for patient health outcomes. Physicians may influence outcomes for patients through the medical care process and by shaping how patients feel about the disease and the patients' ability to contain its impact on their lives. This study parallels other studies that show that an increase in emotion, especially negative emotion, is related to improvement in health status. This bond may be a form of social support as well as clinical support.

Karatay G, Kublay G, & Emiroğlu ON. (2010). **Effect of motivational interviewing on smoking cessation in pregnant women.** *Journal of Advanced Nursing,* 66(6): 1328-1337.

AIM: This paper is a report of an evaluation of the effects of a motivational interviewing smoking cessation programme on smoking rates of pregnant women.
BACKGROUND: Cigarette smoking during pregnancy is an important public health problem. Smoking cessation programmes provide women with an opportunity to learn how to protect their own health and that of their developing babies.
METHOD: An intervention study was conducted between December 2007 and June 2008. Thirty-eight pregnant and literate women who were smoking at least one cigarette each day and had not reached their 16th week of pregnancy applied to participate in the research at the prenatal unit of a public hospital. A total of eight home visits was made for each woman with 12- to 13-day intervals between visits; five visits were for intervention, with three follow-up visits at 1-month intervals. The intervention content was based on the transtheoretical model. The data were collected using an evaluation form, carbon monoxide level in expired air, cotinine measurements and a Self-efficacy Scale.
FINDINGS: A total of 39·5% of pregnant smokers gave up smoking; a further 44·7% reduced their smoking by 60% from their starting rate. The rate of passive smoking before the intervention (86·8%) decreased to 55·3%. The mean (sd) pre-intervention self-efficacy score was 61·36 (12·61), and it increased to 93·34 (27·04) after the intervention.
CONCLUSION: The success of this programme shows the need for further development and application of similar programmes by nurses and midwives working in primary health care and antenatal settings.

Kato PM, Cole SW, Bradlyn AS, & Pollock BH. (2008). **A video game improves behavioral outcomes in adolescents and young adults with cancer: A randomized trial.** *Pediatrics*, 122(2):e305-e317.

OBJECTIVE: Suboptimal adherence to self-administered medications is a common problem. The purpose of this study was to determine the effectiveness of a video-game intervention for improving adherence and other behavioral outcomes for adolescents and young adults with malignancies including acute leukemia, lymphoma, and soft-tissue sarcoma.
METHODS: A randomized trial with baseline and 1- and 3-month assessments was conducted from 2004 to 2005 at 34 medical centers in the United States, Canada, and Australia. A total of 375 male and female patients who were 13 to 29 years old, had an initial or relapse diagnosis of a malignancy, and currently undergoing treatment and expected to continue treatment for at least 4 months from baseline assessment were randomly assigned to the intervention or control group. The intervention was a video game that addressed issues of cancer treatment and care for teenagers and young adults. Outcome measures included adherence, self-efficacy, knowledge, control, stress, and quality of life. For patients who were prescribed prophylactic antibiotics, adherence to trimethoprim-sulfamethoxazole was tracked by electronic pill-monitoring devices (n = 200). Adherence to 6-mercaptopurine was assessed through serum metabolite assays (n = 54).
RESULTS: Adherence to trimethoprim-sulfamethoxazole and 6-mercaptopurine was greater in the intervention group. Self-efficacy and knowledge also increased in the intervention group compared with the control group. The intervention did not affect self-report measures of adherence, stress, control, or quality of life.
CONCLUSIONS: The video-game intervention significantly improved treatment adherence and indicators of cancer-related self-efficacy and knowledge in adolescents and young adults who were undergoing cancer therapy. The findings support current efforts to develop effective video-game interventions for education and training in health care.

Katula JA, Vitolins MZ, Morgan TM, Lawlor MS, Blackwell CS, Isom SP, Pedley CF, & Goff DC. (2013). **The healthy living partnerships to prevent diabetes study: 2-year outcomes of a randomized controlled trial.** *American Journal of Preventive Medicine*, 44(4): S324-S332.

BACKGROUND: Since the Diabetes Prevention Project (DPP) demonstrated that lifestyle weight-loss interventions can reduce the incidence of diabetes by 58%, several studies have translated the DPP methods to public health–friendly contexts.

Although these studies have demonstrated short-term effects, no study to date has examined the impact of a translated DPP intervention on blood glucose and adiposity beyond 12 months of follow-up.

PURPOSE: To examine the impact of a 24-month, community-based diabetes prevention program on fasting blood glucose, insulin, insulin resistance as well as body weight, waist circumference, and BMI in the second year of follow-up.

DESIGN: An RCT comparing a 24-month lifestyle weight-loss program (LWL) to an enhanced usual care condition (UCC) in participants with prediabetes (fasting blood glucose=95−125 mg/dL). Data were collected in 2007−2011; analyses were conducted in 2011−2012.

SETTING/PARTICIPANTS: 301 participants with prediabetes were randomized; 261 completed the study. The intervention was held in community-based sites.

INTERVENTION: The LWL program was led by community health workers and sought to induce 7% weight loss at 6 months that would be maintained over time through decreased caloric intake and increased physical activity. The UCC received two visits with a registered dietitian and a monthly newsletter.

MAIN OUTCOME MEASURES: The main measures were fasting blood glucose, insulin, insulin resistance, body weight, waist circumference, and BMI.

RESULTS: Intent-to-treat analyses of between-group differences in the average of 18- and 24-month measures of outcomes (controlling for baseline values) revealed that the LWL participants experienced greater decreases in fasting glucose (−4.35 mg/dL); insulin (−3.01 μU/ml); insulin resistance (−0.97); body weight (−4.19 kg); waist circumference (−3.23 cm); and BMI (−1.40), all p-values <0.01.

CONCLUSIONS: A diabetes prevention program administered through an existing community-based system and delivered by community health workers is effective at inducing significant long-term reductions in metabolic indicators and adiposity.

Keller VF, & Kemp White M. (2003). **Choices and Changes: A new model for influencing patient health behavior**. *Journal of Clinical Outcomes Management*, 17-20.

ABSTRACT: Keller and Kemp White, the developers of the Choices and Changes workshop, wrote this article about the workshop and the Confidence and Conviction model.

*Kelly RB, Zyzanski SJ, & Alemagno SA. (1991). **Prediction of motivation and behavior change following health promotion: Role of health beliefs, social support, and self-efficacy**. *Social Science & Medicine* (1982), 32(3): 311-320.

OBJECTIVE: To examine health beliefs, social support, and self-efficacy theories in predicting motivation and behavior change for six lifestyle areas (smoking, stress, amount of food, exercise, type of food, and seat belts).
DESIGN: Experimental.
SETTING: An outpatient clinic of a family practice residency program in suburban Cleveland.
SUBJECTS: Two-hundred fifteen patients were recruited to participate in the study of whom 70% were women, 97% were White, 90% had a high school education or higher, 12% had family incomes below $10,000 annually, 58% had used the practice for more than 2 years, and 45% had been seen by the physician they saw at study entry more than twice before.
INTERVENTIONS: Three health promotion interventions were employed: (1) a brief assessment of lifestyle risk factors by questionnaire, (2) physician prescription of lifestyle change, and (3) patient self-help instructional material. Participants were randomly assigned to one of the above three treatment groups and then asked to answer questionnaires. An additional group served as the control group. Individuals in the control group were participants outside of this treatment program.
MEASURES: No standardized methods were used to measure health beliefs, support for change, or self-efficacy. Visual analog scales were used, and participant's marks were measured by ruler.
RESULTS: There were two outcomes of interest: predictors of motivation to change and predictors of actual behavioral change. At the time of the initial assessment, 67, 113, 112, 132, 127, 142 individuals were at risk for the above lifestyle areas, respectively, and 75%, 72%, 63%, 50%, 46%, and 12% of the subjects were motivated to change for the above lifestyle areas, respectively. Perceived benefits and risk (Health Belief Model) and efficacy (Self-Efficacy Model) were the strongest predictors of motivation. For at-risk patients, the greater the perceived risk and benefits of change, the lower the self-efficacy (patients believe it more difficult to change the behavior). From this study, motivation (not Health Belief, Social Support, and self-efficacy models) was able to predict behavior change. The variable of social support was not able to predict motivation or change but was related to efficacy of expectations.
CONCLUSIONS: Health beliefs and self-efficacy are good predictors of motivation for change in most lifestyle areas. Motivation for change is clearly related to behavioral responses to the health promotion intervention.

Kennedy A, Rogers A, & Bower P. (2007). **Support for self care for patients with chronic disease**. *British Medical Journal,* 335: 968.

The authors argue that effective self care requires fundamental changes in professional attitudes and the way health care is delivered.

Kolt GS, Schofield GM, Kerse N, Garrett N, & Oliver M. (2007). **Effect of telephone counseling on physical activity for low-active older people in primary care: A randomized, controlled trial**. *Journal of the American Geriatrics Society*, 55(7): 986-992.

OBJECTIVES: To assess the long-term effectiveness of a telephone counseling intervention on physical activity and health-related quality of life in low-active older adults recruited through their primary care physician.
DESIGN: Randomized, controlled trial.
SETTING: Three primary care practices from different socioeconomic regions of Auckland, New Zealand.
PARTICIPANTS: One hundred and eighty-six low-active adults (aged 65) recruited from their primary care physicians' patient databases.
INTERVENTION: Eight telephone counseling sessions over 12 weeks based on increasing physical activity. Control patients received usual care.
MEASUREMENTS: Change in physical activity (as measured using the Auckland Heart Study Physical Activity Questionnaire) and quality of life (as measured using the Short Form-36 Health Survey (SF-36)) over a 12-month period.
RESULTS: Moderate leisure physical activity increased by 86.8 min/wk more in the intervention group than in the control group (P=.007). More participants in the intervention group reached 2.5 hours of moderate or vigorous leisure physical activity per week after 12 months (42% vs 23%, odds ratio=2.9, 95% confidence interval=1.33–6.32, P=.007). No differences on SF-36 measures were observed between the groups at 12 months.
CONCLUSION: Telephone-based physical activity counseling is effective at increasing physical activity over 12 months in previously low-active older adults.

Korpershoek C, van der Bijl J, Hafsteinsdóttir TB. (2011). **Self-efficacy and its influence on recovery of patients with stroke: A systematic review.** *Journal of Advanced Nursing,* 67(9): 1876-1894.

AIMS: To provide an overview of the literature focusing on the influence of self-efficacy and self-efficacy enhancing interventions on mobility, activities of daily living, depression and quality of life of patients with stroke.
BACKGROUND: There is growing evidence for the importance of self-efficacy in the care of people with enduring illness. Therefore, it is important to describe the association of self-efficacy and patient outcomes and the evidence for the effects of self-efficacy interventions for stroke patients.
DATA SOURCES: Studies were retrieved from a systematic search of published studies over the period of 1996-2009, indexed in the Cumulative Index to Nursing and Allied Health Literature, Medline, Psychinfo and Embase and focusing on stroke, the influence of self-efficacy and self-efficacy enhancing interventions.
METHODS: A systematic review was carried out. Studies were critically appraised and important characteristics and outcomes were extracted and summarized.
RESULTS: Seventeen articles were included in the review. Self-efficacy was positively associated with mobility, activities of daily living and quality of life and negatively associated with depression. Four self-efficacy interventions were identified. The evidence for the effects of these interventions was inconclusive.
CONCLUSIONS: Patients with high self-efficacy are functioning better in daily activities than patients with low self-efficacy. The evidence concerning the determinants influencing self-efficacy and the self-efficacy interventions makes clear how nurses can develop and tailor self-efficacy interventions for the clinical practice of people with stroke. Therefore, it is necessary to further emphasize the role of self-efficacy in the care for stroke patients in the nursing curriculum.

Kreman R, Yates BC, Agrawal S, Fiandt K, Briner W, & Shurmur S. (2006). **The effects of motivational interviewing on physiological outcomes**. *Applied Nursing Research*, 19(3): 167-170.

This study examined the effects of a motivational interviewing (MI) intervention on physiological outcomes among hyperlipidemic persons randomly assigned to an MI (n = 12) or an attention–control (AC; n = 12) group. Lipid and cardiorespiratory fitness levels were measured pre- and postintervention. The MI intervention was significant in reducing total cholesterol and low-density-lipoprotein cholesterol but not in increasing VO2max when compared with the AC group. Contrary to what was expected, the MI intervention significantly reduced high-density-lipoprotein cholesterol. Although this study was limited by a small sample size, findings suggested that an MI telephone session can have a positive effect on lipid profiles and fitness levels.

Krichbaum K, Aarestad V, & Buethe M. (2003). **Exploring the connection between self-efficacy and effective diabetes self-management.** *The Diabetes Educator*, 29(4): 653-662.

PURPOSE: The purpose of this study was to review the existing empirical evidence about factors that contribute to effective diabetes self-management as indicated by healthy outcomes in persons with the disease, with a specific focus on self-efficacy, to determine the link between learned self-efficacy and effective diabetes self-management in adults.
METHODS: A systematic review was conducted of the extant literature from 1985-2001 that described factors related to effective self-management of diabetes. The review included theoretical and empirical articles. The search engines included CINAHL, MEDLINE, PUBMED, and COCHRANE.
RESULTS: Empirical evidence supports the following factors to improve the education outcomes for adults with diabetes: involve people with diabetes in their own care, guide them in actively learning about the disease, explore their feelings about having the disease, and teach them the skills necessary to adjust their behavior to control their own health outcomes. Thus, the goal for educating people with diabetes is to improve their individual self-efficacy and, accordingly, their self-management ability.
CONCLUSIONS: Education sessions need to involve fewer lectures and more practical, interactive exercises that focus on developing specific skills. Follow-up contact is a valuable method for helping people make a healthy adjustment to living with diabetes.

Kushnir T, Kushnir J, Sarel A, & Cohen AH. (2011). **Exploring physician perceptions of the impact of emotions on behaviour during interactions with patients**. *Family Practice,* 28(1): 75-81.

BACKGROUND: There is relatively little research on affective influences on physician behaviour, especially on prescribing and referrals. Affects include transitory moods and lasting emotions.
OBJECTIVES: We explored physician perceptions of the impact of four mood states on perceived rates of five behaviours: talking with patients, prescribing medications and referrals for laboratory tests, diagnostic tests and specialists. We also examined whether burnout modified the impact of moods on behaviour.
METHODS: A total of 188 family physicians responded anonymously to a self-reporting questionnaire that assessed the perceived rate of behaviours when in a positive, negative, tired and nervous mood and burnout level.
RESULTS: Five analyses of variance with repeated measures on mood states and contrast analyses computed the effects of mood and burnout on the behaviours. The mood factor was found significant for each of the behaviours, in all $P < 0.001$. The respondents reported that on good mood compared with negative mood days, they talked more, prescribed less and referred less. The burnout factor was also significant: high compared with low burnout physicians had higher perceived rates of all referral behaviours. Significant mood burnout interactions indicated that the effects of mood were stronger among high compared with low burnout physicians.
CONCLUSIONS: The physicians perceived that their moods had different effects on different behaviours: the negative mood decreased talking and increased prescribing and referral behaviours and vice versa for the positive mood. Burnout intensified the effects of moods. The incremental effects of negative moods and burnout may impair quality of health care and may be costly to health services.

Lang F, et al. (2002). **Sequenced questioning to elicit the patient's perspective on illness: Effects of information disclosure, patient satisfaction, and time expenditure.** *Family Medicine*, 34(5): 325-30.

BACKGROUND: During the medical interview, clinicians frequently overlook the patient's perspective on illness (PPI), i.e., the patient's explanations and concerns about the presenting symptoms and expectations for the encounter. Without special efforts, the PPI surfaces spontaneously in only about one fourth of medical interviews. We determined whether asking the patient a series of sequenced questions would elicit the PPI and what effect such questioning would have on patient and physician satisfaction and on the length of the clinical encounter. Methods: Fifty-five interviews in a family practice clinic setting were studied by videotape and post-interview debriefings. On a random basis, 29 patients were asked sequenced questions at the end of the history, while 26 experienced usual medical interviews. Measures of patient and physician satisfaction were compared by descriptive statistics and the Mann-Whitney test for ordinal data. Results: In response to sequenced questioning, 44% of patients revealed specific, significant concerns that had not been otherwise disclosed. Among patients without prior contact with their provider, satisfaction with the encounter was significantly higher when the sequenced questions were used than when they were not; perception of time spent in discussion with the physician was also higher. Paradoxically, resident physicians expressed lower confidence that they had helped the patient when the sequenced questions were used to elicit the PPI. Conclusions: Use of sequenced questions to elicit the PPI results in significant sharing of new information and increased patient satisfaction and requires only a modest investment of time.

Lawson PJ, & Flocke SA. (2009). **Teachable moments for health behavior change: A concept analysis**. *Patient Education and Counseling,* 76: 25-30.

OBJECTIVE: ''Teachable moments'' have been proposed as events or circumstances which can lead individuals to positive behavior change. However, the essential elements of teachable moments have not been elucidated. Therefore, we undertook a comprehensive review of the literature to uncover common definitions and key elements of this phenomenon.
METHODS: Using databases spanning social science and medical disciplines, all records containing the search term ''teachable moment*'' were collected. Identified literature was then systematically reviewed and patterns were derived.
RESULTS: Across disciplines, 'teachable moment' has been poorly developed both conceptually and operationally. Usage of the term falls into three categories: (1) ''teachable moment'' is synonymous with ''opportunity'' (81%); (2) a context that leads to a higher than expected behavior change is retrospectively labeled a 'teachable moment' (17%); (3) a phenomenon that involves a cueing event that prompts specific cognitive and emotional responses (2%).
CONCLUSION: The findings suggest that the teachable moment is not necessarily unpredictable or simply a convergence of situational factors that prompt behavior change but suggest the possible creation of a teachable moment through clinician–patient interaction.
PRACTICE IMPLICATIONS: Clinician–patient interaction may be central to the creation of teachable moments for health behavior change.

Légaré F, Labrecque M, Cauchon M, Castel J, Turcotte S, & Grimshaw J. (2012). **Training family physicians in shared decision-making to reduce the overuse of antibiotics in acute respiratory infections: A cluster randomized trial.** *Canadian Medical Association Journal,* doi: 10.1503/cmaj.120568

BACKGROUND: Few interventions have proven effective in reducing the overuse of antibiotics for acute respiratory infections. We evaluated the effect of DECISION+2, a shared decision-making training program, on the percentage of patients who decided to take antibiotics after consultation with a physician or resident.
METHODS: We performed a randomized trial, clustered at the level of family practice teaching unit, with 2 study arms: DECISION+2 and control. The DECISION+2 training program included a 2-hour online tutorial followed by a 2-hour interactive seminar about shared decision-making. The primary outcome was the proportion of patients who decided to use antibiotics immediately after consultation. We also recorded patients' perception that shared decision-making had occurred. Two weeks after the initial consultation, we assessed patients' adherence to the decision, repeat consultation, decisional regret and quality of life.
RESULTS: We compared outcomes among 181 patients who consulted 77 physicians in 5 family practice teaching units in the DECISION+2 group, and 178 patients who consulted 72 physicians in 4 family practice teaching units in the control group. The percentage of patients who decided to use antibiotics after consultation was 52.2% in the control group and 27.2% in the DECISION+2 group (absolute difference 25.0%, adjusted relative risk 0.48, 95% confidence interval 0.34–0.68). DECISION+2 was associated with patients taking a more active role in decision-making ($Z = 3.9$, $p < 0.001$). Patient outcomes 2 weeks after consultation were similar in both groups. **INTERPRETATION:** The shared decision-making program DECISION+2 enhanced patient participation in decision-making and led to fewer patients deciding to use antibiotics for acute respiratory infections. This reduction did not have a negative effect on patient outcomes 2 weeks after consultation.

Leighton Read J, & Shortell SM. (2011). **Interactive games to promote behavior change in prevention and treatment.** *Journal of the American Medical Association,* 305(16): 1704-1705.

The evidence base of studies evaluating games is limited, and only a few health games have been subject to rigorous evaluation. One study evaluated *Packy & Marlon*, a Nintendo console game published in 1994 that allowed children and adolescents to play the role of a character with type 1 diabetes, monitoring glucose levels, using insulin, and selecting foods. In a 6-month, placebo-controlled study, study participants who played the game had a 77% reduction in diabetes-related emergency department visits and urgent care visits. A school-based computer game for fourth-graders improved daily fruit and vegetable intake. More recently, *Re-Mission*, a game for adolescent and young adult patients with cancer, has been shown in a randomized trial to improve adherence to chemotherapy and treatment plans. Some "exergames," including those on the Wii Fit and DDR dancepad platforms, have been shown to increase physical activity and may have benefits for treating obesity. The substantial growth of new interactive game technologies and genres raises new concerns and opportunities. The size and level of engagement of the audience means that health games can affect a wide range of individuals, including those who are difficult to reach with traditional messaging.

Levinson W, Gorawara-Bhat R, & Lamb J. (2000). **A study of patient clues and physician responses in primary care and surgical settings**. *JAMA : The Journal of the American Medical Association*, 284(8): 1021-1027.

OBJECTIVE: To explore the nature and frequency of patient clues during medical encounter and physician response among primary care physicians and surgeons.

DESIGN: Descriptive study of audio-taped office visits (data set was part of a larger research project that examined the relationship between physician-patient communication and medical malpractice).

SETTING: Community-based practices of primary care physicians and surgeons in Oregon and Colorado.

SUBJECTS: 116 randomly selected routine office visits to 54 primary care physicians and 62 surgeons (94% male, 91% Caucasian, 67% group practice). Ten patients per physician were selected sequentially from the waiting rooms (54% female, 88% Caucasian, 71% married, average age=54). **INTERVENTION:** None.

MEASURES: Audio-taped interactions and transcripts were reviewed to identify and describe segments of the interview in which there were clues about patients' emotional or social concerns. Clues that were initiated by the patient were coded for type and timing and nature of physician response. In addition, physician questions that encouraged patient to discuss a personal topic were also coded as physician-initiated clues. Length of visit was also recorded.

RESULTS: Clues occurred in 52% of the primary care visits (mean number of clues =2.6) and in 53% of the surgical visits (mean number of clues = 1.9). Patients initiated approximately 70% of those clues and physicians initiated approximately 30%. Of the patient led clues in primary care visits, 76% were emotional and 60% in the surgical setting. Physicians missed the opportunity to respond to patient led clues 79% of the time in primary care and 62% in the surgical setting. In 50% of those interviews where the physician missed the opportunity to respond to the patient-led clue, the patient brought up the same issue (clue) a second or third time. In addition, in primary care, visits were longer when there was a missed opportunity to respond by the physician compared with visits where the physician responded with a positive response (mean time, 20.1 min vs. 17.6 min).

CONCLUSIONS/RECOMMENDATIONS: Patients offer clues to physicians that provide rich opportunities for empathy and a greater understanding of patients' lives. In primary care and surgery settings, physicians tend to miss these clues and thus overlooking opportunities to strengthen the doctor-patient relationship. Two aspects of the medical encounter uncovered in this study - patient clues and physician responses, should be recognized as being interdependent and necessary in building a trusting relationship between physician and patients and impacting health outcome.

Levinson W, Kao A, Kuby A, & Thisted RA. (2005). **Not all patients want to participate in decision making: A national study of public preferences.** *Journal of General Internal Medicine,* 20(6): 531-535.

BACKGROUND: The Institute of Medicine calls for physicians to engage patients in making clinical decisions, but not every patient may want the same level of participation.

OBJECTIVES: 1) To assess public preferences for participation in decision making in a representative sample of the U.S. population. 2) To understand how demographic variables and health status influence people's preferences for participation in decision making.

DESIGN AND PARTICIPANTS: A population-based survey of a fully representative sample of English-speaking adults was conducted in concert with the 2002 General Social Survey (*N*= 2,765). Respondents expressed preferences ranging from patient-directed to physician-directed styles on each of 3 aspects of decision making (seeking information, discussing options, making the final decision). Logistic regression was used to assess the relationships of demographic variables and health status to preferences.

MAIN RESULTS: Nearly all respondents (96%) preferred to be offered choices and to be asked their opinions. In contrast, half of the respondents (52%) preferred to leave final decisions to their physicians and 44% preferred to rely on physicians for medical knowledge rather than seeking out information themselves. Women, more educated, and healthier people were more likely to prefer an active role in decision making. African-American and Hispanic respondents were more likely to prefer that physicians make the decisions. Preferences for an active role increased with age up to 45 years, but then declined.

