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Motivational Interviewing Education for San Mateo County's Adolescent Healthcare Providers: Focus on Healthy Diet and Physical Activity

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Motivational Interviewing Education for San Mateo County's Adolescent Healthcare Providers:

Focus on Healthy Diet and Physical Activity

DNP Project Report

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May 6, 2014

Abstract

Motivational interviewing has been endorsed by San Mateo County as an evidence-based effective form of behavior change counseling. Eighty percent of pediatric healthcare providers in San Mateo County have been trained in motivational interviewing, however 70% of the providers use it less than 50% of the time. The goal of this project was to reeducate the adolescent providers of San Mateo County in motivational interviewing with an emphasis on individualized training and feedback, directed toward healthy diet and exercise. Results of the quality improvement project showed an average 2.5-point increase in provider confidence on a zero to ten-point scale, and average increase in the use of motivational interviewing of 2 patients per day. Providers reported overall satisfaction with the project and demonstrated continued interest in further use of motivational interviewing. Recommendations for continued quality improvement include extension of the project for further support in motivational interviewing practice and increasing macrosystem involvement by training more providers throughout San Mateo County.

Keywords: adolescent health, behavior change counseling, childhood obesity, motivational interviewing

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Motivational Interviewing Education for San Mateo County's Adolescent Healthcare Providers:
Focus on Healthy Diet and Physical Activity

San Mateo County Medical Center has endorsed motivational interviewing as an evidence-based effective form of behavior change counseling. The majority of pediatric providers have been trained in motivational interviewing, yet most state they use it with less than 50 percent of their patients. With obesity on the rise, focus on early behavior change will help prevent chronic illnesses associated with obesity, such as cardiovascular disease, a \$444 billion medical cost to the US government in 2010 (Centers for Disease Control and Prevention (CDC), 2010). Research has shown that continued training, including review of provider technique with assessment tools, and feedback on provider use of motivational interviewing increases adherence and competency (Cuccaire et al., 2012; Madson, Loignon, & Lane, 2009; Martino et al., 2006; Miller, Yahne, Moyers, Martinez & Pirritano, 2004; Soderlund, Madson, Rubak, & Nilsen, 2011). The under use of motivational interviewing in San Mateo county pediatric healthcare settings, creates an opportunity to reeducate and train providers, thus honing their skills and increasing their self-efficacy in using motivational interviewing in their daily practice.

Background Knowledge

Thirty four percent of San Mateo County's youth are overweight or obese (San Mateo County Health Department, 2010). Motivational interviewing has been endorsed by San Mateo County Medical Center as an evidence-based effective form of behavior change counseling for weight management. Eighty percent of providers have been trained in motivational interviewing by the county; however they are not applying the skills to practice. Providers report low confidence in using it and commonly list time and low skill level as barriers.

Local Problem

When a convenience sample of ten pediatric providers from seven different pediatric clinics in San Mateo County were asked about their use of motivational interviewing; 8 providers reported being trained in motivational interviewing. Three providers use it with less than 25% of patients daily, 4 providers use it with 25%-50% of patients, and 3 providers reported using it with 50% or more of patients daily. When providers were asked their confidence level in using motivational interviewing on a scale of 0 to 10 (0= lowest confidence and 10= highest), 4 providers scored a 3 or below, 4 providers scored a 5 to 7 and 1 provider scored a 9. Barriers to its use were time and low skill level. Dr. Janet Chaikind, Medical Director for pediatrics for San Mateo County and the San Mateo Medical Center Medical Executive Committee IRB approved this project to aid in the sustainability of the use of motivational interviewing by the pediatric providers in San Mateo County.

Aim

The aim of the project was to increase confidence and use of motivational interviewing in adolescent healthcare providers in San Mateo County by providing reeducation, feedback and resources on motivational interviewing style and skills.

Review of the Evidence

The long-term relationships created by pediatric providers in the primary care setting are crucial for the prevention and early detection of obesity in adolescents (Bodenheimer & Handley, 2009; Cohen et al., 2011; Schwartz et al., 2007; Whitlock, Orleans, Pender, & Allan, 2002). Recommendations from the American Academy of Pediatrics and the American Heart Association clearly advise discussion with children, including adolescents and their families, about healthy lifestyle choices for cardiovascular disease and diabetes prevention (American Academy of Pediatrics, 2006; American Heart Association, 2013). Providers understand that

obesity is a problem, however, 80% of pediatric providers report frustration discussing weight management in their daily practice (Jelalian, Boergers, Alday, & Frank, 2003; Rensicow, Davis, & Rollnick, 2006). Of the 131 million visits of children ages 2 to 18 identified in the National Ambulatory Medical Care Survey from 1997- 2000, only 35% of well child visits involved behavior change counseling to improve diet and physical activity (Cook, Weitzman, Auinger, & Barlow, 2005). Barriers to counseling are time, provider perceived patient lack of motivation, provider skill set, lack of reimbursement, and low self-efficacy in behavior change counseling techniques such as motivational interviewing (Cohen et al., 2011; O'Brien, et al., 2004; Rensicow et al., 2006; Story et al., 2002). With obesity on the rise, evidence-based practice to improve the long-term health of future US adults is paramount.