CONCLUSION: This population-based study demonstrates that people vary substantially in their preferences for participation in decision making. Physicians and health care organizations should not assume that patients wish to participate in clinical decision making, but must assess individual patient preferences and tailor care accordingly.

Linden A, Biuso TJ, & Butterworth SW. (2010). **Help patients with chronic kidney disease stave off dialysis.** *The Journal of Family Practice*, 59(4): 212-219.

Screening and timely referral are, of course, key to helping patients with chronic kidney disease stave off dialysis. Effective treatment must also emphasize lifestyle management. This article describes Motivational Interviewing as a health coaching technique and includes a "motivational interviewing tool kit" which summarizes the approach.

London F. (2009). **No time to teach: The essence of patient and family education for health care providers.** Pritchett & Hull Associates Inc.

What this book is NOT: A collection of preachy how-to's, recycled theories about learning, and generic advice on how to teach. What this book IS: A no-nonsense, realistic approach to helping health care professionals make the most of their time with patients. It shows you how you can incorporate teaching into every single contact that you have with a patient and how to document it and communicate it to other care providers. It even explores modern technology and how that impacts our relationships and communications with patients. Fran's approaches are sensitive to diversity among the patients that you serve, and she gets you thinking about how and why you need to individualize the education you give. There's a strong underlying theme of trust and respect in the patient-caregiver relationship. You can dispense the greatest education in the world, but if it's not done in a way that your patient will understand, or if the patient is not ready to hear it, or if the patient simply don't trust you - it's just a waste of your time.

*Lorig KR, & Holman H. (2003). **Self-management education: History, definition, outcomes, and mechanisms**. *Annals of Behavioral Medicine,* 26(1): 1-7.

DESCRIPTION OF CONTEXT: Self-management has become a popular term for behavioral interventions as well as for healthful behaviors. This is especially true for the management of chronic conditions. In conclusion the article discusses problems and solutions for integrating self-management education into the mainstream health care systems.
TOPIC/SCOPE: This article offers a short history of self-management. It presents three self-management tasks--medical management, role management, and emotional management--and six self-management skills--problem solving, decision making, resource utilization, the formation of a patient-provider partnership, action planning, and self-tailoring.
CONCLUSIONS/RECOMMENDATIONS: The article presents evidence of the effectiveness of self-management interventions and posits a possible mechanism, self-efficacy, through which these interventions work.

Lorig K, Holman H, Sobel D, & Laurent D. (2006). **Living a healthy life with chronic conditions: Self-management of heart disease, fatigue, arthritis, worry, diabetes, frustration, asthma, pain, emphysema, and others.** Bull Publishing.

Lorig KR, Hurwicz ML, Sobel D, Hobbs M, & Ritter PL. (2005). **A national dissemination of an evidence-based self-management program: A process evaluation study,** *Patient Education and Counseling*, 59(1): 69-79.

ABSTRACT: While evidence exists regarding the effectiveness of many health education interventions, few of these evidence-based programs have been systematically or widely disseminated. This paper reports on the dissemination of one such intervention, the 6-week peer-led Chronic Disease Self-Management Program, throughout a large health-care system, Kaiser Permanente. We describe the dissemination process and, using qualitative analysis of interviews and surveys, discuss the factors that aided and hindered this process and make recommendations for similar dissemination projects. Six years after the beginning of the dissemination process, the program is integrated in most of the Kaiser Permanente regions and is being offered to several thousand people a year.

Lorig K, Holman H, Sobel D, & Laurent D, with Canadian content added by McGowan P, & LaBossiere Huebner T. (2007). **Living a healthy life with chronic conditions: for ongoing physical and mental health conditions, Canadian edition**. Bull Publishing.

Filled with hundreds of tips, suggestions, and strategies, this guide offers practical health care solutions in clear language. It explains how to develop and maintain exercise and nutrition programs, manage symptoms, determine when to seek medical help, work effectively with doctors, properly use medications and minimize side effects, find community resources, discuss the illness with family and friends, and tailor social activities for particular conditions. Written by six healthcare professionals, this book encourages an individual approach to the process, with the ultimate goal being greater self-management. Originally based on a five-year study conducted at Stanford University with hundreds of volunteers, this work has grown to include the feedback of healthcare professionals and thousands of people with chronic conditions all over the world.

Lorig KR, Ritter PL, Laurent DD, Plant K. (2006). **Internet-based chronic disease self-management: A randomized trial.** *Medical Care*, 44(11): 964-71.

BACKGROUND: The small-group Chronic Disease Self-Management Program (CDSMP) has proven effective in changing health-related behaviors and improving health statuses. An Internet-based CDSMP was developed to reach additional chronic-disease patients.

OBJECTIVES: We sought to determine the efficacy of the Internet-based CDSMP. Design: We compared randomized intervention participants with usual-care controls at 1 year. We compared intervention participants with the small-group CDSMP at 1 year.
SUBJECTS: Nine-hundred fifty-eight patients with chronic diseases (heart, lung, or type 2 diabetes) and Internet and e-mail access were randomized to intervention (457) or usual care control (501).
MEASURES: Measures included 7 health status variables (pain, shortness of breath, fatigue, illness intrusiveness, health distress, disability, and self-reported global health), 4 health behaviors (aerobic exercise, stretching and strengthening exercise, practice of stress management, and communication with physicians), 3 utilization variables (physician visits, emergency room visits, and nights in hospital), and self-efficacy.
RESULTS: At 1 year, the intervention group had significant improvements in health statuses compared with usual care control patients. The intervention group had similar results to the small-group CDSMP participants. Change in self-efficacy at 6 months was found to be associated with better health status outcomes at 1 year. **CONCLUSIONS:** The Internet-based CDSMP proved effective in improving health statutes by 1 year and is a viable alternative to the small-group Chronic Disease Self Management Program.

Lorig KR, Ritter PL, Dost A, Plant K, Laurent DD, & McNeil I. (2008). **The expert patients programme online, a 1-year study of an Internet-based self-management programme for people with long-term conditions.** *Chronic Illness*, 4(4): 247-56.

OBJECTIVES: Evaluate the effectiveness of an online self-management programme (EPP Online) for England residents with long-term conditions.

METHODS: A prospective longitudinal study. Data were collected online at baseline, 6 and 12 months. The intervention was an asynchronous 6-week chronic-disease self-management programme offered online. We measured seven health status measures (health distress, self-rated health, illness intrusiveness, disability, fatigue, pain and shortness of breath), four behaviours (aerobic exercise, stretching exercise, stress management and communications with physician), and five utilization measures (GP visits, pharmacy visits, PT/OT visits, emergency visits and hospitalizations). We also measured self-efficacy and satisfaction with the health care system.

RESULTS: A total of 568 completed baseline data: 546 (81%) completed 6 months and 443 (78%) completed 1 year. Significant improvements ($p < 0.01$) were found at 6 months for all variables except self-rated health, disability, stretching, hospitalizations and nights in hospital. At 12 months only decrease in disability, nights in hospital and hospitalizations were not significant with reduction in visits to emergency departments being marginally significant ($p = 0.012$). Both self-efficacy and satisfaction with the health care system improved significantly.

DISCUSSION: The peer-led online programme conditions appears to decrease symptoms, improve health behaviours, self-efficacy and satisfaction with the health care system and reducing health care utilization up to 1 year.

Lorig KR, Ritter PL, Laurent DD, & Plant K. (2008). **The internet-based arthritis self-management program: A one-year randomized trial for patients with arthritis or fibromyalgia.** *Arthritis and Rheumatism*, 59(7): 1009-1017.

OBJECTIVE: To determine the efficacy of an Internet-based Arthritis Self-Management Program (ASMP) as a resource for arthritis patients unable or unwilling to attend small-group ASMPs, which have proven effective in changing health-related behaviors and improving health status measures.
METHODS: Randomized intervention participants were compared with usual care controls at 6 months and 1 year using repeated-measures analyses of variance. Patients with rheumatoid arthritis, osteoarthritis, or fibromyalgia and Internet and e-mail access (n = 855) were randomized to an intervention (n = 433) or usual care control (n = 422) group. Measures included 6 health status variables (pain, fatigue, activity limitation, health distress, disability, and self-reported global health), 4 health behaviors (aerobic exercise, stretching and strengthening exercise, practice of stress management, and communication with physicians), 5 utilization variables (physician visits, emergency room visits, chiropractic visits, physical therapist visits, and nights in hospital), and self-efficacy.
RESULTS: At 1 year, the intervention group significantly improved in 4 of 6 health status measures and self-efficacy. No significant differences in health behaviors or health care utilization were found.
CONCLUSION: The Internet-based ASMP proved effective in improving health status measures at 1 year and is a viable alternative to the small-group ASMP.

Lorig K, Ritter PL, Villa F, & Piette JD. (2008). **Spanish diabetes self-management with and without automated telephone reinforcement: Two randomized trials.** *Diabetes Care*, 31(3): 408-414.

OBJECTIVE: To determine 1) whether participants in the Spanish Diabetes Self-Management Program (SDSMP), when compared at 6 months to randomized control subjects, would demonstrate improvements in health status, health behaviors,

and self-efficacy; and 2) whether SDSMP participants receiving monthly automated telephone reinforcement would maintain improvements at 18 months better than those not receiving reinforcement. **RESEARCH DESIGN AND METHODS:** A total of 567 Spanish-speaking adults with type 2 diabetes were randomized to a usual-care control group or 6-week community-based, peer-led SDSMP. SDSMP participants were re-randomized to receive 15 months of automated telephone messages or no reinforcement. A1C was measured at baseline and 6 and 18 months. All other data were collected by self-administered questionnaires.

RESULTS: At 6 months SDSMP participants compared with control subjects demonstrated improvements in A1C (-0.4%), health distress, symptoms of hypo- and hyperglycemia, and self-efficacy ($P < 0.05$). At 18 months all improvements persisted ($P < 0.05$). SDSMP participants also demonstrated improvements in self-rated health and communication with physicians, had fewer emergency room visits (-0.18 visits in 6 months, $P < 0.05$), and trended toward fewer visits to physicians. At 18 months the only difference between reinforced and nonreinforced participants was increased glucose monitoring for the reinforcement group.

CONCLUSIONS: The SDSMP demonstrated effectiveness in lowering A1C and improving health status. Reinforcement did not add to its effectiveness. Given the high needs of the Spanish-speaking population, the SDSMP deserves consideration for implementation.

Lorig K, Ritter PL, Laurent DD, Plant K, Green M, Jernigan VB, & Case S. (2010**). Online diabetes self-management program: A randomized study.** *Diabetes Care*, 33(6): 1275-1281.

OBJECTIVES: We hypothesized that people with type 2 diabetes in an online diabetes self-management program, compared with usual-care control subjects, would 1) demonstrate reduced A1C at 6 and 18 months, 2) have fewer symptoms, 3) demonstrate increased exercise, and 4) have improved self-efficacy and patient activation. In addition, participants randomized to list serve reinforcement would have better 18-month outcomes than participants receiving no reinforcement.

RESEARCH DESIGN AND METHODS: A total of 761 participants were randomized to 1) the program, 2) the program with e-mail reinforcement, or 3) were usual-care control subjects (no treatment). This sample included 110 American Indians/Alaska Natives (AI/ANs). Analyses of covariance models were used at the 6- and 18-month follow-up to compare groups.

RESULTS: At 6 months, A1C, patient activation, and self-efficacy were improved for program participants compared with usual care control subjects ($P < 0.05$). There were no changes in other health or behavioral indicators. The AI/AN program participants demonstrated improvements in health distress and activity limitation compared with usual-care control subjects. The subgroup with initial A1C >7% demonstrated stronger improvement in A1C ($P = 0.01$). At 18 months, self-efficacy and patient activation were improved for program participants. A1C was not measured. Reinforcement showed no improvement.

CONCLUSIONS: An online diabetes self-management program is acceptable for people with type 2 diabetes. Although the results were mixed they suggest 1) that the program may have beneficial effects in reducing A1C, 2) AI/AN populations can be engaged in and benefit from online interventions, and 3) our follow-up reinforcement appeared to have no value.

Lozano P, McPhillips HA, Hartzler B, Robertson AS, Runkle C, Scholz KA, Stout JW, & Kieckhefer GM. (2010). **Randomized trial of teaching brief motivational interviewing to pediatric trainees to promote healthy behaviors in families.** *Archives of Pediatrics & Adolescent Medicine,* 164(6): 561-566.

HYPOTHESIS: That pediatric resident trainees would demonstrate increased counseling skill following training in brief motivational interviewing (MI).

DESIGN: Randomized controlled trial. **SETTING:** University of Washington Pediatric Residency.

PARTICIPANTS: Pediatric residents (N=18), including residents in postgraduate years 1, 2, 3, and 4.

INTERVENTIONS: Collaborative Management in Pediatrics, a 9-hour behavior change curriculum based on brief MI plus written feedback on communication skills (based on a 3-month Objective Standardized Clinical Evaluation [OSCE]).

MAIN OUTCOME MEASURE: The percentage of MIconsistent behavior (%MICO), a summary score for MI skill, was assessed via OSCEs in which standardized patients portray parents of children with asthma in 3 clinical scenarios (stations). The OSCEs were conducted at baseline and 3 and 7 months. Blinded coders rated videotaped OSCEs using a validated tool to tally communication behaviors. Training effects were assessed using linear regression controlling for baseline %MICO. Global ratings of counseling style served as secondary outcome measures.

RESULTS: Trained residents demonstrated a trend toward increased skill (%MICO score) at 3 months compared with control residents. At 7 months, %MICO scores increased 16% to 20% (*P*_.02) across all OSCE stations after the combined intervention of Collaborative Management in Pediatrics training plus written feedback. The effect of training on global ratings supported the main findings.

CONCLUSIONS: Pediatric trainees' skills in behavior change counseling improved following the combination of training in brief MI plus personalized feedback.

Lundahl BW, Kunz C, Brownell C, Tollefson D, & Burke BL. (2010). **A meta-analysis of motivational interviewing: Twenty-five years of empirical studies.** *Research on Social Work Practice*, 20(2): 137-160

OBJECTIVE: The authors investigated the unique contribution motivational interviewing (MI) has on counseling outcomes and how MI compares with other interventions.
METHOD: A total of 119 studies were subjected to a meta-analysis. Targeted outcomes included substance use (tobacco, alcohol, drugs, marijuana), health-related behaviors (diet, exercise, safe sex), gambling, and engagement in treatment variables.
RESULTS: Judged against weak comparison groups, MI produced statistically significant, durable results in the small effect range (average g = 0.28). Judged against specific treatments, MI produced nonsignificant results (average g = 0.09). MI was robust across many moderators, although feedback (Motivational Enhancement Therapy [MET]), delivery time, manualization, delivery mode (group vs. individual), and ethnicity moderated outcomes.
CONCLUSIONS: MI contributes to counseling efforts, and results are influenced by participant and delivery factors.

Lussier M, & Richard C. (2007). **Reflecting back: Empathic process**. *Canadian Family Physician,* 53(5): 827-828.

The authors follow-up on a previous Communication Tip feature (*Can Fam Physician* 2007;53:640–1) that discussed empathy. They describe the "empathic process" or "empathy cycle," for it is a phenomenon that can spread over many exchanges and be expressed in different ways. This article shows how reflection play a part of every empathic process.

Lutfey KE, & Ketcham JD. (2005). **Patient and provider assessments of adherence and the sources of disparities: Evidence from diabetes care**. *Health Services Research*, 40(6): 1803-1817.

OBJECTIVE: To (1) compare diabetes patients' self-assessments of adherence with their providers' assessments; (2) determine whether there are systematic differences between the two for certain types of patients; and (3) consider how the cognitive processing that providers use to assess adherence might explain these differences.
DATA SOURCES/STUDY SETTING: Primary survey data were collected in 1998 from 156 patient provider pairs in two subspecialty endocrinology clinics in a large Midwestern city.
STUDY DESIGN: Data were collected in a cross-sectional survey study design. Providers were surveyed immediately after seeing each diabetes patient, and patients were surveyed via telephone within 1 week of clinic visits.
DATA COLLECTION/EXTRACTION METHODS: Bivariate descriptive results and multivariate regression analyses are used to examine how patient characteristics relate to four measures of overall adherence assessments: (1) patients' self-assessments; (2) providers' assessments of patient adherence; (3) differences between those assessments; and (4) absolute values of those differences.
PRINCIPLE FINDINGS: Patient self-assessments are almost entirely independent of observable characteristics such as sex, race, and age. Provider assessments vary with observable characteristics such as patient race and age but not with less readily observable factors such as education and income. For black patients, we observe that relative to white patients, providers' assessments are significantly farther away from-although not systematically farther above or below-patients' self-assessments.
CONCLUSIONS: Providers appear to rely on observable cues, particularly age and race, to make inferences about an individual patient's adherence. These findings point to a need for further research of various types of provider cognitive processing, particularly in terms of distinguishing between prejudice and uncertainty. If disparities in assessment stem more from information and communication problems than from provider prejudice, policy interventions should facilitate providers' systematic acquisition and processing of information, particularly for some types of patients.

Macdonald W, Rogers A, Blakeman T, & Bower P. (2008). **Practice nurses and the facilitation of self-management in primary care.** *Journal of Advanced Nursing*, 62(2): 191-199.

AIM: This paper is a report of a study to explore practice nurse involvement in facilitation of self-management for long-term conditions.
BACKGROUND: In the United Kingdom chronic disease services have shifted from secondary care to general practice and from general practitioners to practice nurses. A new United Kingdom General Practice contract requires adherence to chronic disease management protocols, and facilitating self-management is recognized as an important component. However, improving self-management is a relatively new focus and little is known about the ways in which nurses engage with patient self-management and how they view work with patients in chronic disease clinics.

METHOD: Semi-structured interviews with 25 practice nurses were carried out in 2004-2005. Interviews were audio-taped and transcribed verbatim. Analysis was informed by the 'trajectory model' and 'personal construct' theories.
FINDINGS: Main themes in the early stages of work with patients were: categorization of patients, diagnosis, and patient education. First impressions appeared to determine expectations of self-management abilities, although these were amenable to change. Intermediate stages were 'ways of working' (breaking the task down, cognitive restructuring and addressing dissonance, modelling 'good' behaviour, encouragement, listening, involving carers and referral) and maintaining relationships with patients. However, in the longer-term nurses seemed to lack resources beyond personal experience and intuitive ways of working for encouraging effective self-care.
CONCLUSION: The ways of working identified are unlikely to be sufficient to support patients' self-management, pointing to a need for education to equip nurses with techniques to work effectively with patients dealing with longer-term effects of chronic illness.

MacGregor K, Handley M, Wong S, Sharifi C, Gjeltema K, Schillinger D, & Bodenheimer T. (2006). **Behavior-change action plans in primary care: A feasibility study of clinicians**. *Journal of the American Board of Family Medicine,* 19(3): 215-223.

PURPOSE: Collaborative goal-setting—with clinician and patient together deciding on concrete behavior-change goals—may be more effective in encouraging healthy behaviors than traditional clinician-directed advice. This study explores whether it is feasible for clinicians to engage patients with coronary heart disease (CHD) risk factors in collaborative goal-setting and concrete action planning during the primary care visit.
METHODS: Primary care clinicians were trained in goal-setting and action planning techniques and asked to conduct action plan discussions with study patients during medical visits. Clinicians' experiences were documented through post-visit surveys and with questionnaires and semistructured interviews at the end of the study.
RESULTS: Forty-three clinicians and 274 patients with CHD risk factors participated in the study; 83% of the patient encounters resulted in a behavior-change action plan. Goal-setting discussions lasted an average of 6.9 minutes. Clinicians rated 75% of the discussions as equally or more satisfying than previous behavior-change discussions, and identified time constraints as the most important barrier to adopting the goal-setting process.
CONCLUSIONS: Collaborative goal-setting between clinicians and patients for improved health behaviors is viewed favorably by clinicians in primary care. Time constraints could be addressed by delegating goal-setting to other caregivers.

Madson MB, Lane C, & Noble JJ. (2012). **Delivering quality motivational interviewing training: A survey of MI trainers.** *Motivational Interviewing: Training, Research, Implementation, Practice,* 1(1).

The MI community places an emphasis on attempting to understand the training process. Yet little is known about what MI trainers perceive as the important variables in training MI. A mixed method survey of 92 members of the Motivational Interviewing Network of Trainers was used to elicit important variables to consider in providing quality MI training. Based on results, it appears that MI trainers are familiar with Miller and Moyers' (2006) eight stages of learning MI and used them to develop trainings. However, the respondents reported that they do not use these stages to evaluate trainings. Moreover, the respondents emphasized the importance of trainee and trainer variables in organizing trainings. They also provided varied opinions regarding the important ingredients in developing MI competency. The authors discuss the need for further empirical exploration of the important training ingredients and the eight stages model. Finally, the need for exploration of how these ingredients help trainees develop competency and future focus on the integration of best practices in adult learning is discussed.

Manahan JD. (2012). **Motivational interviewing: A curriculum proposal for graduate nursing students**. Project Proposal presented to the Faculty of the School of Nursing, POINT Loma Nazarene University.

ABSTRACT: Over the past decade, motivational interviewing (MI) techniques have slowly been incorporated into the management of chronic diseases. By using the techniques of MI, patient-physician rapport is fostered, change talk is promoted, and the patient, with the guidance of the physician, makes goals toward healthy behavior changes. The aim is to empower patients, help them move past ambivalence, and promote behavior changes that may improve their current and future health. There have been many studies outlining the benefits MI training has had on physicians' and medical students' confidence and delivery of MI techniques but there is a gap in evidence and literature supporting an MI curriculum specific to graduate nursing school. Development of a course curriculum could possibly be beneficial for graduate nursing students. The enhanced communication training would allow the advanced practice nurse to further their assessment skills, stimulate the patients' innate desire to change, and focus the plan of care to promote best outcomes for their health and the health of others

Markland D, Ryan RM, Tobin JV & Rollnick S. (2005). **Motivational interviewing and self-determination theory.** *Journal of Social and Clinical Psychology*, 24(6): 811-831.

Motivational interviewing has become widely adopted as a counseling style for promoting behavior change; however, as yet it lacks a coherent theoretical framework for understanding its processes and efficacy. This article proposes that self-determination theory (SDT) can offer such a framework. The principles of motivational interviewing and SDT are outlined and the parallels between them are drawn out. We show how both motivational interviewing and SDT are based on the assumption that humans have an innate tendency for personal growth toward psychological integration, and that motivational interviewing provides the social-environmental facilitating factors suggested by SDT to promote this tendency. We propose that adopting an SDT perspective could help in furthering our understanding of the psychological processes involved in motivational interviewing.

*Marlatt GA, & Gordon JR. (1985). **Relapse prevention: Maintenance strategies in the treatment of addictive behaviors**. Guilford Press.

CONCEPT OF PROBLEM DEVELOPMENT: Statistics show that approximately 80% of patients who quit smoking eventually relapse at 1 year. The cost-benefit perspective, in which the reward of instant gratification outweighs cost of potential negative effects, justifies why people plan their own relapse.
CONCEPT OF CHANGE: Relapse prevention focuses on the maintenance stage of addictive behavior cessation. Its goal is to help patients to anticipate and cope with problems of relapse. This model has two applications: (1) maintenance strategy to prevent relapse, or (2) facilitate change in personal habits and lifestyle so as to reduce the risk of physical disease or psychological stress. The purpose is to achieve a balanced lifestyle and to prevent the formation of unhealthy habit patterns.
INTERVENTION: Two intervention strategies have been proposed: specific strategies and global self-control strategies. Specific strategies help patients to anticipate, and identify high-risk situations by self-monitoring and self-assessment procedures. Global strategies emphasize skill training, cognitive reframing, and healthy lifestyle maintenance. If one is able to execute effective coping response, the probability of relapse will decrease. If unable to cope with high risk situations, the probability of relapse will increase. Patients are also trained to become their own therapist and carry on the thrust of the maintenance techniques after termination of the formal therapeutic relationship.

Martin LR, Haskard-Zolnierek KB, & DiMatteo MR. (2010). **Health behavior change and treatment adherence: Evidence-based guidelines for improving healthcare.** Oxford Press.

Each year, millions of people resolve to take better care of their health and almost a billion medical visits take place. Yet as many as half of these visits result in patient nonadherence, and most people who successfully begin necessary health behavior changes fail to maintain them. Healthcare professionals often struggle to provide their patients with the tools necessary for successful maintenance of healthy behavior. This book synthesizes the results from an overwhelming number of empirical research articles on adherence and health behavior change, providing simple, powerful, and practical guidance for health professionals. A set of effective evidence-based strategies for putting long-term health-relevant behavioral changes into practice includes the straightforward 3-ingredient Information–Motivation–Strategy model that has been supported by decades of outcomes research. In order to change, individuals must (1) know what change is necessary information; (2) desire the change (motivation); and then (3) have the tools to achieve and maintain the change (strategy). Numerous clinical examples illustrate the important practice principles offered. Health Behavior Change and Treatment Adherence brings together major research findings in a succinct, readable, practical, and usable format for making real changes. It is written for a wide variety of practitioners and students including those in medicine, chiropractic, osteopathy, nursing, health education, physician assistant programs, dentistry, clinical and health psychology, marriage and family counseling, social work, school psychology, and care administration. This book is also for anyone who wishes to take an active role in their health.

Mason P & Butler C. (2nd ed.) (2010). **Health behavior change.** Elsevier Limited.

Health Behavior Change presents a method which can be used to helps patients change their behaviour in both hospital and community settings. The method is applicable to any behaviour, such as overeating, physical inactivity and smoking or with patients struggling with the consequences of chronic conditions like diabetes and heart disease. Using brief, structured consultations with the client, the practitioner encourages the patient to take charge of decision-making concerning their health. It relies upon partnership between professional and patient rather than dominance of one over the other and is carried out in a spirit of negotiation rather than confrontation. The text clearly outlines the fundamental principles behind the method while applying it to practice. Problems of resistance and lack of motivation are explored and practical strategies to manage them are suggested. The patient is at the centre throughout. Short case examples and dilemmas from clinical settings ground the method in the reality of practice.

Mata J, Silva MN, Vieira PN, Carraça EV, Andrade AM, Coutinho SR, Sardinha LB, & Teixeira PJ. (2009). **Motivational "spill-over" during weight control: Increased self-determination and exercise intrinsic motivation predict eating self-regulation.** *Health Psychology*, 28(6): 709-716.

OBJECTIVE: Successful weight management relies on at least two health behaviors, eating and exercise. However, little is known about their interaction on a motivational and behavioral level. Based on the Hierarchical Model of Motivation the authors examined whether exercise-specific motivation can transfer to eating regulation during a lifestyle weight control program. The authors further investigated whether general, treatment-related, and exercise motivation underlie the relation between increased exercise and improved eating regulation.
DESIGN: Overweight/obese women participated in a 1-year randomized controlled trial (N = 239). The intervention focused on promoting physical activity and internal motivation for exercise and weight loss, following Self-Determination Theory. The control group received general health education.
MAIN OUTCOME MEASURES: General and exercise specific self-determination, eating self-regulation variables, and physical activity behavior.
RESULTS: General self-determination and more autonomous exercise motivation predicted eating self-regulation over 12 months. Additionally, general and exercise self-determination fully mediated the relation between physical activity and eating self-regulation.
CONCLUSION: Increased general self-determination and exercise motivation seem to facilitate improvements in eating self-regulation during weight control in women. These motivational mechanisms also underlie the relationship between improvements in exercise behavior and eating regulation.

McDaniel SH, Beckman HB, Morse DS, Silberman J, Seaburn DB, & Epstein RM. (2007). **Physician self-disclosure in primary care visits enough about you, what about me?** *Archives of Internal Medicine*, 167(12): 1321-1326.

BACKGROUND: The value of physician self-disclosure (MD-SD) in creating successful patient-physician partnerships has not been demonstrated.
METHODS: To describe antecedents, delivery, and effects of MD-SD in primary care visits, we conducted a descriptive study using sequence analysis of transcripts of 113 unannounced, undetected, standardized patient visits to primary care physicians. Our main outcome measures were the number of MD-SDs per visit; number of visits with MD-SDs; word count; antecedents, timing, and effect of MD-SD on subsequent physician and patient communication; content and focus of MD-SD.
RESULTS: The MD-SDs included discussion of personal emotions and experiences, families and/or relationships, professional descriptions, and personal experiences with the patient's diagnosis. Seventy-three MD-SDs were identified in 38 (34%) of 113 visits. Ten MD-SDs (14%) were a response to a patient question. Forty-four (60%) followed patient symptoms, family, or feelings; 29 (40%) were unrelated. Only 29 encounters (21%) returned to the patient topic preceding the disclosure. Most MD-SDs (n = 62; 85%) were not considered useful to the patient by the research team. Eight MD-SDs (11%) were coded as disruptive.
CONCLUSIONS: Practicing primary care physicians disclosed information about themselves or their families in 34% of new visits with unannounced, undetected, standardized patients. There was no evidence of positive effect of MD-SDs; some appeared disruptive. Primary care physicians should consider when self-disclosing whether other behaviors such as empathy might accomplish their goals more effectively. Effective physician-patient communication appears to improve health outcomes,1 - 4 but the empirical evidence regarding how best to create healing relationships is largely lacking.5 In particular, physician self-disclosure (MD-SD), when the physician shares personal information and/or experiences, has generated controversy. Despite seeming to be a way to strengthen the patient-physician relationship,6 recent evidence has called this into question. In the only systematic study of MD-SD to our knowledge, Beach et al7 - 8 found that MD-SD was common. They noted that MD-SDs in surgical visits were associated with greater patient satisfaction and reports of warmth, friendliness, comfort, and reassurance. In contrast, in primary care visits, MD-SDs were associated with lower ratings on all of those scales. These findings highlight unanswered questions about the content, antecedents, and consequences of MD-SD, and when and how physicians should use self-disclosure during medical visits.

McGann E. (2012). **Ten-minute nutrition, exercise counseling makes a difference: An expert interview with Lynne Braun, PhD, CNP, CLS, and Jane Nelson-Worel, MSN, APRN-BC, APNP.** *Medscape Medical News*, Apr 26, 2012.

Nurse practitioners see patients for the primary or secondary prevention of cardiovascular disease. Most patients have multiple risk factors. Although some patients require medication to treat their risk factors, healthy lifestyle changes (good nutrition, portion control, and regular exercise) can benefit all risk factors. Many people know what they should eat, but often they eat too much. They need help with motivation and strategies to make healthy dietary changes. It is a challenge to provide this level of counseling during a single patient encounter. Often it takes a few visits and telephone/email follow-up to assist patients in making changes. While it can be a challenge to fit heart-healthy lifestyle counseling into limited visit

times, this counseling is essential to preventing and managing cardiovascular disease. Patients respond well to motivational interviewing and similar techniques because a partnership is established between provider and patient. These approaches are nonjudgmental and nonconfrontational, and the decision to change and strategies belong to the patient. Weight is a sensitive topic. Using the term "obesity" when discussing weight can "turn patients off" and damage the provider–patient partnership. Successes are the patient's successes, which increases his/her self-efficacy or confidence. The challenge for providers is that these conversations take time, so it is often necessary to set the stage and begin the initial conversation, and then to schedule a follow-up appointment devoted to counseling.

*Meichenbaum D, & Turk D. (1987). **Facilitating treatment adherence: A practitioner's guidebook**. Plenum Press.

DESCRIPTION OF CONTEXT: A textbook that provides practical clinical guidelines and describes techniques for enhancing patient adherence to treatment regimens.
TOPIC/SCOPE: The text is divided into three sections. The first part deals with the nature of adherence. The current research on incidence of non-adherence and its causes is summarized. Part two outlines clinical procedures to enhance adherence such as relationship building, patient education, and behavioral and cognitive techniques. Part three further explores the procedures and discusses possible impediments to their incorporation into clinical practice.
CONCLUSIONS/RECOMMENDATIONS: Facilitating treatment adherence is an ongoing process and not something that can be satisfactorily addressed by a brief discussion or simple techniques. It is essential to consider a patient perspective and to take this into account.

Menninga KM, Dijkstra A, Gebhardt WA. (2011). **Mixed feelings: Ambivalence as a predictor of relapse in ex-smokers.** *British Journal of Health Psychology*, 16(3): 580-591.

OBJECTIVES: Ambivalence can be viewed as a normal temporary psychological state in a decision process, for example, on quitting smoking. However, when ambivalence is still present after the decision has been made, it may undermine the motivation to stick to the decision. In smoking cessation, ambivalence can be expected to increase the risk for relapse.
DESIGN: In a cohort of 352 ex-smokers, felt ambivalence measured at baseline was used to predict relapse after 1 month.
RESULTS: Firstly, felt ambivalence was a predictor of relapse. Secondly, felt ambivalence moderated the strength of the relation between a psychological determinant of behaviour and actual behaviour: anticipated negative self-evaluative emotions only predicted relapse when felt ambivalence was low. Thirdly, the relation of felt ambivalence with relapse was partly mediated by ex-smokers' evaluations of risk situations (situations in which they used to smoke in the past).
CONCLUSION: Ambivalence is related to relapse in different ways and in ex-smokers it may be conceptualized as a non-optimal decision process. Although the role of felt ambivalence needs further study, the data suggest that ambivalence must be taken into account in the practice of relapse prevention.

Mercken L, Candel M, van Osch L, & de Vries H. (2011). **No smoke without fire: The impact of future friends on adolescent smoking behaviour.** *British Journal of Health Psychology*, 16(1): 170-188.

OBJECTIVE: This study examined the impact of future friends and the contribution of different social influence and selection processes in predicting adolescents' smoking behaviour by extending the theory of planned behaviour (TPB). We investigated the impact of previous smoking, direct pressure from friends, descriptive norms of present and future friends, smoking-based selection of future friends, and distinguished between reciprocal and desired friends.
DESIGN: A longitudinal design with three measurements was used.
METHODS: The sample consisted of 1,475 Dutch high school students (mean age = 12.7 years) that participated as a control group in the European Smoking prevention Framework Approach study at three measurements. **RESULTS:** Structural equation modelling revealed that adolescent smoking was influenced by intention, previous smoking, descriptive norms of parents and siblings, and that desired as well as reciprocal friends were selected based on similar smoking behaviour. Future friends indirectly influenced adolescent smoking through intention, as did attitude, subjective norms of parents and siblings, previous smoking, and descriptive norms of reciprocal friends and siblings.
CONCLUSIONS: The present results suggest that descriptive norms and selection of friends need to be considered as major factors explaining smoking behaviour among adolescents besides the TPB components. These insights contribute to the further refinement of smoking prevention strategies.

Miller CE, & Johnson JL. (2001). **Motivational interviewing.** *Canadian Nurse,* 97(7): 32-33

*Miller WR. (2000). **Rediscovering fire: Small interventions, large effects**. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors*, 14(1): 6-18.

DESCRIPTION OF CONTEXT: Unexpected findings are often the spark for new discoveries and theories. A puzzle emerged from a series of unanticipated findings over 3 decades, indicating that for problem drinkers (a) relatively brief interventions can trigger significant change, (b) increasing the intensity of treatment does not consistently improve outcome, (c) therapist empathy can be a potent predictor of client change, and (d) a single empathic counseling session can substantially enhance the outcome of subsequent treatment.
TOPIC/SCOPE: These phenomena are considered in light of other findings in the addictions-treatment-outcome literature.
CONCLUSIONS/RECOMMENDATIONS: There is, at present, no cogent explanation for the efficacy of brief interventions. An ancient construct is explored as one possible factor in how some brief encounters may exert large effects in human change. That construct is agape, or unconditional love.

*Miller WR, & Rollnick S. (2nd ed.). (2002). **Motivational interviewing: Preparing people to change addictive behavior.** Guilford Publications.

DESCRIPTION OF CONTEXT: An intervention for facilitating behavior change in the area of addiction.
TOPIC/SCOPE: In preparing people to change addictive behaviors, there are two phases with specific tasks which individual progress through. Phase I focuses on building the patient's motivation to change. This can be accomplished by: (1) asking open-ended questions; (2) listening reflectively; (3) directly affirming and supporting the patient; (4) summarizing statements, and (5) eliciting self-motivational statements from the patient who presents the argument for change. Phase II focuses on strengthening patients' commitment to change. This can be accomplished by: (1) summarizing the patient's current situation; (2) asking open-ended questions; (3) offering a cluster of the best information/advice upon request, but being careful not to fall into the "yes, but...." trap and (4) negotiating a plan and arriving at the plan. When helping patients go through Phase I and Phase II, five principles of motivational interviewing must be considered: (1) express empathy; (2) develop discrepancy; (3) avoid argumentation; (4) roll with resistance, and, (5) support self-efficacy.
CONCLUSIONS/RECOMMENDATIONS: Motivational interviewing has been empirically tested and shown to be an effective intervention in preparing people to change addictive behaviors.

Miller WR, & Rose GS. (2009). **Toward a theory of motivational interviewing**. *American Psychologist*, 64(6): 527-537.

The widely-disseminated clinical method of motivational interviewing (MI) arose through a convergence of science and practice. Beyond a large base of clinical trials, advances have been made toward "looking under the hood" of MI to understand the underlying mechanisms by which it affects behavior change. Such specification of outcome-relevant aspects of practice is vital to theory development, and can inform both treatment delivery and clinical training. An emergent theory of MI is proposed, emphasizing two specific active components: a *relational* component focused on empathy and the interpersonal spirit of MI, and a *technical* component involving the differential evocation and reinforcement of client change talk A resulting causal chain model links therapist training, therapist and client responses during treatment sessions, and post-treatment outcomes.

Miller WR, Rose GS. (2010). **Motivational interviewing in relational context.** *American Psychologist*, 65(4):298-99.

One of the puzzles of motivational interviewing is why it works at all. How can it be that an individual interview or two yields change in a long-standing problem behavior even without any effort to alter social context? The time involved is such a tiny part of the person's ongoing daily life. How does it work? That is a question that has fascinated us and that prompted our article (Miller & Rose, September 2009). The model we proposed is intentionally focused on individual intervention, for that is how motivational interviewing (MI) has been delivered and tested in most studies. The current science base is drawn primarily from MI interventions that do not include concerned significant others (CSOs). Of course it is possible for CSOs to be included in MI sessions. The domain of "social context" encompasses a broad range of factors (such as employment, family history, peer influence, and religious involvement), and any number of other components might also be considered in predicting substance use outcomes (e.g., age, conceptual level, severity of dependence, comorbidity). The model that we proposed (Miller & Rose, 2009) was focused on interpersonal and intrapersonal factors involved when a therapist interacts with an individual client. MI as an individual intervention has been found to be efficacious across a broad range of problem areas. As the processes and efficacy of MI become better understood, it will also be possible to explore how these operate within the person's ongoing social context.

Miller WR, & Rollnick S. (3rd ed.) (2012). **Motivational interviewing: Helping people change.** Guilford Press.

This bestselling work for professionals and students is the authoritative presentation of motivational interviewing (MI), the powerful approach to facilitating change. The book elucidates the four processes of MI--engaging, focusing, evoking, and planning--and vividly demonstrates what they look like in action. A wealth of vignettes and interview examples illustrate the "dos and don'ts" of successful implementation in diverse contexts. Highly accessible, the book is infused with respect and

compassion for clients. The companion Web page provides additional helpful resources, including reflection questions, an extended bibliography, and annotated case material.

Ministry of Health (MOH) and Long-Term Care. (2007). **Preventing and managing chronic disease: Ontario's framework.**

This document has been developed to inform planning for chronic disease prevention and management (CDPM) in Ontario. It provides the evidence base for Ontario's CDPM Framework, which has evolved from the Chronic Care Model developed at the MacColl Institute of Healthcare Innovation, U.S.A.; and been informed by the Expanded Chronic Care Model from British Columbia, that incorporates the "Ottawa Charter of Health Promotion.

Mishali M, Omer H, Heymann AD. (2011). **The importance of measuring self-efficacy in patients with diabetes.** *Family Practice*, 28(1): 82-87.

OBJECTIVES: Self-efficacy is an important factor influencing diabetes self-management behaviours. Previous studies have examined self-efficacy as a general measure in diabetes care for all self-care treatment recommendations together. This current study was designed to examine if low self-efficacy in each of the measured self-care treatment recommendations is related to decreased adherence for each specific recommendation.
METHODS: The self-efficacy was measured in 119 patients for four different treatment recommendations: blood glucose self-monitoring, exercise, diet and oral medication intake and correlated with The Resistance to Treatment Questionnaire.
RESULTS: Significant and positive Pearsons correlations were found between the frequency of adherence to treatment recommendations and the self-efficacy regarding different recommendations. The correlation between self-efficacy and diet and physical activity was 0.5 and 0.67, respectively. The higher the resistance to treatment score, the less confident the patient is in his or her ability to adhere with treatment recommendations. This pattern was not present in adherence to medication intake.
CONCLUSIONS: Self-efficacy impacts adherence to treatment and therefore plays a role in the clinical outcome. The practical implication is that assessment of self-efficacy in people with diabetes may be a first step in the development of individually tailored interventions.

Mokdad AH, Marks JS, Stroup DF, & Gerberding JL. (2004). **Actual causes of death in the United States, 2000.** *JAMA: The Journal of the American Medical Association*, 291(10): 1238-1245.

DESCRIPTION OF CONTEXT: Comprehensive MEDLINE searches of English-language articles that identified epidemiological, clinical, and laboratory studies linking risk behaviors and mortality. The authors used 2000 mortality data reported to the Centers for Disease Control and Prevention to identify the causes and the number of deaths. The estimates of causes of death were computed by multiplying estimates of the cause-attributable fraction of preventable deaths with the total mortality data.
TOPIC/SCOPE: The leading causes of death in 2000 were tobacco (435,000 deaths; 18.1% of total US deaths), poor diet and physical inactivity (400,000 deaths; 16.6%), and alcohol consumption (85,000; 3.5%). Other actual causes of death were microbial agents (75,000), toxic agents (55,000), motor vehicle crashes (43,000), incidents involving firearms (29,000), sexual behaviors (20,000), and illicit drug use (17,000).
CONCLUSIONS/RECOMMENDATIONS: Though smoking remains the leading cause of mortality, poor diet and physical inactivity may soon overtake tobacco as the leading cause of death. These findings, along with escalating health care costs and aging population, argue persuasively that the need to establish a more preventive orientation in the US health care and public health systems has become more urgent.

Mo PKH, Blake H, & Batt ME. (2011). **Getting healthcare staff more active: The mediating role of self-efficacy.** *British Journal of Health Psychology*, 16(4): 690-706.

OBJECTIVES: Physical activity has been associated with positive health outcomes. The objective of the study was to investigate the relationship between knowledge of physical activity, social support, self-efficacy, perceived barriers to physical activity, and level of physical activity among healthcare employees and students in a National Health Service (NHS) Trust.
DESIGN: This study was secondary analysis of questionnaire data on the health and well-being of staff and students within the NHS.
METHOD: A total of 325 student nurses and 1,452 NHS employees completed the questionnaire. The data were analysed using descriptive statistics, zero-order correlations, and structural equation modelling.
RESULTS: Self-efficacy fully mediated the relationship between social support, perceived barriers, and level of physical activity in the student sample and partially mediated the relationship between social support, perceived barriers, and level of physical activity in the healthcare staff sample. Knowledge of physical activity had no significant effect on physical activity.

CONCLUSION: Findings suggest that instead of instilling knowledge, interventions to promote physical activity among healthcare staff and students should enhance social support and self-efficacy and also to remove perceived barriers to physical activity.

Morrison F, Shubina M, & Turchin A. (2012). **Lifestyle counseling in routine care and long-term glucose, blood pressure, and cholesterol control in patients with diabetes.** *Diabetes Care*, 35(2): 334-341

OBJECTIVE: In clinical trials, diet, exercise, and weight counseling led to short-term improvements in blood glucose, blood pressure, and cholesterol levels in patients with diabetes. However, little is known about the long-term effects of lifestyle counseling on patients with diabetes in routine clinical settings.

RESEARCH DESIGN AND METHODS: This retrospective cohort study of 30,897 patients with diabetes aimed to determine whether lifestyle counseling is associated with time to A1C, blood pressure, and LDL cholesterol control in patients with diabetes. Patients were included if they had at least 2 years of follow-up with primary care practices affiliated with two teaching hospitals in eastern Massachusetts between 1 January 2000 and 1 January 2010.

RESULTS: Comparing patients with face-to-face counseling rates of once or more per month versus less than once per 6 months, median time to A1C <7.0% was 3.5 versus 22.7 months, time to blood pressure <130/85 mmHg was 3.7 weeks versus 5.6 months, and time to LDL cholesterol <100 mg/dL was 3.5 versus 24.7 months, respectively ($P < 0.0001$ for all). In multivariable analysis, one additional monthly face-to-face lifestyle counseling episode was associated with hazard ratios of 1.7 for A1C control ($P < 0.0001$), 1.3 for blood pressure control ($P < 0.0001$), and 1.4 for LDL cholesterol control ($P = 0.0013$).

CONCLUSION: Lifestyle counseling in the primary care setting is strongly associated with faster achievement of A1C, blood pressure, and LDL cholesterol control. These results confirm that the findings of controlled clinical trials are applicable to the routine care setting and provide evidence to support current treatment guidelines.

Moskowitz D, & Bodenheimer T. (2009). **Moving from evidence-based medicine to evidence-based health**. *Journal of General Internal Medicine,* 26(6): 658-660.

While evidence-based medicine (EBM) has advanced medical practice, the health care system has been inconsistent in translating EBM into improvements in health. Disparities in health and health care play out through patients' limited ability to incorporate the advances of EBM into their daily lives. Assisting patients to self-manage their chronic conditions and paying attention to unhealthy community factors could be added to EBM to create a broader paradigm of evidence-based health. A perspective of evidence-based health may encourage physicians to consider their role in upstream efforts to combat socially patterned chronic disease.

*Mullen PD, Hersey JC, & Iverson DC. (1987). **Health behavior models compared.** *Social Science & Medicine***,** 24(11): 973-981.

OBJECTIVE: To compare three health behavior models (Health Belief, Fishbein/Ajzen, PRECEDE) for predicting changes in smoking, exercise, and consumption of sweet and fried foods.

DESIGN: Survey.

SETTING: Two hour-long household interviews were conducted in Denver and Phoenix.

SUBJECTS: Three hundred twenty-six individuals (56% Caucasian, 23% Hispanic, 20% Black, 17-65 years old) participated in this study. In the sample, 54% were female. 50% of the sample had an income between $10,000 and $25,000, and 38% had more than a high school education. **INTERVENTIONS:** None

MEASURES: Questions assessing smoking and exercising were taken from the National Health Practices and Consequences Survey and the Stanford Three Community Study. Questions assessing dietary habits were taken from the National Health and Nutrition Examination Survey. Measurements for these behaviors relied on self-report. For each behavioral area, a seven-point response scale was used to assess components of the three models. The interval between the interviews was eight months, resulting in effects of seasonality that influenced components of the exercise questionnaire. The first interview, conducted in the spring, reported more swimming and walking. The second interview, held in the fall, reported more bicycling and gardening.

RESULTS: Initial behavior was a good predictor of final behavior, reflecting stability of behavior. Demographic characteristics proved to be important predictors of behavior. Older subjects exercised less and were less likely to attempt to quit smoking. Younger subjects were most frequent consumers of sweet foods. Women exercised less than men. Smoker's concern about susceptibility to serious illness was associated with attempts to quit smoking. Perceived benefits, confidence, and behavioral intention were all important in predicting behavior. PRECEDE was the most effective model in predicting all the behaviors except for attempts to quit smoking. Except for ability to predict smoking cessation attempts, the Fishbein/Ajzen model was the least effective.

CONCLUSIONS: Fishbein/Ajzen model was not as effective as PRECEDE and the Health Belief Model in predicting behavior. Self-efficacy was a key predictor of change in health behavior.

Mulligan K, Mehta PA, Fteropoulli T, Dubrey SW, McIntyre HF, McDonagh TA, Sutton GC, Walker DM, Cowie MR, & Newman S. (2012). **Newly diagnosed heart failure: Change in quality of life, mood, and illness beliefs in the first 6 months after diagnosis.** *British Journal of Health Psychology*, 17(3): 447-462.

OBJECTIVES: This study sought to examine how patients' mood and quality of life (QoL) change during the early high-risk period after a diagnosis of heart failure (HF) and to identify factors that may influence change.
DESIGN: A within-subjects, repeated-measures design was used. Assessments took place within 4 weeks of diagnosis and 6 months later.
METHODS: One hundred and sixty six patients with HF completed assessments of their mood, QoL, and beliefs about HF and its treatment. Correlation analysis was conducted between the variables and analysis of variance and *t*-tests were used to assess differences in categorical variables. To examine which variables predicted mood and QoL, hierarchical multiple regressions were conducted.
RESULTS: At follow-up, patients' beliefs indicated a realization of the chronicity of their HF, however their beliefs about the consequences of having HF did not change and their satisfaction with their treatment remained high. QoL and anxiety improved significantly over time but there was no significant change in depressed mood. As would be expected, improvement in symptoms was a key factor in improved mood and QoL. Other significant explanatory variables included age, comorbid chronic obstructive pulmonary disease, depressed mood, patients' beliefs about the consequences of their HF and their concerns about treatment.
CONCLUSIONS: This study suggests that addressing patients' mood and beliefs about their illness and its treatment may be additional ways of improving patient QoL in the early period after the diagnosis of HF.

Mulvaney SA, Rothman RL, Dietrich MS, Wallston KA, Grove E, Elasy TA, & Johnson KB. (2012). **Using mobile phones to measure adolescent diabetes adherence.** *Health Psychology*, 31(1): 43-50.

OBJECTIVES: 1) describe and determine the feasibility of using cell-phone–based ecological momentary assessment (EMA) to measure blood glucose monitoring and insulin administration in adolescent Type 1 diabetes, 2) relate EMA to traditional self-report and glycemic control, and 3) identify patterns of adherence by time of day and over time using EMA.
METHOD: Adolescents with Type 1 diabetes (n = 96) completed baseline measures of cell phone use and adherence. Glycemic control (measured by levels of HbA1c) was obtained from medical records. A subgroup of adolescents (n = 50) completed 10 days of EMA to assess blood glucose monitoring frequency, timing of glucose monitoring, insulin administration, and insulin dosing. One third of adolescents were not allowed to use their cell phones for diabetes at school. Parental restrictions on cell phone use at home were not prevalent.
RESULTS: The EMA response rate (59%) remained stable over the 10-day calling period. Morning time was associated with worse monitoring and insulin administration, accounting for 59–74% of missed self-care tasks. EMA-reported missed glucose checks and missed insulin doses were correlated to traditional self-report data, but not to HbA1c levels. Trajectory analyses identified two subgroups: one with consistently adequate adherence, and one with more variable, and worse, adherence. The latter adherence style showed worse glycemic control.
CONCLUSION: Mobile phones provide a feasible method to measure glucose monitoring and insulin administration in adolescents, given a limited assessment duration. The method provided novel insights regarding patterns of adherence and should be explored in clinical settings for targeting or tailoring interventions.

Naar-King S, & Suarez M. (2010). **Motivational interviewing with adolescents and young adults**. Guilford Press**.**

This pragmatic guide spells out how to use motivational interviewing (MI) to have productive conversations about behavior change with adolescents and young adults in any clinical context. Filled with examples, sample dialogues, and "dos and don'ts," the book shows how conducting MI from a developmentally informed standpoint can help practitioners quickly build rapport with young patients, enhance their motivation to make healthy changes, and overcome ambivalence. Experts on specific adolescent problems describe MI applications in such key areas as substance abuse, smoking, sexual risk taking, eating disorders and obesity, chronic illness management, and externalizing and internalizing behavior problems.

Naar-King S. (2011). **Motivational interviewing in adolescent treatment.** *Canadian Journal of Psychiatry*, 56(11): 651-657.

This paper briefly reviews the research literature on motivational interviewing (MI) and behaviour change in adolescents and then discusses the implications of adolescent cognitive and social–emotional developmental processes for the relational and technical components of MI. Research suggests that MI is efficacious in improving substance use in adolescents. Research has been slower to emerge in other behaviours, but available randomized controlled trials suggest that MI has great promise for improving mental and physical health outcomes in this developmental period. The relational and technical components of MI are highly relevant for the adolescent developmental period, and studies have shown that these components are

related to outcomes in this population. There are several ways to include MI in clinical interventions for adolescents, ranging from MI in brief settings to using MI as a platform from which all other treatments are offered. Future research is necessary to test the effects of MI in adolescent group settings and the full integration of MI into other adolescent treatment approaches.

Nainggolan L. (2011). **New data show couples change habits together**. Heartwire © 2011 Medscape, LLC. http://www.medscape.com/viewarticle/741077_print

Couples who attended a preventive cardiology program together, after one partner had suffered a coronary disease event, changed their dietary and exercise habits in tandem, a new analysis from the EUROACTION study shows. Catriona Jennings (Imperial College London, UK), a cardiovascular nurse, told heart*wire*: "Patients who made the most changes were more likely to be associated with partners who did the same, supporting the principle of family-based CVD prevention." The tenet of familybased intervention was central to EUROACTION, and at the time the study was performed, it was unique in its use of this approach. Jennings presented her findings during a poster session today at the EuroPRevent 2011 meeting. The new analysis looked specifically at patients and their partners from EUROACTION who participated in the intervention program and examined the outcomes of diet and physical activity. "We saw particularly strong concordance for fruit and vegetable intake," Jennings noted; for body mass index (BMI), the correlation was "not quite so strong, but it was still statistically significant." Hence, patients who managed to increase their fruit and vegetable consumption and/or increase physical activity were mirrored by partners who did the same. And those patients who did not succeed as well in achieving the goals set had partners who also fared poorly. EUROACTION is the largest-ever Europe-wide preventive cardiology project, and it spanned eight countries-- Denmark, France, Italy, the Netherlands, Poland, Spain, Sweden, and the UK--and 24 hospital and general-practice (GP) centers in a cluster-randomized trial comparing a 16-week structured multidisciplinary nurse-led intervention with usual care in 8500 heart-disease and high-risk patients. The basis of the trial was lifestyle change--ie, avoidance of tobacco, achievement of a healthy diet, and physical activity, which were all given equal weighting. The program was intentionally set up in busy general hospitals and general practices, outside specialist cardiac-rehabilitation centers, to provide a service for all. As reported previously, significant improvements were observed after one year in those attending the intervention program in EURACTION compared with patients treated by usual care, across a number of key lifestyle and risk factors. In this new observational substudy, just coronary heart disease patients from the intervention arm who attended the program within a couple of weeks of their coronary event with their partners were assessed. There were 645 patients and 645 partners; 80% of the patients were male. During weekly or biweekly attendance at the 16-week program--for which all the healthcare professionals were centrally trained, in London, in how to perform assessment in a standardized way--the couples saw a nurse who assessed smoking habits, risk factors, adherence to drug therapy where relevant, and health-related quality of life. They also saw a dietician and a physical-activity specialist and attended an exercise class and an interactive health promotion workshop. "The advice was all based on very individual assessment; it was tailored,"

Norris SL, Engelgau MM, & Venkat Narayan KM. (2001). **Effectiveness of self-management training in type 2 diabetes: A systematic review of randomized controlled trials.** *Diabetes Care*, 24(3): 561-587.

OBJECTIVE: To systematically review the effectiveness of self-management training in type 2 diabetes.

RESEARCH DESIGN AND METHODS: MEDLINE, Educational Resources Information Center (ERIC), and Nursing and Allied Health databases were searched for English-language articles published between 1980 and 1999. Studies were original articles reporting the results of randomized controlled trials of the effectiveness of self-management training in people with type 2 diabetes. Relevant data on study design, population demographics, interventions, outcomes, methodological quality, and external validity were tabulated. Interventions were categorized based on educational focus (information, lifestyle behaviors, mechanical skills, and coping skills), and outcomes were classified as knowledge, attitudes, and self-care skills; lifestyle behaviors, psychological outcomes, and quality of life; glycemic control; cardiovascular disease risk factors; and economic measures and health service utilization.

RESULTS: A total of 72 studies described in 84 articles were identified for this review. Positive effects of self-management training on knowledge, frequency and accuracy of self-monitoring of blood glucose, self-reported dietary habits, and glycemic control were demonstrated in studies with short follow-up (<6 months). Effects of interventions on lipids, physical activity, weight, and blood pressure were variable. With longer follow-up, interventions that used regular reinforcement throughout follow-up were sometimes effective in improving glycemic control. Educational interventions that involved patient collaboration may be more effective than didactic interventions in improving glycemic control, weight, and lipid profiles. No studies demonstrated the effectiveness of self-management training on cardiovascular disease–related events or mortality; no economic analyses included indirect costs; few studies examined health-care utilization. Performance, selection, attrition, and detection bias were common in studies reviewed, and external generalizability was often limited.

CONCLUSIONS: Evidence supports the effectiveness of self-management training in type 2 diabetes, particularly in the short term. Further research is needed to assess the effectiveness of self-management interventions on sustained glycemic control, cardiovascular disease risk factors, and ultimately, microvascular and cardiovascular disease and quality of life.

Norris SL, Nichols PJ, Caspersen CJ, Glasgow RE, Engelgau MM, & Jack L, Isham G, Snyder SR, Carande-Kulis VG, Garfield S, Briss P, & McCulloch D (2002). **The effectiveness of disease and case management for people with diabetes: A systematic review**. *American Journal of Preventive Medicine*, 22(4 Suppl): 15-38.

DESCRIPTION OF CONTEXT: This report presents the results of a systematic review of the effectiveness and economic efficiency of disease management and case management for people with diabetes and forms the basis for recommendations by the Task Force on Community Preventive Services on the use of these two interventions.
TOPIC/SCOPE: Evidence supports the effectiveness of disease management on glycemic control; on screening for diabetic retinopathy, foot lesions and peripheral neuropathy, and proteinuria; and on the monitoring of lipid concentrations. This evidence is applicable to adults with diabetes in managed care organizations and community clinics in the United States and Europe.
CONCLUSIONS/RECOMMENDATIONS: Case management is effective in improving both glycemic control and provider monitoring of glycemic control. This evidence is applicable primarily in the U.S. managed care setting for adults with type 2 diabetes. Case management is effective both when delivered in conjunction with disease management and when delivered with one or more additional educational, reminder, or support interventions.

Parkin DM. (2011). **The fraction of cancer attributable to lifestyle and environmental factors in the UK in 2010.** *British Journal of Cancer,* 105(S2).

This chapter summarises the results of the preceding sections, which estimate the fraction of cancers occurring in the UK in 2010 that can be attributed to sub-optimal, past exposures of 14 lifestyle and environmental risk factors. For each of 18 cancer types, we present the percentage of cases attributable to one or all of the risk factors considered (tobacco, alcohol, four elements of diet (consumption of meat, fruit and vegetables, fibre, and salt), overweight, lack of physical exercise, occupation, infections, radiation (ionising and solar), use of hormones, and reproductive history (breast feeding)). Exposure to less than optimum levels of the 14 factors was responsible for 42.7% of cancers in the UK in 2010 (45.3% in men, 40.1% in women) – a total of about 134 000 cases. Tobacco smoking is by far the most important risk factor for cancer in the UK, responsible for 60 000 cases (19.4% of all new cancer cases) in 2010. The relative importance of other exposures differs by sex. In men, deficient intake of fruits and vegetables (6.1%), occupational exposures (4.9%) and alcohol consumption (4.6%) are next in importance, while in women, it is overweight and obesity (because of the effect on breast cancer) – responsible for 6.9% of cancers, followed by infectious agents (3.7%). Population-attributable fractions provide a valuable quantitative appraisal of the impact of different factors in cancer causation, and are thus helpful in prioritising cancer control strategies. However, quantifying the likely impact of preventive interventions requires rather complex scenario modelling, including specification of realistically achievable population distributions of risk factors, and the timescale of change, as well as the latent periods between exposure and outcome, and the rate of change following modification in exposure level.

Peters LWH, Wiefferink CH, Hoekstra F, Buijs GJ, ten Dam GTM, & Paulussen TGWM. (2009). **A review of similarities between domain-specific determinants of four health behaviors among adolescents.** *Health Education Research*, 24(2): 198-223.

Schools are overloaded with health promotion programs that, altogether, focus on a broad array of behavioral domains, including substance abuse, sexuality and nutrition. Although the specific content of programs varies according to the domain focus, programs usually address similar concepts: knowledge, attitudinal beliefs, social influences and skills. This apparent conceptual overlap between behaviors and programs provides opportunities for a transfer-oriented approach which will stimulate students to apply the knowledge and skills they have learned in one domain (e.g. skills for resisting tobacco use) to other domains (e.g. alcohol, sex). A requirement for such an approach is that behaviors share at least some determinants. This review addresses this issue by examining similarities between domain-specific determinants of smoking, drinking, safe sex and healthy nutrition among adolescents. Recent empirical studies and reviews were examined. The results show that the following determinants are relevant to all four behaviors: beliefs about immediate gratification and social advantages, peer norms, peer and parental modeling and refusal self-efficacy. Several other determinants have been found to relate to at least two behaviors, e.g. health risk beliefs and parental norms. These results can be used for the development of a transfer-oriented school health promotion curriculum.

Petrie KJ, Perry K, Broadbent E, & Weinman J. (2012). **A text message programme designed to modify patients' illness and treatment beliefs improves self-reported adherence to asthma preventer medication.** *British Journal of Health Psychology*, 17(1): 74-84.

OBJECTIVE: While effective preventative medication is readily available for asthma, adherence is a major problem due to patients' beliefs about their illness and medication. We investigated whether a text message programme targeted at changing patients' illness and medication beliefs would improve adherence in young adult asthma patients.
METHODS: Two hundred and sixteen patients aged between 16 and 45 on asthma preventer medication were recruited from pamphlets dispensed with medication and e-mails sent to members of a targeted marketing website. Participants were randomized to receive individually tailored text messages based on their illness and medication beliefs over 18 weeks or no text messages. Illness and medication beliefs were assessed at baseline and at 18 weeks. Adherence rates were assessed by phone calls to participants at 6, 12, and 18 weeks and at 6 and 9 months.
RESULTS: At 18 weeks, the intervention group had increased their perceived necessity of preventer medication, increased their belief in the long-term nature of their asthma, and their perceived control over their asthma relative to control group (all p's < .05). The intervention group also significantly improved adherence over the follow-up period compared to the control group with a relative average increase in adherence over the follow-up period of 10% (p < .001). The percentage taking over 80% of prescribed inhaler doses was 23.9% in the control group compared to 37.7% in the intervention group (p < .05).
CONCLUSION: A targeted text message programme increases adherence to asthma preventer inhaler and may be useful for other illnesses where adherence is a major issue.

Pignone MP, Ammerman A, Fernandez L, Orleans CT, Pender N, Woolf S, Lohr KN, & Sutton S. (2003). **Counseling to promote a healthy diet in adults: A summary of the evidence for the U.S. preventive services task force.** *American Journal of Preventive Medicine*, 24(1): 75-92.

DESCRIPTION OF CONTEXT: The purpose of this study was to examine the effectiveness of counseling to promote a healthy diet among patients in primary care settings. Design and data sources. We conducted a MEDLINE search from 1966 to December 2001. Study selection. We included randomized controlled trials of at least 3 months' duration with measures of dietary behavior that were conducted in patient populations similar to those found in primary care practices. We excluded studies that reported only biochemical or anthropomorphic endpoints, had dropout rates greater than 50%, or enrolled patients based on the presence of a chronic disease.
TOPIC/SCOPE: One author extracted relevant data from each included article into evidence tables. Using definitions developed by the research team, two authors independently rated each study in terms of its effect size, the intensity of its intervention, the patient risk level, and the use of well-proven counseling techniques. We identified 21 trials for use in this review. Dietary counseling produces modest changes in self-reported consumption of saturated fat, fruits and vegetables, and possibly dietary fiber. More-intensive interventions were more likely to produce important changes than brief interventions, but they may be more difficult to apply to typical primary care patients. Interventions using interactive health communications, including computer-generated telephone or mail messages, can also produce moderate dietary changes.
CONCLUSIONS/RECOMMENDATIONS: Moderate- or high-intensity counseling interventions, including use of interactive health communication tools, can reduce consumption of saturated fat and increase intake of fruit and vegetable. Brief counseling of unselected patients by primary care providers appears to produce small changes in dietary behavior, but its effect on health outcomes is unclear

Pollak KI. (2011). **Incorporating MI techniques into physician counseling.** *Patient Education and Counseling,84*:1-2.

Despite competing demands, primary care physicians are expected to counsel patients to change unhealthful behaviors. For instance, according to the US Preventive Task Force guidelines, physicians should counsel their patients who smoke to quit (A rating) and provide intensive weight counseling to obese patients (B rating) [1]. However, most physicians have not learned how to counsel effectively. There is a recent trend that medical schools and residency programs include courses on doctor-patient communication; yet, most practicing physicians have not received this training. In this issue, Haeseler and colleagues [2] describe a two hour curriculum for medical students that included didactic and feedback elements to teach MI techniques.

Pollak KI, Ostbye T, Alexander SC, Gradison M, Bastian LA, Namenek Brouwer RJ, & Lyna P. (2007). **Empathy goes a long way in weight loss discussions: Female patients are more likely to step up weight loss efforts when a physician shows empathy and offers support.** *Journal of Family Practice,* 56(12): 1031-1036.

PURPOSE: This study explores how weight-related topics are discussed between physicians and their overweight and obese female patients.
METHODS: We surveyed and audio-recorded preventive health and chronic care visits with 25 overweight and obese female patients. We coded both for quantity (content and time) of weight related discussions and quality (adherence to Motivational Interviewing [MI] techniques). We then tested correlations of these measures with patients' reported attempts

to lose weight, change diet, and change exercise patterns 1 month after the visit. **RESULTS:** Weight was routinely addressed (19 of 25 encounters). Patients usually initiated the topic (67% of time). Physicians' use of MI techniques resulted in patients attempting to lose weight and changing their exercise patterns.

CONCLUSION: Physicians may benefit from MI training to help patients lose weight. Practice recommendation: A physician's empathy, collaborative approach, and words of support can have a positive effect on overweight and obese women's weight loss efforts.

Pollak KI, Coffman CJ, Alexander SC, Tulsky JA, Lyna P, Dolor RJ, Cox ME, Brouwer RJ, Bodner ME, & Ostbye T. (2012). **Can physicians accurately predict which patients will lose weight, improve nutrition and increase physical activity?** *Family Practice*, 29(5): 553-560.

BACKGROUND: Physician counselling may help patients increase physical activity, improve nutrition and lose weight. However, physicians have low outcome expectations that patients will change. The aims are to describe the accuracy of physicians' outcome expectations about whether patients will follow weight loss, nutrition and physical activity recommendations. The relationships between physician outcome expectations and patient motivation and confidence also are assessed.

METHODS: This was an observational study that audio recorded encounters between 40 primary care physicians and 461 of their overweight or obese patients. We surveyed physicians to assess outcome expectations that patients will lose weight, improve nutrition and increase physical activity after counselling. We assessed actual patient change in behaviours from baseline to 3 months after the encounter and changes in motivation and confidence from baseline to immediately post-encounter.

RESULTS: Right after the visit, 55% of the time physicians were optimistic that their individual patients would improve. Physicians were not very accurate about which patients actually would improve weight, nutrition and physical activity. More patients had higher confidence to lose weight when physicians thought that patients would be likely to follow their weight loss recommendations.

CONCLUSIONS: Physicians are moderately optimistic that patients will follow their weight loss, nutrition and physical activity recommendations. Patients might perceive physicians' confidence in them and thus feel more confident themselves. Physicians, however, are not very accurate in predicting which patients will or will not change behaviours. Their optimism, although helpful for patient confidence, might make physicians less receptive to learning effective counselling techniques.

Primack BA, Carroll MV, McNamara M, Klem ML, King B, Rich M, Chan CW & Nayak S. (2012). **Role of video games in improving health-related outcomes: A systematic review**. *American Journal of Preventive Medicine*, 42(6): 630-638.

CONTEXT: Video games represent a multibillion-dollar industry in the U.S. Although video gaming has been associated with many negative health consequences, it also may be useful for therapeutic purposes. The goal of this study was to determine whether video games may be useful in improving health outcomes.

EVIDENCE ACQUISITION: Literature searches were performed in February 2010 in six databases: the Center on Media and Child Health Database of Research, MEDLINE, CINAHL, PsycINFO, EMBASE, and the Cochrane Central Register of Controlled Trials. Reference lists were hand-searched to identify additional studies. Only RCTs that tested the effect of video games on a positive, clinically relevant health consequence were included. Study selection criteria were strictly defined and applied by two researchers working independently. Study background information (e.g., location, funding source); sample data (e.g., number of study participants, demographics); intervention and control details; outcomes data; and quality measures were abstracted independently by two researchers.

EVIDENCE SYNTHESIS: Of 1452 articles retrieved using the current search strategy, 38 met all criteria for inclusion. Eligible studies used video games to provide physical therapy, psychological therapy, improved disease self-management, health education, distraction from discomfort, increased physical activity, and skills training for clinicians. Among the 38 studies, a total of 195 health outcomes were examined. Video games improved 69% of psychological therapy outcomes, 59% of physical therapy outcomes, 50% of physical activity outcomes, 46% of clinician skills outcomes, 42% of health education outcomes, 42% of pain distraction outcomes, and 37% of disease self-management outcomes. Study quality was generally poor; for example, two thirds (66%) of studies had follow-up periods of <12 weeks, and only 11% of studies blinded researchers.

CONCLUSIONS: There is potential promise for video games to improve health outcomes, particularly in the areas of psychological therapy and physical therapy. RCTs with appropriate rigor will help build evidence in this emerging area.

*Prochaska, J. O. (1994). **Strong and weak principles for progressing from precontemplation to action on the basis of twelve problem behaviors.** *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, 13(1): 47-51.

OBJECTIVE: To explore the methods and principles people use to move from the precontemplation to action stage in their cessation of high risk health behaviors.
DESIGN: Retrospective analysis of data from two previous studies.
SETTING: Subjects were recruited from Texas and Rhode Island.
SUBJECTS: 3,858 individuals were taken from a previous study to participate as subjects in the first part of this present study and 1,466 smokers participated in the second part of the study. Of this sample, 166 were in the precontemplation stage, 794 smokers were in the contemplation stage and 506 smokers were in the preparation stage. All smokers averaged 29 cigarettes per day. The majority was female.
INTERVENTIONS: None.
MEASURES: A 5-item scale and a 4-to-5 item algorithm was used for staging subjects and assessing decision-making. In the second study, ie, a 20-item version of the Decisional Balance scale assessed the subjects' pros and cons of smoking at each stage.
RESULTS: The results supported the hypothesis that in relation to the cons of a healthy behavior change, the pros increased considerably more in groups representing progress from precontemplation to action. Two principles that explain the progression from precontemplation to action were formulated. The strong principle posited that progression from precontemplation to action is a function of about 1 standard deviation increase in the pros of a healthy behavior change. The weak principle posited that progression from precontemplation to action is a function of about 1/2 standard deviation decrease in the cons of a healthy behavior change. Results from the second study showed that the strong principle was able to successfully predict progression from precontemplation to action. The weak principle was also able to predict progression from precontemplation to action, but its predictions were not as great as the strong principle.
CONCLUSIONS: The results of this study provide the ability to predict progress from precontemplation to action as a function of a large difference in the pros of behavior change. These principles can predict the relative magnitude of the difference.

*Prochaska JO, Norcross JC, & DiClemente CC. (1992). **In search of how people change, applications to addictive behaviors.** *The American Psychology*, 47(9): 1102-1114.

DESCRIPTION OF CONTEXT: Summary of the research on self-initiated and professionally facilitated change of addictive behaviors using the transtheoretical constructs of stages and processes of change.
TOPIC/SCOPE: Change occurs in spiral movements through specific stages of change where relapse and recycling often occurs. Progression through the Stages of Change (precontemplation, contemplation, preparation, action and maintenance) is not linear. The second dimension of the transtheoretical model is the process of change which needs to be integrated with the stages of change. The processes of change include: consciousness raising, self-re-evaluation, self-liberation, counter-conditioning, reinforcement management, helping relationships, dramatic relief, environmental reevaluation, and social liberation.
CONCLUSIONS/RECOMMENDATIONS: A systematic integration of the stages and processes of change will result in successful self-change and/or psychotherapy. This means doing the right thing (processes) at the right time (stages). The ability of a health professional to ascertain the process and stage of a person will greatly enhance a successful behavior change.

*Prochaska JO, Velicer WF, Rossi JS, Goldstein MG, Marcus BH, Rakowski W, Fiore C, Harlow LL, Redding CA, Rosenbloom D, & Rossi SR. (1994). **Stages of change and decisional balance for 12 problem behaviors**. *Health Psychology,* 13(1): 39-46.

OBJECTIVES: To test the generalizability of transtheoretical model across twelve- problem behaviors. The 12 problem behaviors were smoking cessation, cocaine quitting, weight control, high-fat diet, adolescent delinquency, safe sex, condom-use, sunscreen-use, radon-gas exposure, exercise acquisition, mammography screening, and physicians assisting smokers.
DESIGN: Survey.
SETTING: Individuals were recruited in Rhode Island, Massachusetts, Texas, and California.
SUBJECTS: 3,858 subjects were divided into one of the above 12 problem behavior samples.
Interventions: None.
MEASURES: A 5-item algorithm was used for determining the stages of change and the decisional balance (pros and cons of the behavior), ranging from 1=not important to 5=extremely important.
RESULTS: The pros of changing behavior outweigh the cons before participants take action to modify behavior. For all twelve behaviors, precontemplators reported more cons of changing than pros of changing. In contrast, individuals in the action stage reported more pros than cons of changing their behavior.
CONCLUSIONS: The Stages of Change and the decisional balance were found to be generalizable across the twelve behaviors. The results suggest that progress from precontemplation to contemplation involves an increase in the evaluation of the pros of changing. Progressing from contemplation to action involves a decrease in the cons of changing.

Rakel DP, Hoeft TJ, Barrett BP, Chewning BA, Craig BM, & Niu M. (2009). **Practitioner empathy and the duration of the common cold.** *Family Medicine,* 41(7):494-501.

OBJECTIVE: This study's objective was to assess the relationship of empathy in medical office visits to subsequent outcomes of the common cold.
METHODS: A total of 350 subjects ≥ 12 years of age received either a standard or enhanced physician visit as part of a randomized controlled trial. Enhanced visits emphasized empathy on the part of the physician. The patient-scored Consultation and Relational Empathy (CARE) questionnaire assessed practitioner-patient interaction, especially empathy. Cold severity and duration were assessed from twice-daily symptom reports. Nasal wash was performed to measure the immune cytokine interleukin-8 (IL-8).
RESULTS: Eighty-four individuals reported perfect (score of 50) CARE scores. They tended to be older with less education but reported similar health status, quality of life, and levels of optimism. In those with perfect CARE scores, cold duration was shorter (mean 7.10 days versus 8.01 days), and there was a trend toward reduced severity (mean area under receiver-operator characteristics curve 240.40 versus 284.49). After accounting for possible confounding variables, cold severity and duration were significantly lower in those reporting perfect CARE scores. In these models, a perfect score also correlated with a larger increase in IL-8 levels.
CONCLUSIONS: Clinician empathy, as perceived by patients with the common cold, significantly predicts subsequent duration and severity of illness and is associated with immune system changes.

Resnicow K, DiIorio C, Soet JE, Ernst D, Borrelli B, & Hecht J. (2002). **Motivational interviewing in health promotion: It sounds like something is changing.** *Health Psychology*, 21(5): 444-451.

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.

Resnicow K, Davis R, Zhang N, Tolsma D, Alexander G, Wiese C, Cross WE Jr, Anderson JP, Calvi J, & Strecher V. (2009). **Tailoring a fruit and vegetable intervention on ethnic identity: Results of a randomized study.** *Health Psychology*, 28(4): 394-403.

OBJECTIVE: Many targeted interventions have been developed and tested with African Americans (AA); however, AAs are a highly heterogeneous group. One characteristic that varies across AAs is Ethnic Identity (EI). Little research has been conducted on how to incorporate EI into the design of health messages and programs.
DESIGN: We tested whether tailoring a print-based fruit and vegetable (F & V) intervention on EI would enhance program impact. AA adults were recruited from two integrated healthcare delivery systems and then randomized to receive three newsletters focused on F & V behavior change over three months. One set of newsletters was tailored only on demographic and social cognitive variables (control condition), whereas the other (experimental condition) was additionally tailored on EI.
MAIN OUTCOME MEASURES: The primary outcome for the study was F & V intake, assessed at baseline and three months later using the composite of two brief self-report frequency measures.
RESULTS: A total of 560 eligible participants were enrolled, of which 468 provided complete 3-month follow-up data. The experimental group increased their daily mean F & V intake by 1.1 servings compared to .8 servings in the control group ($p = .13$). Afrocentric experimental group participants showed a 1.4 increase in F & V servings per day compared to a .43 servings per day increase among Afrocentric controls ($p < .05$).
CONCLUSIONS: Although the overall between-group effects were not significant, tailoring dietary messages on ethnic identity may improve intervention impact for some AA subgroups.

Rizzuto D, Orsini N, Qiu C, Wang H, & Fratiglioni L. (2012). **Lifestyle, social factors, and survival after age 75: Population based study.** *British Medical Journal,* 345:e5568.

OBJECTIVE: To identify modifiable factors associated with longevity among adults aged 75 and older.
DESIGN: Population based cohort study. **SETTING:** Kungsholmen, Stockholm, Sweden.
PARTICIPANTS: 1810 adults aged 75 or more participating in the Kungsholmen Project, with follow-up for 18 years. **MAIN OUTCOME MEASURE:** Median age at death. Vital status from 1987 to 2005.
RESULTS: During follow-up 1661 (91.8%) participants died. Half of the participants lived longer than 90 years. Half of the current smokers died 1.0 year (95% confidence interval 0.0 to 1.9 years) earlier than non-smokers. Of the leisure activities, physical activity was most strongly associated with survival; the median age at death of participants who regularly swam, walked, or did gymnastics was 2.0 years (0.7 to 3.3 years) greater than those who did not. The median survival of people

with a low risk profile (healthy lifestyle behaviours, participation in at least one leisure activity, and a rich or moderate social network) was 5.4 years longer than those with a high risk profile (unhealthy lifestyle behaviours, no participation in leisure activities, and a limited or poor social network). Even among the oldest old (85 years or older) and people with chronic conditions, the median age at death was four years higher for those with a low risk profile compared with those with a high risk profile.

CONCLUSION: Even after age 75 lifestyle behaviours such as not smoking and physical activity are associated with longer survival. A low risk profile can add five years to women's lives and six years to men's. These associations, although attenuated, were also present among the oldest old (≥85 years) and in people with chronic conditions.

*Rogers CR. (1959). **A theory of therapy, personality, and interpersonal relationships, as developed in the client-centered framework in Psychology: The Study of a science**. New York: McGraw-Hill, Inc., (3): 184-256.

DESCRIPTION OF CONTEXT: Description of three psychological theories: the theory of therapy, the theory of personality, and the theory of interpersonal relationships.

TOPIC/SCOPE: In order for therapy to occur, it is necessary that the following conditions exist: (1) two persons are in contact; (2) the client is in a state of incongruence, vulnerable, or anxious; (3) the therapist is congruent in the relationship; (4) the therapist is experiencing unconditional positive regard toward the client; (5) the therapist is experiencing an empathic understanding of the client's internal frame of reference, and (6) the client perceives conditions (4) and (5), the unconditional positive regard of the therapist for him, and the empathic understanding of the therapist. When the preceding conditions exist and continue, a process of therapy is set in motion which flows with the following characteristics: (1) the client is free in expressing feelings; (2) the expressed feelings are about him/herself; (3) client increasingly differentiates and discriminates the objects of his/her feelings, perceptions, environment, others, his/her experience, and the interrelationships of these; (4) client's expressed feelings have reference to the incongruity between certain of his/her experiences and concept of self; (5) client comes to experience in awareness the threat of such incongruence; (6) client experiences feelings that once were denied or distorted; (7) client's concept of self becomes reorganized to assimilate and include the previously distorted or denied experiences; (8) the self now includes experiences which previously would have been too threatening to be in awareness; (9) client becomes able to experience the therapist's unconditional positive regard; (10) client feels an unconditional positive self-regard; (11) client experience himself/herself as the locus of evaluation, and (12) client reacts to experience less in terms of his conditions of worth and more in terms of an organismic valuing process. There are ten postulated dimensions that explain the theory of personality. They include: (1) characteristics of the human infant; (2) development of self; (3) the need for positive regard; (4) the development of the need for self-regard; (5) the development of conditions of worth; (6) development of incongruence between self and experience; (7) development of discrepancies in behavior; (8) experience of threat and the process of defense; (9) process of breakdown and disorganization, and (10) process of reintegration. There are many conditions and processes that together contribute to explaining the theory of interpersonal relationship. For communication to be reduced and a relationship to deteriorate, the following conditions are necessary: (1) two persons agree to be in contact and communicate with each other, but (2) marked incongruence exists in one of the person. When these conditions exist and continue, a process is initiated which tends to have the following characteristics: (1) communication is contradictory and/or ambiguous; (2) one person experiences the contradictions and ambiguities; (3) one person is vulnerable and perceives the other person's responses as potentially threatening; (4) one person, who experiences a selection of positive regard but a lack of empathy, becomes less free to express his/her feelings; (5) this causes inaccuracy/distortion of perception in the other person; and (6) defensive behaviors are exhibited. For communication to increase and relationship to improve, the following conditions are necessary: (1) two persons agree to communicate and come in contact with each other; and (2) there is a high degree of congruence. The process of an improving relationship is that: (1) two persons are in congruence; (2) the communication between them is clear; (3) one person perceives the other person's response with empathy for his/her internal frame of reference, and (4) both are satisfied and feel that they made a positive difference in the experience of the other.

CONCLUSIONS/RECOMMENDATIONS: A theoretical framework that provides a basis for successful interpersonal relationships can be essential to the understanding of a successful clinician-patient interaction.

*Rollnick S, Heathe N, & Bell A. (1992). **Negotiating behaviour change in medical settings: The development of brief motivational interviewing**. *Journal of Mental Health*, (1): 25-37.

DESCRIPTION OF CONTEXT: A brief intervention for medical settings using a form of motivational interviewing. The intervention is patient-centered and developed for patients with varying degrees of readiness to change.

TOPIC/SCOPE: The interviewer (or clinician) selects a strategy from a menu of the following to match the patient's degree of readiness to change: (1) address issues of lifestyle, stresses, and substance use; (2) address health and substance use; (3) discuss a typical day; (4) discuss the pros and cons of engaging in the behavior; (5) provide information; (6) discuss the future

and the present; (7) explore concerns, or (8) help with decision-making. Implications and criticism of the approach are provided as well as suggestions for further research.

CONCLUSIONS/RECOMMENDATIONS: Motivational interviewing can be an effective strategy to help patients articulate their reasons and arguments for and against a behavior change. The goal of motivational interviewing is to work with the patient's need for autonomy through the encouragement of an exploration of his/her ambivalence towards behavior change.

Rollnick S, Miller WR, & Butler CC. (2007). **Motivational interviewing in health Care: Helping patients change behavior**. Guilford Press.

Much of health care today involves helping patients manage conditions whose outcomes can be greatly influenced by lifestyle or behavior change. Written specifically for health care professionals, this concise book presents powerful tools to enhance communication with patients and guide them in making choices to improve their health, from weight loss, exercise, and smoking cessation, to medication adherence and safer sex practices. Engaging dialogues and vignettes bring to life the core skills of motivational interviewing (MI) and show how to incorporate this brief evidence-based approach into any health care setting. Appendices include MI training resources and publications on specific medical conditions.

Rollnick S, Butler CC, Kinnersley P, Gregory J, & Mash B. (2010). **Motivational interviewing**. *British Medical Journal, 340*:c1900.

Motivational interviewing has been shown to promote behaviour change in a wide range of healthcare settings.

KEY POINTS: Simply giving patients advice to change is often unrewarding and ineffective. Motivational interviewing uses a guiding style to engage with patients, clarify their strengths and aspirations, evoke their own motivations for change, and promote autonomy of decision making. You can learn motivational interviewing in three steps: practise a guiding rather than directing style; develop strategies to elicit the patient's own motivation to change; and refine your listening skills and respond by encouraging change talk from the patient. Motivational interviewing has been shown to promote behaviour change in various healthcare settings and can improve the doctor-patient relationship and the efficiency of the consultation.

Reprinted from article: Examples of contrasting "directive style" and "guiding style":

Directing style: "OK, so your weight is putting your health at serious risk. You already have early diabetes. (Patient often resists at this point.) . . . Overweight is conceptually very simple, if you think about it. Too much in, not enough out. So you need to eat less and exercise more. There no way you can get around that simple fact." (Patient replies with a "yes, but . . ." argument.)

Guiding style: "OK, let's have a look at this together and see what you think. From my side, losing some weight and getting more exercise will help your diabetes and your health, but what feels right for you? (Patient often expresses ambivalence at this point.) . . . So you can see the value of these things, but you struggle to see how you can succeed at this point in time. OK. It's up to you to decide when and how to make any changes. I wonder, what sort of small changes might make sense to you?" (Patient says how change might be possible.)

Roman B, Borges N, & Morrison AK. (2011). **Teaching motivational interviewing skills to third-year psychiatry clerkship students.** *Academic Psychiatry*, 35(1): 51-53.

BACKGROUND: Despite a large percentage of health care costs being related to smoking, obesity, and substance abuse, most physicians are not confident in motivating patients to change health behaviors. Motivational interviewing (MI) is a directive, patient-centered approach for eliciting behavior change. The purpose of this study was to teach students MI skills and assess their confidence and knowledge during the psychiatry clerkship using smoking cessation as the target behavior.

METHODS: Using a pretest/posttest design, 98 students were given a 10-item questionnaire during the psychiatry clerkship to assess their knowledge and confidence in health behavior change. Students received a 3-hour presentation on the principles of MI and practiced skills through role play. Students were encouraged to utilize these skills with patients**.**

RESULTS: Paired t tests results showed significant differences pre- and postclerkship for nine of the 10 items, including the student's confidence in working with patients in the area of smoking cessation.

CONCLUSION: Students can gain basic knowledge and increased confidence in working with patients for promoting behavioral change, even with a brief session, taught by nonexperts in motivational interviewing theory.

Roter D, & Kinmonth AL. (2002). **What is the evidence that increasing participation of individuals in self-management improves the processes and outcomes of care?** In: Williams R, Herman W, Kinmonth AL, Wareham NJ, eds. The Evidence Base for Diabetes Care. Chichester: John Wiley and Sons.

DESCRIPTION OF CONTEXT: This chapter reviews the evidence linking levels of patient engagement in medical visit communication and self management to diabetes-related outcomes.

CONCLUSIONS/RECOMMENDATIONS: It defines the principles emerging from this evidence, to inform better clinical practice The authors conclude that "the balance of evidence from the studies reviewed suggests that when the physician is patient-

centered (and non controlling), when patients are verbally active overall, and especially in information-seeking, and when the patient is empowered to make treatment decisions, self reported health and functional status, and metabolic control are improved." The authors offer 5 principles for improving self-management through improved clinician-patient communication: 1) hear the patient's perspective; 2) provide information that is useful and relevant; 3) negotiate a plan and anticipate problems; 4) offer ongoing monitoring of compliance and compliance difficulties; 5) find problems and re-negotiating solutions; and 6) provide emotional support to the patient.

Rosengren DB. (2009). **Building motivational interviewing skills: A practitioner workbook**. Guilford Press.

Developing expertise in motivational interviewing (MI) takes practice, which is exactly the point of this engaging, user-friendly workbook. The volume is packed with real-world examples from a range of clinical settings, as well as sample interactions and hands-on learning activities. The author is an experienced MI researcher, clinician, and trainer who facilitates learning with quizzes, experiential exercises, and reproducible worksheets. The reader learns step by step how to practice core MI skills: raising the importance of behavior change, fostering the client's confidence, resolving ambivalence, solidifying commitment to change, and negotiating a change plan. The utility of the book is enhanced by the large-size format and lay-flat binding. The book shows how to navigate each session using microskills that many clinicians already know: open-ended questions, affirmations, reflective listening and summaries, or OARS for short.

Rowland-Morin PA, Carroll JG. (1990). **Verbal communication skills and patient satisfaction: A study of doctor-patient interviews.** *Evaluation and the Health Professions,* 13(2): 168-185

This research attempted to quantify specific behaviors in the physician's initial interviewing style and relate them to patients' perception of satisfaction. Five physicians were tape recorded during their initial interviews with 52 adult patients. The patients were asked to complete the Medical Interview Satisfaction Scale, a 29-item instrument with a 7-point response scale. These interviews were transcribed, timed, coded, and analyzed with the use of the Computerized Language Analysis System. Selected variables of the language dimensions were entered as the predictor variables in a multiple regression, along with satisfaction scores as the dependent variables. Twenty-seven percent of the variance (p less than .01) in the satisfaction scores of initial interviews were explained by three aspects of a physician's language style: (a) use of silence or reaction time latency between speakers in an interview, (b) whether there was language reciprocity as determined through the reciprocal use of word-lists, and (c) the reflective use of interruptions within an interview. Considering the complexity of human communication, the fact that three variables were identified, which accounted for 27% of the variance in patients' satisfaction, is considered a substantial finding.

Rubak S, Sandbaek, A, Lauritzen T, & Christensen B. (2005). **Motivational interviewing: A systematic review and meta-analysis**. *British Journal of General Practice*, 55: 305-312.

BACKGROUND: Motivational Interviewing is a well-known, scientifically tested method of counselling clients developed by Miller and Rollnick and viewed as a useful intervention strategy in the treatment of lifestyle problems and disease.
AIM: To evaluate the effectiveness of motivational interviewing in different areas of disease and to identify factors shaping outcomes.
DESIGN OF STUDY: A systematic review and meta-analysis of randomised controlled trials using motivational interviewing as the intervention.
METHOD: After selection criteria a systematic literature search in 16 databases produced 72 randomised controlled trials the first of which was published in 1991. A quality assessment was made with a validated scale. A meta-analysis was performed as a generic inverse variance meta-analysis.
RESULTS: Meta-analysis showed a significant effect (95% confidence interval) for motivational interviewing for combined effect estimates for body mass index, total blood cholesterol, systolic blood pressure, blood alcohol concentration and standard ethanol content, while combined effect estimates for cigarettes per day and for HbA1c were not significant. Motivational interviewing had a significant and clinically relevant effect in approximately three out of four studies, with an equal effect on physiological (72%) and psychological (75%) diseases. Psychologists and physicians obtained an effect in approximately 80% of the studies, while other healthcare providers obtained an effect in 46% of the studies. When using motivational interviewing in brief encounters of 15 minutes, 64% of the studies showed an effect. More than one encounter with the patient ensures the effectiveness of motivational interviewing.
CONCLUSION: Motivational interviewing in a scientific setting outperforms traditional advice giving in the treatment of a broad range of behavioural problems and diseases. Large-scale studies are now needed to prove that motivational interviewing can be implemented into daily clinical work in primary and secondary health care.

Rubak S, Sandbaek A, Lauritzen T, Borch-Johnsen K, & Christensen B. (2006). **An education and training course in motivational interviewing influence: GPs' professional behaviour – ADDITION Denmark**. *British Journal of General Practice,* 56: 429-436.

BACKGROUND: Motivational interviewing has been shown to be broadly usable in a scientific setting in the management of behavioural problems and diseases. However, data concerning implementation and aspects regarding the use of motivational interviewing in general practice is missing.
AIM: To evaluate GPs' conception of motivational interviewing in terms of methods, adherence to and aspects of its use in general practice after a course.
STUDY DESIGN: In a randomised controlled trial concerning intensive treatment of newly diagnosed patients with type 2 diabetes detected by screening, the GPs were randomised to a course in motivational interviewing or not. The study also included a third group of GPs outside the randomised controlled trial, who had 2 years previously received a similar course in motivational interviewing.
SETTING: General practice in Denmark.
METHOD: The intervention consisted of a 1.5-day residential course in motivational interviewing with 0.5-day follow-ups, twice during the first year. Questionnaire data from GPs were obtained.
RESULTS: We obtained a 100% response-rate from the GPs in all three groups. The GPs trained in motivational interviewing adhered statistically significantly more to the methods than did the control group. More than 95 % of the GPs receiving the course stated that they had used the specific methods in general practice.
CONCLUSION: A course in motivational interviewing seems to influence GPs professional behaviour. Based on self-reported questionnaires, this study shows that the GPs after a course in motivational interviewing seemed to change their professional behaviour in daily practice using motivational interviewing compared with the control group. GPs evaluated motivational interviewing to be more effective than 'traditional advice giving'. Furthermore, GPs stated that the method was not more time consuming than 'traditional advice giving'.

Sansom-Daly UM, Peate M, Wakefield CE, Bryant RA, Cohn RJ. (2012). **A systematic review of psychological interventions for adolescents and young adults living with chronic illness.** *Health Psychology*, 31(3): 380-393.

OBJECTIVE: There is increasing recognition that adolescents and young adults (AYAs) with chronic illnesses experience common psychological challenges. This article reviewed published psychological interventions for AYAs with cancer, diabetes, juvenile idiopathic arthritis, sickle cell disease, and asthma. Common, efficacious intervention components were examined to generate clearer recommendations for future age-appropriate, evidence-based intervention development.
METHODS: Five databases including MEDLINE, MEDLINE In Process & Non-Indexed Citations, PsycINFO, EMBASE, and CINAHL, were searched for studies involving AYAs aged 10–30 years, using quantitative two-group methods, published from 1979–2010. Of 1,233 abstracts, 87 were extracted for further analysis and a final 25 studies were eligible for inclusion. Thirteen of these studies included AYAs with diabetes, 7 studies involved AYAs with cancer, and 5 included AYAs with other illnesses.
RESULTS: Educational interventions showed some significant positive results, particularly when targeted knowledge outcomes were measured. Several skills-based programs, some including parents, showed positive results, with moderate effect sizes. Interventions which taught communication skills, incorporated practical components (e.g., role-plays, homework), involved ≥6 sessions, and spanned at least 3 months in length, appeared more likely to achieve positive outcomes.
CONCLUSIONS: Skills-based interventions delivered over multiple sessions may yield the most positive results in AYAs with chronic illness. Given the few peer-support groups eligible for review, their efficacy remains unclear. This review points to the need for intervention development that teaches adaptive coping skills, is grounded in theoretical frameworks, and adheres to strict randomization and independent assessments to evaluate efficacy in assisting AYAs adjust to chronic illness.

Schillinger D, Handley M, Wang F, & Hammer H. (2009). **Effects of self-management support on structure, Process, and outcomes among vulnerable patients with diabetes.** *Diabetes Care*, 32(4): 559-566.

OBJECTIVE: Despite the importance of self-management support (SMS), few studies have compared SMS interventions, involved diverse populations, or entailed implementation in safety net settings. We examined the effects of two SMS strategies across outcomes corresponding to the Chronic Care Model.
RESEARCH DESIGN AND METHODS: A total of 339 outpatients with poorly controlled diabetes from county-run clinics were enrolled in a three-arm trial. Participants, more than half of whom spoke limited English, were uninsured, and/or had less than a high school education, were randomly assigned to usual care, interactive weekly automated telephone self-management support with nurse follow-up (ATSM), or monthly group medical visits with physician and health educator facilitation (GMV). We measured 1-year changes in structure (Patient Assessment of Chronic Illness Care [PACIC]), communication processes (Interpersonal Processes of Care [IPC]), and outcomes (behavioral, functional, and metabolic).

RESULTS: Compared with the usual care group, the ATSM and GMV groups showed improvements in PACIC, with effect sizes of 0.48 and 0.50, respectively ($P < 0.01$). Only the ATSM group showed improvements in IPC (effect sizes 0.40 vs. usual care and 0.25 vs. GMV, $P < 0.05$). Both SMS arms showed improvements in self-management behavior versus the usual care arm ($P < 0.05$), with gains being greater for the ATSM group than for the GMV group (effect size 0.27, $P = 0.02$). The ATSM group had fewer bed days per month than the usual care group (−1.7 days, $P = 0.05$) and the GMV group (−2.3 days, $P < 0.01$) and less interference with daily activities than the usual care group (odds ratio 0.37, $P = 0.02$). We observed no differences in A1C change.

CONCLUSIONS: Patient-centered SMS improves certain aspects of diabetes care and positively influences self-management behavior. ATSM seems to be a more effective communication vehicle than GMV in improving behavior and quality of life.

Schokker MC, Links TP, Luttik ML, & Hagedoorn M. (2010). **The association between regulatory focus and distress in patients with a chronic disease: The moderating role of partner support.** *British Journal of Health Psychology*, 15(1): 63-78.

OBJECTIVES: To determine the association between two regulatory foci (i.e. promotion and prevention focus) and distress in patients with chronic disease requiring self-management, and to determine whether these associations were moderated by partner support.

DESIGN AND METHOD: Four hundred and seventy-seven patients with diabetes, asthma, or heart disease completed a postal survey consisting of the Regulatory Focus Questionnaire, questionnaires measuring active engagement (i.e. supportive behaviour) and protective buffering and overprotection (i.e. unsupportive behaviour) by the partner as perceived by the patient, and the General Health Questionnaire-12 to measure distress.

RESULTS: A promotion focus was negatively associated with distress. This association was only found when patients reported that their partner engaged in relatively low levels of active engagement or relatively high levels of protective buffering and overprotection. The positive association between prevention focus and distress was not consistently found to be moderated by partner support.

CONCLUSION: Active engagement appears to buffer against high distress in patients with a weak promotion focus, while protective buffering and overprotection appear to aggravate distress in these patients.

Schüz B, Sniehotta FF, Mallach N, Wiedemann AU, & Schwarzer R. (2009). **Predicting transitions from preintentional, intentional and actional stages of change.** *Health Education Research*, 24(1): 64-75.

Stage theories of health behavior change assume that individuals pass through qualitatively different stages on their way to the adoption of health behaviors. Three common stages (preintention, intention and action) can be defined by stage transitions included in current stage theories and supported by evidence. The present study examines whether transitions between these stages can be predicted by social cognition variables derived from prevailing health behavior theories. At two points in time, the motivation for interdental hygiene behaviors and oral self-care was assessed in 288 participants recruited in dental practices. Stage progression and regression over time were analyzed using discriminant function analysis. Progression from preintention to intention was predicted by action planning, whereas coping planning and self-efficacy predicted transitions from intention. Regression from action was predicted by self-efficacy. Results support the distinction of three common stages. Findings are discussed in terms of their contribution to health behavior theory.

Schwartz RP. (2010). **Motivational interviewing (patient-centered counseling) to address childhood obesity**. *Pediatric Annals*, 39(3): 154-158.

Behavior change is difficult to achieve and even more difficult to maintain. Motivation is a major factor in determining whether we change our behavior. When a person seems unmotivated, it is often assumed that there is little we can do. This assumption is often false. The way physicians talk with patients can have a significant influence on their motivation for behavioral change. People do not like to be forced or coerced to change their behavior. Sometimes, merely acknowledging this autonomy or freedom not to change makes change possible.2 Physicians have been trained to provide information, but not how to help patients change their behavior. This article is an introduction to the spirit, principles, and tools of motivational interviewing (MI).

Schwartz RP, Hamre R, Dietz WH, Wasserman RC, Slora EJ, Myers EF, Sullivan S, Rockett H, Thoma KA, Dumitru G, & Resnicow KA. (2007). **Office-based motivational interviewing to prevent childhood obesity**. Archives of Pediatrics & Adolescent Medicine, 161: 495-501.

OBJECTIVE: To determine whether pediatricians and dietitians can implement an office-based obesity prevention program using motivational interviewing as the primary intervention.

DESIGN: Nonrandomized clinical trial. Fifteen pediatricians belonging to Pediatric Research in Office Settings, a national practice-based research network, and 5 registered dietitians were assigned to 1 of 3 groups: (1) control; (2) minimal intervention (pediatrician only); or (3) intensive intervention (pediatrician and registered dietitian).
SETTING: Primary care pediatric offices.
PARTICIPANTS: Ninety-one children presenting for wellchild care visits met eligibility criteria of being aged 3 to 7 years and having a body mass index (calculated as the weight in kilograms divided by the height in meters squared) at the 85th percentile or greater but lower than the 95th percentile for the age or having a normal weight and a parent with a body mass index of 30 or greater.
INTERVENTIONS: Pediatricians and registered dietitians in the intervention groups received motivational interviewing training. Parents of children in the minimal intervention group received 1 motivational interviewing session from the physician, and parents of children in the intensive intervention group received 2 motivational interviewing sessions each from the pediatrician and the registered dietitian.
MAIN OUTCOME MEASURE: Change in the body mass index–for-age percentile.
RESULTS: At 6 months' follow-up, there was a decrease of 0.6, 1.9, and 2.6 body mass index percentiles in the control, minimal, and intensive groups, respectively. The differences in body mass index percentile change between the 3 groups were nonsignificant (P=.85). The patient dropout rates were 2 (10%), 13 (32%), and 15 (50%) for the control, minimal, and intensive groups, respectively. Fifteen (94%) of the parents reported that the intervention helped them think about changing their family's eating habits.
CONCLUSIONS: Motivational interviewing by pediatricians and dietitians is a promising office-based strategy for preventing childhood obesity. However, additional studies are needed to demonstrate the efficacy of this intervention in practice settings.

Sderlund LL, Nordqvist C, Angbratt M, & Nilsen P. (2009). **Applying motivational interviewing to counselling overweight and obese children.** *Health Education Research*, 24(3): 442-449.

The aim of this study was to identify barriers and facilitators to nurses application of motivational interviewing (MI) to counselling overweight and obese children aged 5 and 7 years, accompanied by their parents. Ten welfare centre and school health service nurses trained and practiced MI for 6 months, then participated in focus group interviews concerning their experiences with applying MI to counselling overweight and obese children. Important barriers were nurses lack of recognition that overweight and obesity among children constitute a health problem, problem ambivalence among nurses who felt that children's weight might be a problem although there was no immediate motivation to do anything and parents who the nurses believed were unmotivated to deal with their children's weight problem. Facilitators included nurses recognition of the advantages of MI, parents who were cooperative and aware of the health problem and working with obese children rather than those who were overweight.

Shaw SM. (2007). **Responding appropriately to patients with chronic illnesses.** *Nursing,* 21(24): 35-39.

A significant proportion of the population lives with chronic illness and nurses are likely to come into contact with these patients on a regular basis. However, health professionals do not always recognise or respond supportively to such patients. This article explores some of the negative responses that occur and suggests more appropriate ways to work with this group of patients

Sibley A, Latter S, Richard C, Lussier MT, Roberge D, Skinner TC, Cradock S, & Zinken KM. (2011). **Medication discussion between nurse prescribers and people with diabetes: An analysis of content and participation using MEDICODE.** *Journal of Advanced Nursing,* 67(11): 2323-2336.

AIM: This paper is a report of a study to identify the content of, and participation in, medicine discussion between nurse prescribers and people with diabetes in England.
BACKGROUND: Diabetes affects 246 million people worldwide and effective management of medicines is an essential component of successful disease control. There are now over 20,000 nurse independent prescribers in the UK, many of whom frequently prescribe for people with diabetes. With this responsibility comes a challenge to effectively communicate with patients about medicines. National guidelines on medicines communication have recently been issued, but the extent to which nurse prescribers are facilitating effective medicine-taking in diabetes remains unknown.
METHODS: A purposive sample of 20 nurse prescribers working with diabetes patients audio-recorded 59 of their routine consultations and a descriptive analysis was conducted using a validated coding tool: MEDICODE. Recordings were collected between January and July 2008. The unit of analysis was the medicine.
RESULTS: A total of 260 instances of medicine discussion identified in the audio-recordings were analysed. The most frequently raised themes were `medication named' (raised in 88·8% of medicines), `usage of medication' (65·4%) and

`instructions for taking medication' (48·5%). `Reasons for medication' (8·5%) and `concerns about medication' were infrequently discussed (2·7%). Measures of consultation participation suggest largely dyadic medicine discussion initiated by nurse prescribers.

CONCLUSION: MEDICODE discussion themes linked to principles of recent guidelines for effective medicine-taking were infrequently raised. Medicine discussion was characterized by a one statement-one response style of communication led by nurses. Professional development is required to support theoretically informed approaches to effective medicines management.

Sim MG, Wain T, & Khong E. (2009). **Influencing behaviour change in general practice: Part 1 – brief intervention and motivational interviewing.** *Australian Family Physician,* 38(11): 885-888.

BACKGROUND: Behaviour change toward achieving a healthy lifestyle is important for all Australians, and general practitioners have a key role to play in assisting patients to make these changes.

OBJECTIVE: This is the first of a two part series which provides the background to approaches to influencing behaviour change in general practice, from brief interventions to motivational interviewing (MI). The second part of the series will explore motivational interviewing in more detail.

DISCUSSION: General practitioners have a key role in changing their patients' health behaviours. There are a range of tools GPs can use to help enhance their patients' motivation to achieve their health goals.

Sim MG, Wain T, & Khong E. (2009). **Influencing behaviour change in general practice: Part 2 – motivational interviewing approaches.** *Australian Family Physician,* 38(12): 986-989.

BACKGROUND: Behaviour change toward achieving a healthy lifestyle is important for all Australians, and general practitioners have a key role to play in assisting patients to make these changes.

OBJECTIVE: This is the second of two articles on influencing behaviour change in general practice. This article deals with the 'how to' of motivational interviewing in the general practice setting.

DISCUSSION: Motivational interviewing can help build motivation, commitment and confidence to change. General practitioners can use motivational interviewing to help their patients achieve their health goals. Motivational interviewing is not about a set of techniques and questions; it is about creating a climate that facilitates change; it is more about listening than telling, evoking rather than instilling. Motivational interviewing can be done in the brief periods available in consultations over time.

Sirriyeh R, Lawton R, & Ward J. (2010). **Physical activity and adolescents: An exploratory randomized controlled trial investigating the influence of affective and instrumental text messages.** *British Journal of Health Psychology*, 15(4): 825-840.

OBJECTIVE: The present study attempts to develop and pilot the feasibility and efficacy of a novel intervention using affective messages as a strategy to increase physical activity (PA) levels in adolescents.

DESIGN: An exploratory pilot randomized control trial was used to compare behaviour change over 2 weeks. A modified form of the International Physical Activity Questionnaire was used to assess PA behaviour. A total of 120 adolescents (16–19 years) from 4 sixth forms in West Yorkshire completed the field-based study.

METHOD: Participants were randomly assigned to one of three experimental conditions, or the control condition (*N*=28). Participants in experimental conditions received 1 short messaging service (SMS) text message per day over the 2 weeks, which included manipulations of either affective beliefs (enjoyable/unenjoyable; *N*=31), instrumental beliefs (beneficial/harmful; *N*=30), or a combination of these (*N*=31). Control participants received one SMS text message per week. Outcomes were measured at baseline and at the end of the 2 week intervention.

RESULTS: PA levels increased by the equivalent of 31.5 minutes of moderate (four metabolic equivalent) activity per week during the study. Main effects of condition (p=.049), and current physical activity level (p=.002) were identified, along with a significant interaction between condition and current activity level (p=.006). However, when the sample was split at baseline into active and inactive participants, a main effect of condition remained for inactive participants only (p=.001). *Post hoc* analysis revealed that inactive participants who received messages targeting affective beliefs increased their activity levels significantly more than the instrumental (p=.012), combined (p=.002), and control groups (p=.018).

CONCLUSION: Strategies based on affective associations may be more effective for increasing PA levels in inactive individuals.

Sleath B, Carpenter DM, Slota C, Williams D, Tudor G, Yeatts K, Davis S, & Ayala GX. (2012). **Communication during pediatric asthma visits and self-reported asthma medication adherence.** *Pediatrics*, 130(4):627-33.

OBJECTIVE: Our objectives were to examine how certain aspects of provider-patient communication recommended by national asthma guidelines (ie, provider asking for child and caregiver input into the asthma treatment plan) were associated with child asthma medication adherence 1 month after an audio-taped medical visit.
METHODS: Children ages 8 through 16 with mild, moderate, or severe persistent asthma and their caregivers were recruited at 5 pediatric practices in nonurban areas of North Carolina. All medical visits were audio-tape recorded. Children were interviewed 1 month after their medical visits, and both children and caregivers reported the child's control medication adherence. Generalized estimating equations were used to determine if communication during the medical visit was associated with medication adherence 1 month later.
RESULTS: Children (n = 259) completed a home visit interview ~1 month after their audio-taped visit, and 216 of these children were taking an asthma control medication at the time of the home visit. Children reported an average control medication adherence for the past week of 72%, whereas caregivers reported the child's average control medication adherence for the past week was 85%. Child asthma management self-efficacy was significantly associated with both child- and caregiver-reported control medication adherence. When providers asked for caregiver input into the asthma treatment plan, caregivers reported significantly higher child medication adherence 1 month later.
CONCLUSIONS: Providers should ask for caregiver input into their child's asthma treatment plan because it may lead to better control medication adherence.

Smith West D, DiLillo V, Bursac Z, Gore SA, & Greene PG. (2007). **Motivational interviewing improves weight loss in women with type 2 diabetes**. *Diabetes Care*, 30(5): 1081-1087.

OBJECTIVE: We sought to determine whether adding motivational interviewing to a behavioral weight control program improves weight loss outcomes and glycemic control for overweight women with type 2 diabetes.
RESEARCH DESIGN AND METHODS: We conducted a randomized, controlled, clinical trial in which participants all received an 18-month, group-based behavioral obesity treatment and were randomized to individual sessions of motivational interviewing or attention control (total of five sessions) as an adjunct to the weight control program. Overweight women with type 2 diabetes treated by oral medications who could walk for exercise were eligible. Primary outcomes were weight and A1C, assessed at 0, 6, 12, and 18 months.
RESULTS: A total of 217 overweight women (38% African American) were randomized (93% retention rate). Women in motivational interviewing lost significantly more weight at 6 months (P = 0.01) and 18 months (P = 0.04). Increased weight losses with motivational interviewing were mediated by enhanced adherence to the behavioral weight control program. African-American women lost less weight than white women overall and appeared to have a diminished benefit from the addition of motivational interviewing. Significantly greater A1C reductions were observed in those undergoing motivational interviewing at 6 months (P = 0.02) but not at 18 months.
CONCLUSIONS: Motivational interviewing can be a beneficial adjunct to behavioral obesity treatment for women with type 2 diabetes, although the benefits may not be sustained among African-American women.

Söderlund LL, Madson MB, Rubak S, & Nilsen P. (2011). **A systematic review of motivational interviewing training for general health care practitioners.** *Patient Education and Counseling*, 84(1): 16-26.

OBJECTIVE: This article systematically reviews empirical studies that have evaluated different aspects of motivational interviewing (MI) training for general health care professionals.
METHODS: Studies were obtained from several databases. To be included, the MI training had to be provided specifically for general health care practitioners for use in their regular face-to-face counselling. The training outcomes had to be linked to the MI training.
RESULTS: Ten studies were found. The median length of the training was 9 h. The most commonly addressed training elements were basic MI skills, the MI spirit, recognizing and reinforcing change talk, and rolling with resistance. Most studies involved follow-up training sessions. The study quality varied considerably. Five studies assessed training outcomes at a single point in time, which yields low internal validity. Four studies used random assignment of practitioners to the MI training and comparison conditions. The training generated positive outcomes overall and had a significant effect on many aspects of the participants' daily practice, but the results must be interpreted with caution due to the inconsistent study quality.
CONCLUSIONS: The generally favourable training outcomes suggest that MI can be used to improve client communication and counselling concerning lifestyle-related issues in general health care. However, the results must be interpreted with caution due to inconsistent methodological quality of the studies.
PRACTICE IMPLICATIONS: This review suggests that MI training outcomes are generally favourable, but more high-quality research is needed to help identify the best practices for training in MI.

Soureti A, Hurling R, van Mechelen W, Cobain M, & ChinAPaw M. (2012). **Moderators of the mediated effect of intentions, planning, and saturated-fat intake in obese individuals.** *Health Psychology*, 31(3): 371-379.

OBJECTIVE: The present study aimed to advance our understanding of health-related theory, that is, the alleged intention-behavior gap in an obese population. It examined the mediating effects of planning on the intention-behavior relationship and the moderated mediation effects of age, self-efficacy and intentions within this relationship.
METHOD: The study was conducted over a five-week period. Complete data from 571 obese participants were analyzed. The moderated mediation hypothesis was conducted using multiple-regression analysis. To test our theoretical model, intentions (Week 2), action self-efficacy (Week 2), maintenance self-efficacy (Week 5), planning (Week 5), and saturated-fat intake (Weeks 1 and 5) were measured by self-report.
RESULTS: As hypothesized, planning mediated the intention-behavior relationship for perceived (two-item scale) and percentage-saturated-fat intake (measured by a food frequency questionnaire). Age, self-efficacy, and intention acted as moderators in the above mediation analysis. In specific, younger individuals, those with stronger intention, and people with higher levels of maintenance self-efficacy at higher levels of planning showed greater reductions in their perceived saturated-fat intake.
CONCLUSIONS: For successful behavior change, knowledge of its mediators and moderators is needed. Future interventions targeting planning to change saturated-fat intake should be guided by people's intentions, age, and self-efficacy levels.

Spring B, Duncan JM, Janke EA, Kozak AT, McFadden HG, DeMott A, Pictor A, Epstein LH, Siddique J, Pellegrini CA, Buscemi J, & Hedeker D. (2013). **Integrating technology into standard weight loss treatment: A randomized controlled trial.** *Internal Medicine*, 173(2): 105-111.

BACKGROUND: A challenge in intensive obesity treatment is making care scalable. Little is known about whether the outcome of physician-directed weight loss treatment can be improved by adding mobile technology.
METHODS: We conducted a 2-arm, 12-month study (October 1, 2007, through September 31, 2010). Seventy adults (body mass index >25 and ≤40 [calculated as weight in kilograms divided by height in meters squared]) were randomly assigned either to standard-of-care group treatment alone (standard group) or to the standard and connective mobile technology system (+mobile group). Participants attended biweekly weight loss groups held by the Veterans Affairs outpatient clinic. The +mobile group was provided personal digital assistants to self-monitor diet and physical activity; they also received biweekly coaching calls for 6 months. Weight was measured at baseline and at 3-, 6-, 9-, and 12-month follow-up.
RESULTS: Sixty-nine adults received intervention (mean age, 57.7 years; 85.5% were men). A longitudinal intent-to-treat analysis indicated that the +mobile group lost a mean of 3.9 kg more (representing 3.1% more weight loss relative to the control group; 95% CI, 2.2-5.5 kg) than the standard group at each postbaseline time point. Compared with the standard group, the +mobile group had significantly greater odds of having lost 5% or more of their baseline weight at each postbaseline time point (odds ratio, 6.5; 95% CI, 2.5-18.6).
CONCLUSIONS: The addition of a personal digital assistant and telephone coaching can enhance short-term weight loss in combination with an existing system of care. Mobile connective technology holds promise as a scalable mechanism for augmenting the effect of physician-directed weight loss treatment.

Substance Abuse and Mental Health Services Administration, **Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings**, NSDUH Series H-41, HHS Publication No. (SMA) 11-4658. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2011.

Swerissen H, Belfrage J, Weeks A, Jordan L, Walker C, Furler J, McAvoy B, Carter M, & Peterson C. (2006). **A randomised control trial of a self-management program for people with a chronic illness from Vietnamese, Chinese, Italian and Greek backgrounds.** *Patient Education and Counseling*, 64(1-3): 360-368.

OBJECTIVE: This study investigated the effectiveness of the Chronic Disease Self-management Program (CDSMP) when delivered to for people from Vietnamese, Chinese, Italian and Greek backgrounds living in Victoria, Australia.
METHOD: The CDSMP was administered to 320 people with chronic illness(es) in selected low income areas in the State of Victoria, Australia. At 6 months, they were compared with randomised wait-list control subjects (n=154) using analyses of covariance.
RESULTS: Participants in the intervention group had significantly better outcomes on energy, exercise, symptom management, self-efficacy, general health, pain, fatigue and health distress. There were no significant effects for health services utilisation. Interactions across language groups were observed with the Vietnamese and Chinese speaking participants gaining greater benefit.

CONCLUSION: Self-management programs can be successfully implemented with culturally and linguistically diverse populations in Australia. Further research is needed to evaluate long-term outcomes; explore effects on service utilisation; and to determine whether the benefits obtained from participating in a self-management program can be maintained.
PRACTICE IMPLICATIONS: Self-management programs should be considered for people from culturally and linguistically diverse backgrounds. Care also needs to be taken in designing recruitment strategies to minimize withdrawal rates and to ensure harder to reach people are given encouragement to participate.

Tamblyn R, Abrahamowicz M, Dauphinee D, Wenghofer E, Jacques A, Klass D, Smee S, Eguale T, Winslade N, Girard N, Bartman I, Buckeridge D, & Hanley JA. (2010). **Influence of physicians' management and communication ability on patients' persistence with antihypertensive medication.** *Archives of Internal Medicine*, 170(12): 1064-1072.

BACKGROUND: Less than 75% of people prescribed antihypertensive medication are still using treatment after 6 months. Physicians determine treatment, educate patients, manage side effects, and influence patient knowledge and motivation. Although physician communication ability likely influences persistence, little is known about the importance of medical management skills, even though these abilities can be enhanced through educational and practice interventions. The purpose of this study was to determine whether a physician's medical management and communication ability influence persistence with antihypertensive treatment. **METHODS:** This was a population-based study of 13 205 hypertensive patients who started antihypertensive medication prescribed by a cohort of 645 physicians entering practice in Quebec, Canada, between 1993 and 2007.Medical Council of Canada licensing examination scores were used to assess medical management and communication ability. Population-based prescription and medical services databases were used to assess starting therapy, treatment changes, comorbidity, and persistence with antihypertensive treatment in the first 6 months.
RESULTS: Within 6 months after starting treatment, 2926 patients (22.2%) had discontinued all antihypertensive medication. The risk of nonpersistence was reduced for patients who were treated by physicians with better medical management (odds ratio per 2-SD increase in score, 0.74; 95% confidence interval, 0.63-0.87) and communication (0.88; 0.78-1.00) ability and with early therapy changes (odds ratio, 0.45; 95% confidence interval, 0.37-0.54), more follow-up visits, and nondiuretics as the initial choice of therapy. Medical management ability was responsible for preventing 15.8% (95% confidence interval, 7.5%-23.3%) of nonpersistence. **CONCLUSION:** Better clinical decision-making and data collection skills and early modifications in therapy improve persistence with antihypertensive therapy.

Thom DH, Ghorob A, Hessler D, De Vore D, Chen E, & Bodenheimer TA. (2013). **Impact of peer health coaching on glycemic control in low-income patients with diabetes: A randomized controlled trial.** *Annals of Family Medicine*, 11(2): 137-144.

PURPOSE: Peer health coaches offer a potential model for extending the capacity of primary care practices to provide self-management support for patients with diabetes. We conducted a randomized controlled trial to test whether clinic-based peer health coaching, compared with usual care, improves glycemic control for low-income patients who have poorly controlled diabetes.
METHOD: We undertook a randomized controlled trial enrolling patients from 6 public health clinics in San Francisco. Twenty-three patients with a glycated hemoglobin (HbA1C) level of less than 8.5%, who completed a 36-hour health coach training class, acted as peer coaches. Patients from the same clinics with HbA1C levels of 8.0% or more were recruited and randomized to receive health coaching (n = 148) or usual care (n = 151). The primary outcome was the difference in change in HbA1C levels at 6 months. Secondary outcomes were proportion of patients with a decrease in HbA1C level of 1.0% or more and proportion of patients with an HbA1C level of less than 7.5% at 6 months. Data were analyzed using a linear mixed model with and without adjustment for differences in baseline variables.
RESULTS: At 6 months, HbA1C levels had decreased by 1.07% in the coached group and 0.3% in the usual care group, a difference of 0.77% in favor of coaching (P = .01, adjusted). HbA1C levels decreased 1.0% or more in 49.6% of coached patients vs 31.5% of usual care patients (P = .001, adjusted), and levels at 6 months were less than 7.5% for 22.0% of coached vs 14.9% of usual care patients (P = .04, adjusted).
CONCLUSIONS: Peer health coaching significantly improved diabetes control in this group of low-income primary care patients.

Tierney S, Mamas M, Skelton D, Woods S, Rutter MK, Gibson M, Neyses L, & Deaton C. (2011). **What can we learn from patients with heart failure about exercise adherence? A systematic review of qualitative papers.** *Health Psychology*, 30(4): 401-410.

OBJECTIVES: Keeping physically active has been shown to bring positive outcomes for patients diagnosed with heart failure (HF). However, a number of individuals with this health problem do not undertake regular exercise. A review of extant qualitative research was conducted to explore what it can tell us about barriers and enablers to physical activity among people with HF.

METHODS: A systematic search, involving electronic databases and endeavors to locate gray literature, was carried out to identify relevant qualitative studies published from 1980 onward. Data from retrieved papers were combined using framework analysis. Papers read in full numbered 32, and 20 were included in the review. **RESULTS:** Synthesis of results from the 20 studies resulted in 4 main themes: Changing soma, negative emotional response, adjusting to altered status, and interpersonal influences. How individuals responded to their diagnosis and their altered physical status related to their activity levels, as did the degree of encouragement to exercise coming from family, friends, and professionals. These findings can be connected to the theory of behavioral change developed by Bandura, known as social cognitive theory (SCT).
CONCLUSIONS: SCT may be a useful framework for developing interventions to support patients with HF in undertaking and maintaining regular exercise patterns. Specific components of SCT that practitioners may wish to consider include self-efficacy and outcome expectancies. These were issues referred to in papers for the systematic review that appear to be particularly related to exercise adherence.

Tuah NAA, Amiel C, Qureshi S, Car J, Kaur B, & Majeed A. (2011). **Transtheoretical model for dietary and physical exercise modification in weight loss management for overweight and obese adults.** *Cochrane Database of Systematic Reviews,* Issue 10.

BACKGROUND: Obesity is a global public health threat. The transtheoretical model stages of change (TTM SOC) model has long been considered a useful interventional approach in lifestyle modification programmes, but its effectiveness in producing sustainable weight loss in overweight and obese individuals has been found to vary considerably.
OBJECTIVES: To assess the effectiveness of dietary and physical activity interventions based on the transtheoretical model, to produce sustainable weight loss in overweight and obese adults.
SEARCH STRATEGY: Studies were obtained from searches of multiple electronic bibliographic databases. Date of last search for *The Cochrane Library was* issue 10, 2010, for MEDLINE December 2010, for EMBASE January 2011 and for PSYCHINFO January 2011.
SELECTION CRITERIA: Trials were included if they fulfilled the following criteria: randomised controlled clinical trials using TTMSOC as a model, theoretical framework or guideline in designing lifestyle modification strategies, mainly dietary and physical exercise versus a comparison intervention of usual care; one of the outcome measures of the study was weight loss; and participants were overweight or obese adults.
DATA COLLECTION AND ANALYSIS: Two researchers independently applied the inclusion criteria to the identified studies and assessed risk of bias. Disagreement was resolved by discussion or by intervention of a third party. Descriptive analysis was conducted for the review.
MAIN RESULTS: A total of five studies met the inclusion criteria and a total of 3910 participants were evaluated. The total number of participants randomised to intervention groups was 1834 and 2076 were randomised to control groups. Overall risk of bias was high. The trials varied in length of intervention from six weeks to 24 months, with a median length of nine months. The intervention was found to have limited impact on weight loss (about 2 kg or less) and other outcome measures. There was no conclusive evidence for sustainable weight loss. However, TTM SOC and a combination of physical activity, diet and other interventions tended to produce significant outcomes (particularly change in physical activity and dietary intake). TTMSOC was used inconsistently as a theoretical framework for intervention in the trials. Death and weight gain are the two adverse events reported by the included trials. None of the trials reported health-related quality of life, morbidity, and costs as outcomes.
AUTHORS' CONCLUSIONS: TTM SOC and a combination of physical activity, diet and other interventions resulted in minimal weight loss, and there was no conclusive evidence for sustainable weight loss. The impact of TTM SOC as theoretical framework in weight loss management may depend on how it is used as a framework for intervention and in combination with other strategies like diet and physical activities.

van Osch L, Lechner L, Reubsaet A, Steenstra M, Wigger S, & de Vries H. (2009). **Optimizing the efficacy of smoking cessation contests: An exploration of determinants of successful quitting.** *Health Education Research*, 24(1): 54-63.

ABSTRACT: The present study describes the short- and long-term efficacy and program evaluation of a Quit and Win smoking cessation campaign, organized in The Netherlands. To be able to fine-tune smoking cessation contests to the needs of the target population, utilization, appreciation and efficacy of various contest elements were investigated. Data from 1551 Quit and Win participants and 244 control respondents were collected by web-based surveys at baseline (pre-contest) and 1 and 12 months after the contest. Demographic and contest predictors of successful quitting were determined by logistic regression analyses. Quit and Win proved to be an effective as well as highly appreciated program among participants. Conservative 1-month (35%) and continuous 12-month abstinence (12%) rates were significantly higher in Quit and Win participants than in the control group (1 month: 11%; continuous: 3%). Use of a supportive e-mail message service predicted short- and long-term abstinence. A buddy support system was the most used and highly appreciated cessation aid, and its

use significantly predicted short-term abstinence. Radio commercials and Internet advertisements were the most effective recruitment channels. Although non-exhaustive, implementation of the results and recommendations discussed in this study could lead to an increased use, appreciation and efficacy of future smoking cessation campaigns.

van Stralen MM, de Vries H, Mudde AN, Bolman C, & Lechner L. (2011). **The long-term efficacy of two computer-tailored physical activity interventions for older adults: Main effects and mediators.** *Health Psychology*, 30(4): 442-452.

OBJECTIVE: Low-cost (e.g., computer-tailored) interventions with sustained effects are needed to increase and maintain physical activity in older adults. This study examined the long-term efficacy of 2 computer-tailored physical activity interventions for older adults and its psychosocial and environmental mediators.

METHODS: A clustered randomized controlled trial (N = 1,971) was conducted that included 3 research arms: (a) basic computer-tailored print intervention, targeting psychosocial mediators; (b) environmentally computer-tailored print intervention, targeting psychosocial and environmental mediators; and (c) no-intervention control group. Interventions were developed using the intervention mapping approach and consisted of 3 computer-tailored letters delivered over 4 months. Questionnaires assessed the study outcomes (i.e., total weekly days and total weekly minutes of physical activity) at baseline and 12 months. Potential mediators (i.e., awareness, attitude, self-efficacy, intention, social influence, intrinsic motivation, self-regulation, and perceived environment) were assessed at baseline and at 3 or 6 months.

RESULTS: Multilevel regression analyses revealed that both interventions significantly changed total weekly days of physical activity compared with the control group, but only the environmentally computer-tailored print intervention significantly changed weekly minutes of physical activity. Multiple mediation models showed that the effects of both interventions on weekly days of physical activity were mediated by changes in awareness and intention.

CONCLUSIONS: Computer-tailored interventions were effective in inducing long-term behavioral changes in physical activity behavior of older adults. Awareness and intention were found to be important mediators of changing daily physical activity and should be included in future computer-tailored intervention studies.

Vervloet M, Linn AJ, van Weert JCM, de Bakker DH, Bouvy ML, & van Dijk L. (2011). **The effectiveness of interventions using electronic reminders to improve adherence to chronic medication: A systematic review of the literature.** *Journal of the American Medical Information Association,* doi:10.1136/amiajnl-2011-000748.

BACKGROUND: Many patients experience difficulties in adhering to long-term treatment. Although patients' reasons for not being adherent are diverse, one of the most commonly reported barriers is forgetfulness. Reminding patients to take their medication may provide a solution. Electronic reminders (automatically sent reminders without personal contact between the healthcare provider and patient) are now increasingly being used in the effort to improve adherence.

OBJECTIVE: To examine the effectiveness of interventions using electronic reminders in improving patients' adherence to chronic medication.

METHODS: A comprehensive literature search was conducted in PubMed, Embase, PsycINFO, CINAHL and Cochrane Central Register of Controlled Trials. Electronic searches were supplemented by manual searching of reference lists and reviews. Two reviewers independently screened all citations. Full text was obtained from selected citations and screened for final inclusion. The methodological quality of studies was assessed.

RESULTS: Thirteen studies met the inclusion criteria. Four studies evaluated short message service (SMS) reminders, seven audiovisual reminders from electronic reminder devices (ERD), and two pager messages. Best evidence synthesis revealed evidence for the effectiveness of electronic reminders, provided by eight (four high, four low quality) studies showing significant effects on patients' adherence, seven of which measured short-term effects (follow-up period <6 months). Improved adherence was found in all but one study using SMS reminders, four studies using ERD and one pager intervention. In addition, one high quality study using an ERD found subgroup effects.

CONCLUSION: This review provides evidence for the short-term effectiveness of electronic reminders, especially SMS reminders. However, long-term effects remain unclear.

Viswanathan M, Golin CE, Jones CD, Ashok M, Blalock S, Wines RCM, Coker-Schwimmer EJL, Grodensky CA, Rosen DL, Yuen A, Sista P, & Lohr KN. (2012). **Closing the quality gap: Revisiting the state of the science (Vol. 4: Medication adherence interventions: Comparative effectiveness).** *Evidence Reports/Technology Assessments*, No. 208.4.

OBJECTIVES: To assess the effectiveness of patient, provider, and systems interventions (Key Question [KQ] 1) or policy interventions (KQ 2) in improving medication adherence for an array of chronic health conditions. For interventions that are effective in improving adherence, we then assessed their effectiveness in improving health, health care utilization, and adverse events.

DATA SOURCES: MEDLINE®, the Cochrane Library. Additional studies were identified from reference lists and technical experts.

REVIEW METHODS: Two people independently selected, extracted data from, and rated the risk of bias of relevant trials and systematic reviews. We synthesized the evidence for effectiveness separately for each clinical condition, and within each condition, by type of intervention. We also evaluated the prevalence of intervention components across clinical conditions and the effectiveness of interventions for a range of vulnerable populations. Two reviewers graded the strength of evidence using established criteria.

RESULTS: We found a total of 62 eligible studies (58 trials and 4 observational studies) from our review of 3,979 abstracts. These studies included patients with diabetes, hyperlipidemia, hypertension, heart failure, myocardial infarction, asthma, depression, glaucoma, multiple sclerosis, musculoskeletal diseases, and multiple chronic conditions. Fifty-seven trials of patient, provider, or systems interventions (KQ 1) evaluated 20 different types of interventions; 4 observational studies and one trial of policy interventions (KQ 2) evaluated the effect of reduced out-of-pocket expenses or improved prescription drug coverage. We found the most consistent evidence of improvement in medication adherence for interventions to reduce out-of-pocket expenses or improve prescription drug coverage, case management, and educational interventions across clinical conditions. Within clinical conditions, we found the strongest support for self-management of medications for short-term improvement in adherence for asthma patients; collaborative care or case management programs for short-term improvement of adherence and to improve symptoms for patients taking depression medications; and pharmacist-led approaches for hypertensive patients to improve systolic blood pressure.

CONCLUSIONS: Diverse interventions offer promising approaches to improving medication adherence for chronic conditions, particularly for the short term. Evidence on whether these approaches have broad applicability for clinical conditions and populations is limited, as is evidence regarding long-term medication adherence or health outcomes.

Vitória PD, Salgueiro MF, Silva SA, & De Vries H. (2009). **The impact of social influence on adolescent intention to smoke: Combining types and referents of influence.** *British Journal of Health Psychology,* 14(4): 681-699.

OBJECTIVES: Theory and research suggest that the intention to smoke is the main determinant of smoking initiation and emphasizes the role of cognitive and social factors on the prediction of the intention to smoke. However, extended models such as the I-Change and results from published studies reveal inconsistencies regarding the impact of social influence on the intention to smoke. Possible explanations for this may be the definition and measurement of the constructs that have been used.

DESIGN AND METHODS: The current study was designed with two main goals: (i) to test a measurement model for social influence, combining different types of social influence (subjective norms, perceived behaviour, and direct pressure) with various referents of influence (parents, siblings, peers, and teachers); (ii) to investigate the impact of social influence on adolescent intention to smoke, controlling for smoking behaviour. LISREL was used to test these models. The sample includes 3,064 Portuguese adolescents, with a mean age of 13.5 years, at the beginning of the seventh school grade.

RESULTS: The hypothesized measurement model of social influence was supported by results and explained 29% of the variance of the intention to smoke. A more extended model, including attitude and self-efficacy, explained 55% of the variance of the intention to smoke. Perceived behaviour of peers, parental norms, and perceived behaviour of parents were the social influence factors with impact on adolescent intention to smoke. **CONCLUSIONS:** Results suggest that different referents exert their influence through distinct types of social influence and recommend further work on the definition and measurement of social influence.

Wagner C. (2012). **Client-centered direction: Or how to get there when you're not sure where you're going.** *Motivational Interviewing: Training, Research, Implementation, Practice,* 1(1).

Change is broader than behavior, and often starts before a goal or plan is conceived, with clients first opening up to the vague possibility of betterness. Collaboration is a hallmark of MI spirit, and therapeutic direction can be developed collaboratively in MI through the process of evokingclient values, desires, needs, hopes, and goals. Counselors may initially aspire to help clients find better lives, and narrow the focus to discrete change goals when specific client behaviors are collaboratively identified as obstacles to achieving a better life, or when absence of behaviors is identified as inhibiting progress toward it.

Wagner CC, & Ingersoll KS. (2012). **Motivational interviewing in groups.** The Guilford Press.

This book shows how to infuse the methods and spirit of motivational interviewing (MI) into group-based interventions. The authors demonstrate how the four processes of MI with individuals translate into group contexts. They explain both the challenges and the unique benefits of MI groups, guiding practitioners to build the skills they need to lead psychoeducational, psychotherapeutic, and support groups successfully. A wealth of clinical examples are featured. Chapters by contributing authors present innovative group applications targeting specific problems: substance use disorders, dual

diagnosis, chronic health conditions, weight management, adolescent risk behaviors, intimate partner violence, and sexual offending.

*Wagner EH, Austin BT, & Von Korff M. (1996). **Improving outcomes in chronic illness**. *Managed Care Quarterly*, 4(2): 12-25.

DESCRIPTION OF CONTEXT: Usual medical care often fails to meet the needs of chronically ill patients, even in managed, integrated delivery systems. The medical literature suggests strategies to improve outcomes in these patients.
TOPIC/SCOPE: Effective interventions tend to fall into one of five areas: the use of a protocol, reorganization of practice systems and provider roles, improved patient education, increased access to expertise, and greater availability of clinical information.
CONCLUSIONS/RECOMMENDATIONS: The challenge is to organize these components into an integrated system of chronic illness care.

*Wagner EH, Glasgow RE, Davis C, Bonomi AE, Provost L, McCulloch D, Carver P, & Sixta C. (2001). **Quality improvement in chronic illness care: A collaborative approach**. *The Joint Commission Journal on Quality Improvement*, 27(2): 63-80.

DESCRIPTION OF CONTEXT: Despite rapid advances in the clinical and psycho-educational management of diabetes, the quality of care received by the average patient with diabetes remains lackluster. The "collaborative" approach--the Breakthrough Series (BTS; Institute for Healthcare Improvement [IHI]; Boston)--coupled with a Chronic Care Model was used in an effort to improve clinical care of diabetes in 26 health care organizations.
TOPIC/SCOPE: Descriptive and pre-post data are presented from 23 health care organizations participating in the 13-month (August 1998-September 1999) BTS to improve diabetes care. The BTS combined the system changes suggested by the chronic care model, rapid cycle improvement, and evidence-based clinical content to assist teams with change efforts. The characteristics of organizations participating in the diabetes BTS, the collaborative process and content, and results of system-level changes are described.
CONCLUSIONS/RECOMMENDATIONS: Twenty-three of 26 teams completed participation. Both chart review and self-report data on care processes and clinical outcomes suggested improvement based on changes teams made in the collaborative. Many of the organizations evidencing the largest improvements were community health centers, which had the fewest resources and the most challenged populations.
DISCUSSION: The initial Chronic Illness BTS was sufficiently encouraging that replication and evaluation of the BTS collaborative model is being conducted in more than 50 health care systems for diabetes, congestive heart failure, depression, and asthma. This model represents a feasible method of improving the quality of care across different health care organizations and across multiple chronic illnesses

Weng, LC, Dai YT, Huang HL, & Chiang YJ. (2010). **Self-efficacy, self-care behaviours and quality of life of kidney transplant recipients.** *Journal of Advanced Nursing*, 66(4): 828-838.

AIM: This paper is a report of an exploration of the effects of self-efficacy and different dimensions of self-management on quality of life among kidney transplant recipients.
BACKGROUND: Self-efficacy is an important factor influencing self-management. Patients with higher self-efficacy have better self-management and experience better quality of life. Self-efficacy influences the long-term medication-taking behaviour of kidney transplant recipients.
METHOD: A longitudinal, correlational design was used. Data were collected during 2005-2006 with 150 adult kidney transplant recipients on self-efficacy, self-management and quality of life using a self-efficacy scale, self-management scale and the Medical Outcomes Scale SF-36 (Chinese), respectively. Relationships among variables were analysed by path analysis.
RESULTS: Participants with higher self-efficacy scored significantly higher on the problem-solving ($\beta = 0{\cdot}51$), patient-provider partnership ($\beta = 0{\cdot}44$) and self-care behaviour ($\beta = 0{\cdot}55$) dimensions of self-management. Self-efficacy directly influenced self-care behaviour and indirectly affected the mental health component of quality of life (total effect = 0·14). Problem-solving and partnership did not statistically significantly affect quality of life. Neither self-efficacy nor self-management had any effect on the physical health component of quality of life. **CONCLUSION:** Transplant care teams should incorporate strategies that enhance self-efficacy, as proposed by social cognitive theory, into their care programmes for kidney transplant recipients. Interventions to maintain and improve patients' self-care behaviour should continue to be emphasized and facilitated. Support to enhance patients' problem-solving skills and the partnership of patients with health professionals is needed.

Westra HA, Aviram A, & Doell FK. (2011). **Extending motivational interviewing to the treatment of major mental health problems: Current directions and evidence.** *Canadian Journal of Psychiatry*, 56(11): 643-650.

Motivational interviewing (MI) was originally developed for the treatment of substance abuse but is rapidly expanding to other major mental health populations beyond addictions. This brief review considers the use of MI and related motivational enhancement therapies (METs) in the treatment of anxiety, depression, and eating disorders, and concurrent psychosis and substance use disorders. MI–MET has been added and (or) integrated into treatment for these problems in a wide variety of ways, most commonly as a pretreatment to other therapies (psychosocial treatments and pharmacotherapy) or integrated into standard assessment procedures. In each problem domain, the bulk of the current evidence supports the value of adding MI to existing therapies in increasing engagement with treatment and in improving clinical outcomes. This is particularly encouraging in that many of the populations included in these investigations represent severe and treatment-recalcitrant populations. However, research on the application of MI to other major mental health problems beyond addictions is in the early stages, with existing studies having numerous limitations (for example, small uncontrolled studies or lack of adequate control groups, and failure to establish both MI treatment integrity and the unique contribution of MI in integrated treatments). In short, the substantial body of promising preliminary findings strongly support the continued investigation of MI and related methods for these populations in well-designed clinical trials that examine not only the additive value of MI but also mechanisms underlying these effects and individual differences (moderators) indicating the need for MI.

Westra HA. (2012). **Motivational interviewing in the treatment of anxiety.** Guilford Press.

This book provides strategies for helping therapy clients with anxiety resolve ambivalence and increase their intrinsic motivation for change. The author shows how to infuse the spirit and methods of motivational interviewing (MI) into cognitive-behavioral therapy or any other anxiety-focused treatment. She describes specific ways to use MI as a pretreatment intervention or integrate it throughout the course of therapy whenever motivational impasses occur. Vivid clinical material--including a chapter-length case example of a client presenting with anxiety and depression--enhances the utility of this accessible guide.

Whitlock EP, Polen MR, Green CA, Orleans T, Klein J, & U.S. Preventive Services Task Force. (2004). **Behavioral counseling interventions in primary care to reduce risky/harmful alcohol use by adults: A summary of the evidence for the U.S. preventive services task force.** *Annals of Internal Medicine*, 140(7): 557-568.

BACKGROUND: Primary health care visits offer opportunities to identify and intervene with risky or harmful drinkers to reduce alcohol consumption.

Purpose: To systematically review evidence for the efficacy of brief behavioral counseling interventions in primary care settings to reduce risky and harmful alcohol consumption.

DATA SOURCES: Cochrane Database of Systematic Reviews, Database of Research Effectiveness (DARE), MEDLINE, Cochrane Controlled Clinical Trials, PsycINFO, HealthSTAR, CINAHL databases, bibliographies of reviews and included trials from 1994 through April 2002; update search through February 2003.

Study Selection: An inclusive search strategy (alcohol* or drink*) identified English-language systematic reviews or trials of primary care interventions to reduce risky/harmful alcohol use. Twelve controlled trials with general adult patients met our quality and relevance inclusion criteria.

DATA EXTRACTION: Investigators abstracted study design and setting, participant characteristics, screening and assessment procedures, intervention components, alcohol consumption and other outcomes, and quality-related study details.

DATA SYNTHESIS: Six to 12 months after good-quality, brief, multicontact behavioral counseling interventions (those with up to 15 minutes of initial contact and at least 1 follow-up), participants reduced the average number of drinks per week by 13% to 34% more than controls did, and the proportion of participants drinking at moderate or safe levels was 10% to 19% greater compared with controls. One study reported maintenance of improved drinking patterns for 48 months.

CONCLUSIONS: Behavioral counseling interventions for risky/harmful alcohol use among adult primary care patients could provide an effective component of a public health approach to reducing risky/harmful alcohol use. Future research should focus on implementation strategies to facilitate adoption of these practices into routine health care.

Wiles R, & Kinmonth AL. (2001). **Patients' understanding of heart attack: Implications for prevention of recurrence**. *Patient Education and Counseling*, 44(2): 161-169.

Patients' willingness to undertake secondary preventive strategies following heart attack are likely to be affected by their understandings of their condition. This qualitative study explored patients' understandings of heart attack in order to contribute to the design of effective secondary prevention services. In-depth interviews were conducted with 25 patients with myocardial infarction (MI). These data indicate that information received from health professionals encourages patients to view heart attack as an acute event rather than a symptom of a chronic condition and that this understanding provides patients with low motivation for long-term lifestyle change. Patients may benefit from understanding a heart attack as an

acute symptom of an underlying disease process which long-term medication and behavioural change can help to check. In order to achieve this, health professionals need to examine patients' understandings of their heart attack and recovery and to provide information about lifestyle which engages with these understandings.

*Williams GC, Deci EL, & Ryan RM. (1998). **Building partnerships by supporting autonomy: Promoting maintained behavior change and positive health outcomes**. In: A. Suchman et al. (eds), Partnerships in healthcare. Rochester, NY: University of Rochester Press, 68-87.

DESCRIPTION OF CONTEXT: Application of self-determination theory and autonomy support in facilitating behavior change for health reasons.

TOPIC/SCOPE: Most current theories of motivation focus on the direction of behavior toward desired outcomes and are not concerned with the energization of behavior (why certain outcomes are desired). According to the self-determination theory, there are three psychological needs in human life (needs for competence, relatedness, and autonomy) that facilitate the direction and energization of motivation, behavior, and outcome. The need for autonomy emanates from the self and thus implies choice and self-determination rather than control. Behaviors become autonomous through the process of integration and internalization. Internalization entails the patient transforming external regulatory processes into internal regulatory processes. Through internalization, regulation that initially resides in the urgings of a health professional can be assumed by the patient. Integration involves bringing an internalized regulation or value into harmony with other aspects of one's self.

CONCLUSIONS/RECOMMENDATIONS: When patients behave for autonomous reasons, (rather than controlled reasons) they will be more successful in long term maintenance of behavior change which, in turn, will have positive health consequences. When patients are genuinely supported for making their own choices, they will be more likely to choose the behaviors that are in their best interest.

*Williams GC, Freedman ZR, & Deci EL. (1998). **Supporting autonomy to motivate patients with diabetes for glucose control**. *Diabetes Care*, 21(10): 1644-1651.

DESCRIPTION OF CONTEXT: Application of the self-determination theory of human motivation to examine whether patient perceptions of autonomy supportiveness (i.e., patient centeredness) from their diabetes care providers related to improved glucose control over a 12-month period.

TOPIC/SCOPE: A prospective cohort study of patients with diabetes from a diabetes treatment center at a university-affiliated community hospital. Participants were 128 patients between 18 and 80 years of age who took medication for diabetes, had no other major medical illnesses, and were responsible for monitoring their glucose and taking their medications. The main outcome measure was a change in HbA1c values over the 12 months of the study.

CONCLUSIONS/RECOMMENDATIONS: Patient perception of autonomy support from a health care provider related to a change in HbA1c values at 12 months ($P < 0.05$). Further analyses showed that perceived autonomy support from the staff related to significant increases in patient autonomous motivation at 12 months ($P < 0.05$); that increases in autonomous motivation related to significant increases in perceived competence ($P < 0.05$); and that increases in a patient's perceived competence related to significant reductions in their HbA1c values over 12 months ($P < 0.001$). The findings support the prediction of the self-determination theory that patients with diabetes whose health care providers are autonomy supportive will become more motivated to regulate their glucose levels, feel more able to regulate their glucose, and show improvements in their HbA1c values.

Wilson A, Agarwal S, Bonas S, Murtagh G, Coleman T, Taub N, Chernova J. (2010). **Management of smokers motivated to quit: A qualitative study of smokers and GPs.** *Family Practice*, 27(4): 404-409.

BACKGROUND: The National Institute for Health and Clinical Excellence (NICE) guidelines state that GPs should manage smokers motivated to quit by offering referral to Stop Smoking Services (SSS) and that nicotine addiction treatment (NAT) should be offered only to those who decline referral.

OBJECTIVE: To explore how smokers motivated to quit are managed in the GP consultation, specifically how treatment and referral are negotiated from the perspectives of both parties.

METHODS: Twenty patients, identified in a consultation with their GP as motivated to quit smoking, and 10 participating GPs were interviewed. Interviews were recorded, transcribed, coded and analysed using the framework approach.

RESULTS: Three strategies (treatment and follow-up by the GP, referral to SSS without treatment and immediate treatment with referral for follow-up) were evidenced in patient and GP accounts. Most patients were satisfied with their management and how this was negotiated, but some expressed surprise or dissatisfaction with lack of immediate treatment and questioned the need for referral to SSS. GPs welcomed the availability of SSS but some felt it important that they themselves

also continued to support a quit attempt. Several saw advantages in offering NAT at the time the patient was motivated to stop.

CONCLUSIONS: Smokers appear less convinced than GPs about the value of referral to SSS, although these differences may be resolved through negotiation. An alternative strategy to that proposed by NICE, which may be more acceptable to some smokers, is immediate treatment with subsequent support from SSS.

Wong CL, & Mullan BA. (2009). **Predicting breakfast consumption: An application of the theory of planned behaviour and the investigation of past behaviour and executive function.** *British Journal of Health Psychology*, 14(3): 489-504.

OBJECTIVES: The objective of the current study is to examine the determinants of breakfast consumption with the application of the Theory of Planned Behaviour (TPB; 1991) and investigate the additional variables of past behaviour and executive function.

DESIGN: A prospective 1-week study investigating the predictive ability of TPB variables, past behaviour and executive function was utilized.

METHODS: Ninety-six participants were administered two measures of executive function (response inhibition and planning) and completed self-report questionnaires regarding their attitudes, subjective norms, perceived control, intentions and past behaviour of breakfast consumption. One week later, participants returned a follow-up questionnaire on their behaviour.

RESULTS: The result of the study showed that the TPB significantly predicted intentions and prospective behaviour of breakfast consumption, however, past behaviour was found to be the strongest predictor of future behaviour. Considering executive function, response inhibition was not found to predict behaviour, however, planning ability explained unique variance in behaviour and moderated the association between intention and behaviour.

CONCLUSIONS: The findings support the use of the TPB in explaining breakfast eating habits, and suggest that executive function of planning may be somewhat useful to predict this behaviour. The significance of past behaviour also suggests that breakfast consumption may commonly be a stable, habitual behaviour that may undermine the need for self-regulation. Implications for creating behavioural-change interventions are discussed.

Wright JA, Velicer WF, & Prochaska JO. (2009). **Testing the predictive power of the transtheoretical model of behavior change applied to dietary fat intake.** *Health Education Research*, 24(2): 224-236.

This study evaluated how well predictions from the transtheoretical model (TTM) generalized from smoking to diet. Longitudinal data were used from a randomized control trial on reducing dietary fat consumption in adults (*n* 1207) recruited from primary care practices. Predictive power was evaluated by making *a priori* predictions of the magnitude of change expected in the TTM constructs of temptation, pros and cons, and 10 processes of change when an individual transitions between the stages of change. Generalizability was evaluated by testing predictions based on smoking data. Three sets of predictions were made for each stage: Precontemplation (PC), Contemplation (C) and Preparation (PR) based on stage transition categories of no progress, progress and regression determined by stage at baseline versus stage at the 12-month follow-up. Univariate analysis of variance between stage transition groups was used to calculate the effect size [omega squared (^{2})]. For diet predictions based on diet data, there was a high degree of confirmation: 92%, 95% and 92% for PC, C and PR, respectively. For diet predictions based on smoking data, 77%, 79% and 85% were confirmed, respectively, suggesting a moderate degree of generalizability. This study revised effect size estimates for future theory testing on the TTM applied to dietary fat.

E-Resources

Alston C, Paget L, Halvorsen G, et al. (2012). **Communicating with patients on health care evidence.**
http://www.iom.edu/~/media/Files/Perspectives-Files/2012/Discussion-Papers/VSRT-Evidence.pdf

A 2012 nation-wide study of 1,068 adults conducted by Consumer Reports National Research Center for the Institute of Medicine's Evidence Communication Innovation Collaborative showed that patients are willing to become more involved in their healthcare, if only they are able to receive more information from their providers to help them make decisions. Ninety percent of surveyed patients said they wanted their clinicians to offer them options--not only their best recommendation--for making a decision, but far fewer people actually received this information from their clinicians.

American Medical Association. (2012). **Physician resource guide to patient self-management support.**
http://www.ama-assn.org/ama1/pub/upload/mm/433/phys-resource-guide.pdf

The "Physician resource guide to patient self-management support" introduces patient self-management support concepts and presents selected resources and practice implementation tools. The resource guide builds on existing information in the field of patient self-management. It is organized to direct physicians to resources that will help them implement cost-effective techniques at various levels of the health care system in order to help patients achieve better health outcomes and increase their quality of life.

Bodenheimer T, & Abramowitz S. (2010). **Helping patients help themselves: How to implement self-management support**. California HealthCare Foundation.
http://www.chcf.org/publications/2010/12/helping-patients-help-themselves#ixzz20istOQtY

Self-management support for patients with chronic illness is a routine function of clinical care in many primary care organizations. This report describes a number of models that have been successful in involving these patients in a well-planned and efficient way.

Bodenheimer T, MacGregor K, & Shafiri C. (2005). **Helping patients manage their chronic conditions.**
http://www.chcf.org/publications/2005/06/helping-patients-manage-their-chronic-conditions#ixzz20iuiVO82

This report describes five interlocking strategies that help clinicians and caregivers work with patients to help them manage their own chronic conditions. It also reviews literature describing the effectiveness of self-management support methods. Self-management support is the assistance caregivers give patients to encourage daily decisions that improve health-related behaviors and clinical outcomes. Self-management support includes a portfolio of techniques and tools that help patients choose healthy behaviors. But it also encompasses a fundamental transformation of the patient-caregiver relationship into a collaborative partnership. This report describes five interlocking strategies that help caregivers work successfully within the collaborative model. It also reviews literature describing the effectiveness of self-management support methods. Successful and appropriate self-management support is a challenge for primary care practices, the report concludes. Development of a collaborative team that includes non-physician caregivers working with physicians — combined with care innovations such as group settings and the use of interactive phone messaging systems, personal digital assistants (PDAs), and Web-based software — may aid in successful chronic disease self-management.

California HealthCare Foundation. (2009). **Participatory health: Online and mobile tools help chronically ill manage their care.**
http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/P/PDF%20ParticipatoryHealthTools.pdf
This publication focuses on the development of online and mobile applications that can help individuals manage their chronic conditions.

Centers for Disease Control and Prevention (CDC). (2012) **Chronic disease prevention and health promotion.**
http://www.cdc.gov/chronicdisease/index.htm

Chronic diseases – such as heart disease, stroke, cancer, diabetes, and arthritis – are among the most common, costly, and preventable of all health problems in the U.S. This website includes information about chronic diseases and health promotion, statistics and tracking, and tools and resources.

Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. (May 2012). **Health, United States, 2011**.
http://www.cdc.gov/nchs/data/hus/hus11.pdf

The *Health, United States* series presents an annual look at the national trends in health statistics. The report contains at Chartbook that assesses the nation's health by presenting trends and current information on selected measure of morbidity, mortality, health care utilization, health risk factors, prevention, health insurance, and personal health care expenditures.

de Silva D. (2011). **Evidence: Helping people help themselves. A review of the evidence considering whether it is worthwhile to support self-management.** (ISBN: 978-1-906461-26-3). London, UK: The Health Foundation.
http://www.health.org.uk/public/cms/75/76/313/2434/Helping%20people%20help%20themselves%20publication.pdf?realName=03JXkw.pdf

This report compiles evidence about the effects of supporting self-management on people's quality of life, clinical outcomes and health service use. Reviewers searched more than 10 bibliographic databases for research evidence published up until September 2010. More than 100,000 reports were scanned and the findings from over 550 high quality studies are included in the review. It does not aim to be exhaustive but instead provides an easy to use compilation of up to date evidence.

Evidence suggests that supporting self-management works. Supporting people to look after themselves can improve their motivation, the extent to which they eat well and exercise, their symptoms and clinical outcomes and can even change how they use health services. A wide range of initiatives are described as 'self-management support' and some may be more effective than others. Many different types of support are important components of the jigsaw needed to encourage self-management, but information provision alone is unlikely to be sufficient to motivate behaviour change and improve outcomes.

Government of Canada. (2008). **The chronic disease risk factor atlas.**
http://www.phac-aspc.gc.ca/cd-mc/atlas/index-eng.php

The Chronic Disease Risk Factor Atlas provides information on major chronic disease risk factors with national trends over time, age-specific prevalence estimates, and maps of the prevalence of risk factors in health regions across the country using data from the Statistics Canada Canadian Community Health Surveys (2005 and 2003).

Diabetes Quebec and Canadian Diabetes Association (2011). **Diabetes: Canada at the tipping point**
http://www.diabetes.ca/documents/get-involved/WEB_Eng.CDA_Report_.pdf

The Canadian Diabetes Association, in partnership with Diabète Québec, has released Diabetes: Canada at the Tipping Point – Charting a New Path, a report which assesses the burden of diabetes and government response across Canada.

Health Council of Canada. (2012). **Self-management support for Canadians with chronic health conditions: A focus for primary health care.**
http://healthcouncilcanada.ca/tree/HCC_SelfManagementReport_FA.pdf

Approximately half of all Canadians are living with at least one chronic health condition, and more than one in four Canadians report having two or more chronic conditions. Many will live well and long despite having a long-term health concern, but others will not. This report is about how we can ensure a better quality of life for all.
This report highlights success factors, barriers, innovative practices, opportunities, and resources to advance the delivery of self-management support, through better integration with primary health care and community-based services and through continued research in key areas.

Health Games Research: Advancing effectiveness of interactive games for health. http://www.healthgamesresearch.org

Health Games Research is a US national program that provides scientific leadership and resources to advance the research, design, and effectiveness of digital games and game technologies that promote health. It is funded by the Robert Wood Johnson Foundation's Pioneer Portfolio and headquartered at the University of California, Santa Barbara. The Pioneer Portfolio supports innovative projects that may lead to breakthroughs in the future of health and health care. This website includes a database of health games research, publications, resources.

Heisler M. (2006). **Building peer support programs to manage chronic disease: Seven models for success.**
http://www.chcf.org/publications/2006/12/building-peer-support-programs-to-manage-chronic-disease-seven-models-for-success#ixzz20itq474X

Group visits, peer coaches, phone and Internet support, and self-management training are some of the peer support programs that are found to be as effective as they are affordable in managing chronic diseases. Research shows that when chronically ill patients fail to follow recommended treatment — by not adhering to medication regimens or diet and exercise programs, for example — their health suffers, sometimes significantly. However, when patients get the support they need to

master and sustain self-management, there are potential benefits for both individual health and the overall health care system. This CHCF-funded report explores peer support as a tool for improving the self-management of chronic diseases and finds that well-designed peer support interventions can be as effective as they are affordable. The report provides an overview of seven peer support models, including case studies and information on costs and reimbursements. The selected models cover support strategies that include professional-led group visits, peer mentors, reciprocal peer partnerships, and email- or web-based exchanges. The author concludes that there is still much to learn about what makes programs effective, including how best to integrate peer support interventions into other clinical services. To offer a guide, the report includes lessons and recommendations for developing, implementing, and evaluating peer support interventions.

Improving Chronic Illness Care
http://www.improvingchroniccare.org

ICIC's goal is to better the health of chronically ill patients by helping health systems, especially those that serve low-income populations, improve their care through implementation of the Chronic Care Model (CCM). The CCM was developed at the McColl Institute for Healthcare Innovation. This website includes resources, toolkits, and bibliographies developed by ICIC.

International Diabetes Federation (IDF). (5th ed.). (2011). **IDF Diabetes Atlas**. Brussels, Belgium.
http://www.idf.org/diabetesatlas

The Atlas is the most up-to-date global report on diabetes, covering all aspects of the disease from epidemiology to health economics and education. The evidence presented in previous editions of the IDF Diabetes Atlas has been used widely by news media, governments, and international organisations such as the World Bank, the World Health Organization, the Organisation for Economic Co-operation and Development, and the World Economic Forum. Estimates from the 4th edition were instrumental in providing the evidence to drive the unanimous adoption of the resolution for the September 2011 UN High-level Meeting on Non-communicable Diseases. This summit will ensure that non-communicable diseases such as diabetes will no longer simply be a footnote on the global health agenda. In this edition of the IDF Diabetes Atlas, the estimated number of adults living with diabetes has soared to 366 million, representing 8.3% of the global adult population. This number is projected to increase to 552 million people by 2030, or 9.9% of adults, which equates to approximately three more people with diabetes every 10 seconds. These estimates are considerably higher than those reported in the 4th edition, largely due to new data available from China, the Middle East, and Africa. The estimates confirm that diabetes continues to disproportionately affect the socially disadvantaged, and is increasing especially rapidly in low- and middle-income countries. The main drivers of the epidemic are economic development and urbanisation, which bring changes in lifestyle, and increasing life expectancy. The health systems in many of these countries are not currently equipped to meet the rising demand of diabetes and non-communicable diseases. The Diabetes Atlas will be used by the World Diabetes Foundation, the International Diabetes Federation and the World Health Organization to communicate the global impact of diabetes and underline the need for immediate intervention from governments, healthcare professionals, international health organisations and other bodies. The Diabetes Atlas is a unique resource on diabetes for a wide range of audiences including decision-makers, public health authorities, health organizations, healthcare professionals, the pharmaceutical industry, and media. It covers a wide spectrum of topics, from epidemiology to economics.

Motivational Interviewing
www.motivationalinterview.org

The materials included on this website are designed to facilitate the dissemination, adoption and implementation of MI among clinicians, supervisors, program managers and trainers, and improve treatment outcomes for clients with substance use disorders.

Motivational Interviewing Network of Trainers (MINT):
http://www.motivationalinterviewing.org

This website provides resources for those seeking information on Motivational Interviewing. It includes general information about the approach, as well as links, training resources, and information on reprints and recent research. In addition to the contributions of Professors Miller and Rollnick, the site has benefited from the input of several members of the Motivational Interviewing Network of Trainers (MINT), and hosts information about the MINT organization. In addition to providing information on Motivational Interviewing, the site serves as a resource for agencies or organizations who wish to find a skilled and knowledgeable trainer to assist them in implementing or supplementing current motivational services.

MITRIP (Motivational Interviewing: Training, Research, Implementation, Practice) commenced publishing two issues per year (April and October) of an online journal in 2012 which contain a variety of formal and informal articles pertaining to the

practice and training of motivational interviewing, and the activities of the international Motivational Interviewing Network of Trainers.

Registered Nurses' Association of Ontario. (2010). **Strategies to support self-management in chronic conditions: Collaboration with clients.** Best Practice Guidelines, Sept 2010.
http://rnao.ca/sites/rnao-ca/files/Strategies_to_Support_Self-Management_in_Chronic_Conditions_-_Collaboration_with_Clients.pdf

The purpose of this guideline is to provide evidence-based recommendations for Registered Nurses and Registered Practical Nurses in self-management support. These recommendations identify strategies and interventions that enhance an individual's ability to manage their chronic health condition. It is intended for nurses who work in a variety of practice settings across the continuum of care. It is acknowledged that the practitioner's knowledge, skills, attitudes, critical analysis and decision making vary and are enhanced over time by experience and education. It is acknowledged that effective health care depends on a coordinated interprofessional approach incorporating ongoing communication between health professionals and clients/families. A client is a person or persons with whom the nurse is engaged in a professional therapeutic relationship. In most circumstances, the client is an individual but in some circumstances (e.g., in practice settings where family-centred care occurs) the client can include family members and/or substitute decision-makers of the individual client (RNAO, 2006). Regardless of the role, whether directly or indirectly involved with individual clients, all nurses are responsible for providing ethical care or service within College of Nurses of Ontario (CNO) standards and this is reflected within the RNAO Best Practice Guidelines. Best practice guidelines are systematically developed statements to assist practitioners' and clients' in making decisions about appropriate health care (Field & Lohr, 1990). This best practice guideline focuses on assisting nurses in adult practice settings. This is not meant to exclude the paediatric client, but children have special assessment needs related to developmental stages that are beyond the scope of this guideline. However, an assessment of the individual's cognitive and physical capabilities should be taken into consideration regardless of age.

Sarasohn-Kahn J. (2008). **The wisdom of patients: Health care meets online social media.** Prepared for the California HealthCare Foundation.
http://www.chcf.org/publications/?page=28#ixzz20ul8WLXu

This iHealth Report takes a close look at social media, who uses it and why, what its impact is on the health of consumers, and how health care organizations can take advantage of it to manage the care of their populations.

Sarasohn-Kahn J. (2009). **Participatory health: Online and mobile tools help chronically ill manage their care**. THINK-Health.
http://www.chcf.org/publications/2009/09/participatory-health-online-and-mobile-tools-help-chronically-ill-manage-their-care#ixzz20ivGseVF

Of the $2.2 trillion in US health care spending in 2007, 75% ($1.7 trillion) went to care for patients with chronic conditions. Despite this staggering expenditure, there are pervasive problems with the quality of chronic disease care. Chronic disease is most effectively managed through frequent, near-continuous monitoring. Yet many patients spend only a few minutes a year with their clinicians. According to the National Council on Aging, a third of all chronically ill people say they leave a doctor's office or hospital feeling confused about what they should do to manage their disease, and 57% report that their providers have not asked whether they have anyone to help implement a care plan at home. New technology tools are emerging to bridge these gaps. This report describes some of the online and mobile platforms and applications that can assist patients in managing their health care — not only at home, but almost anywhere outside their clinician's office. Sources include extensive interviews with stakeholders in the field, whose views and experiences are presented throughout the report.

Self-management toolkit: A resource for health care professionals.
www.selfmanagementtookkit.ca

This online toolkit provides instruction modules for clinicians on how to deliver self-management support (SMS) to patients. Three modules teach clinicians to:

- Assess how patients are managing their conditions
- Assist patients in setting behavioral goals
- Assist patients with following action plans

The toolkit is based on a manual by Gina Tomaszewski and Christina O'Callaghan titled "Self- Management in Theory and Practice: A Guide for Healthcare Providers (2011)."

Sobell & Sobell. (2008). **Motivational interview strategies and techniques: Rationales and examples.**
www.nova.edu/gsc/forms/mi_rationale_techniques.pdf

Stanford model for chronic disease self-management website: http://patienteducation.stanford.edu/programs/cdsmp.html
http://stanfordchroniccaresystem.com/index.html

This website describes the Chronic Disease Self-Management Program developed at Stanford University and includes training and outcome information, bibliographies, and evaluation tools.

Team Up for Health
http://www.teamupforhealth.org

Choices and Changes was one intervention of a multi-pronged intervention funded by the California HealthCare Foundation.

This website was produced for the **Team Up for Health** initiative to capture the experiences and knowledge gained by Team Up for Health grantees. Many health care providers are moving toward a "shared care" model where clinicians, staff, patients, and families collaborate to improve chronic disease care. Teams, which include patients and families, work together to identify changes that lead to better management of chronic conditions. This team-based model is central to Team Up for Health, a 30-month, $2.86-million CHCF initiative that enabled a cohort of four community clinics, one public hospital clinic, and one commercial medical group to work on improving self-management support and engaging patients and families in improving the delivery of care for people with chronic conditions before, during, and after the medical visit.

The web site includes nine video collages of interviews with providers, patients and chronic care leaders, as well as a plethora of tools, articles, and approaches to engage patients and families in their own care and improve the practice as a whole. The web site is organized into four sections as indicated by the titles of the four colored panels. The section titled "transformation" includes references to the Choices and Change's "communications training."

The California HealthCare Foundation. (2008). **Coaching patients for successful self-management [**video**]**
http://www.chcf.org/publications/2008/08/video-on-coaching-patients-for-successful-selfmanagement
This 14-minute video discusses how to develop an action plan to support healthy behavior change, and how to ensure patients are taking medications appropriately. Patients are coached on the skills they need to be active participants in their own care. The material is presented by Tom Bodenheimer, MD, of the University of California, San Francisco, and San Francisco General Hospital.

World Health Organization (WHO) and Public Health Agency of Canada. (2005).**Preventing chronic diseases a vital investment.**
http://www.who.int/chp/chronic_disease_report/full_report.pdf

This report shows that the impact of chronic diseases in many low and middle income countries is steadily growing. It is vital that the increasing importance of chronic disease is anticipated, understood and acted upon urgently. This requires a new approach by national leaders who are in a position to strengthen chronic disease prevention and control efforts, and by the international public health community. As a first step, it is essential to communicate the latest and most accurate knowledge and information to front-line health professionals and the public at large.

Patient/Client Resources

Edwards L. (2013). **In the kingdom of the sick: A social history of chronic illness in America.**

Thirty years ago, Susan Sontag wrote, "Everyone who is born holds dual citizenship in the kingdom of the well and the kingdom of the sick ... Sooner or later each of us is obliged, at least for a spell, to identify ourselves as citizens of that other place." Now more than 133 million Americans live with chronic illness, accounting for nearly three-quarters of all health care dollars, and untold pain and disability. There has been an alarming rise in illnesses that defy diagnosis through clinical tests or have no known cure. Millions of people, especially women, with illnesses such as irritable bowel syndrome, chronic pain, and chronic fatigue syndrome face skepticism from physicians and the public alike. And people with diseases as varied as cardiovascular disease, HIV, certain cancers, and type 2 diabetes have been accused of causing their preventable illnesses through their lifestyle choices. We must balance our faith in medical technology with awareness of the limits of science, and confront our throwback beliefs that people who are sick have weaker character than those who are well. Through research and patient narratives, health writer Laurie Edwards explores patient rights, the role of social media in medical advocacy, the origins of our attitudes about chronic illness, and much more.

Norcross JC, Loberg K, & Norcross J. (2012). **Changeology: 5 steps to realizing your goals and resolutions**. Simon & Shuster.

Change is hard. But not if you know the 5-step formula that works whether you're trying to stop smoking or start recycling. Dr. John C. Norcross, an internationally recognized expert, has studied how people make transformative, permanent changes in their lives. Over the past thirty years, he and his research team have helped thousands of people overcome dozens of behavioral ailments. Now his cutting-edge, scientific approach to personal improvement is being made available in this indispensable guide.

Patterson K, Grenny J, Maxfield D, & McMillan R. (2011). **Change anything: The new science of personal success**. *Business Plus*, Apr 11 2011.

A new approach to how individuals can not only change their lives for the better in the workplace, but also their lives away from the office, including (but not limited to) finding ways to improve one's working relationship with others, one's overall health, outlook on life, and so on. For example, why is it that 95% of all diet attempts fail? Why do New Year's Resolutions last no more than a few days? Why can't people with good intentions seem to make consistent and positive strides in the way they want to improve their careers, financial fitness, physical fitness, and so on? Based upon the latest research in a number of psychological and medical fields, the authors of *Change Anything* will show that traditional will-power is not necessarily the answer to these strivings, that people are affected in their behaviors by far more subtle influences. *Change Anything* shows how individuals can come to understand these powerful and influential forces, and how to put these forces to work in a positive manner that brings real and meaningful results. The authors present an array of everyday examples that will change and truly empower you to reexamine the way you go about your business and life.

Patterson K, Grenny J, Maxfield D, McMillan R, & Switzler A. (2013). **Influencer 2/E: The power to change anything.** *McGraw-Hill,* Apr 2013. Also see: www.influencerbook.com

This book combines the insights of behavioral scientists and business leaders with the astonishing stories of high-powered influencers from all walks of life. No one likes being told what to do. Yet lectures are still the main way we try to get people to change their behavior. Fortunately, social learning academics have been studying alternatives for decades. Patterson and his fellow consultants have now collected their findings in this example-rich book.

Prochaska JO, Norcross JC, & DiClemente C. (1995). **Changing For Good: A revolutionary six-stage program for overcoming bad habits and moving your life positively forward.** Avon.

Changing for Good distinguishes itself from the many other self-help materials available by espousing a sound therapeutic approach based on the authors' years of professional work with people in all sorts of damaging behavioral patterns, including smoking, overeating, alcohol abuse, and toxic relationships. The six steps to change, the social processes one must understand while changing, and the criteria used to measure success will prove useful to all self-helpers.