Obesity. There has been a dramatic rise in adolescent obesity over the past 30 years (Centers for Disease Control and Prevention (CDC), 2013). Between 1988-2008 the rate of obesity rose from 11% to 20% in adolescents ages 12-19 (CDC, 2013). Recent 2010 data suggests that 31.7% of children ages 2-19 are overweight, illustrating an upward trend (Tucker et al., 2013). Among adolescent children, non-Hispanic black and Mexican American teens had significantly higher rates of obesity than non-Hispanic white youth ($p < .05$) (Whitlock, Williams, Gold, Smith, & Shipman, 2005). In addition, there is overwhelming data that overweight and obese body mass indexes (BMI) plague 60% of the adult US population and are very serious risk factors for both cardiovascular disease, the leading cause of death in the US for men and women, and diabetes (CDC, 2010; CDC, 2011). A summary of the evidence for the United States Preventative Task Force in 2005, found that the probability of adult obesity is greater than or equal to 50% among children older than 13 years whose BMI percentiles meet or exceed the 95th percentile for age and gender (Whitlock et al., 2005). This probability increases if one or more

parent is obese or if the child is obese later in childhood. Authors of the study stressed the importance of lifestyle interventions for overweight and obese adolescents (Whitlock et al., 2005).

Healthy lifestyle behavior counseling. Despite the national guidelines to improve diet and physical activity in the US pediatric and adult populations, the prevalence of behavioral change counseling on these topics is low (Barlow & Dietz, 2002; Cook et al., 2005; National Research Council & Institute of Medicine, 2009; O'Brien et al., 2004; Rensicow et al., 2006; Schwartz et al., 2007; Story et al., 2002). When 940 providers, including pediatricians, pediatric nurse practitioners, and registered dietitians responded to a mailed questionnaire on the management of childhood obesity as part of a national needs assessment, 75% to 93% knew that obesity was a problem in children and adolescents; 61% to 85% stated their primary barrier to obesity management was parent/ patient lack of motivation; 15% to 38% reported having low proficiency in behavior change management, and over 50% revealed high interest in training in behavior change management skills (Story et al., 2002). Furthermore, the questionnaire's low response rate of 19-33%, led the authors to believe that it may have been answered by a sample of providers who are most likely more comfortable with obesity management than the average pediatric provider, and that overall provider knowledge and management of obesity may be less than the study revealed. O'Brien, Holubkov, and Reis (2004) retrospectively reviewed 2,515 health supervision visits of children ages 3 months to 16 years for three consecutive months in a large urban pediatric practice. Approximately 10% (N=244) met the criteria for obesity, yet providers only documented obesity in 5% (N=129) of the children. Providers focused care on diet (71%) and addressed the other multifactorial components of obesity, such as exercise, in only 33% of the visits, and screen time only 5% of the time. These data highlight that the authors

in the previous study, Story et al. (2002), may have been correct in their prediction that obesity knowledge and management was overrepresented in their research.

Cook et al. (2005) analyzed data from 3,514 well child visits from the 1997-2000 National Ambulatory Medical Care survey to determine rates of diet and physical activity counseling in all pediatric age groups. Authors found that adolescents were only counseled on diet and exercise in 27% and 22% of all well child visits respectively. Jelalian et al. (2003) surveyed 1,066 pediatric providers in southern New England on their attitudes on management of obesity. Only 34% of providers reported frequently discussing weight management with adolescents that are mildly overweight, yet providers ranked obesity as fourth in its importance for health promotion in adolescents. Only smoking, risky sexual behavior, and drug and alcohol use were deemed more important. When correlations were made in the data it was found that providers who had past successes in diet and exercise behavioral change counseling were more likely to continue using it, suggesting that further training in behavior change counseling, such as motivational interviewing, would be beneficial (Jelalian et al., 2003).

Motivational interviewing. The nonjudgmental, empathic, and collaborative approach of motivational interviewing is perfect for youth (Naar- King & Suarez, 2011). Miller and Rollnick (2002) define motivational interviewing as a patient-centered guiding method of behavior counseling used to elicit and strengthen the patient's motivation for change. The patient, rather than the provider, presents the reasons for change. The provider does not assume the authoritarian role, but rather employs an empathetic, nonjudgmental style of communication that is patient-centered, yet has a strong sense of purpose and direction (Berg-Smith, 2013). Miller first published research on motivational interviewing in 1983 as an intervention for alcohol abuse. As its evidence-based effectiveness grew, it was researched in other healthcare areas including

cardiovascular disease, hypertension, diabetes, and smoking cessation (Rollnick, Miller & Butler, 2008).

Style and key principles of motivational interviewing. The motivational interviewing style is empathetic, warm, compassionate, collaborative, and respectful (Berg Smith, 2013; Rollnick, Miller & Butler, 2008). Style is used in collaboration with the key principles of motivational interviewing. The key principles of motivational interviewing are:

1. Resist the righting reflex. Healthy adolescent development is critical to success in adulthood. This essential transition period from child to adult is a time when increasing independence and normative experimentation are crucial (Naar-King & Suarez, 2011; Berg-Smith et al., 1999). Most adolescents are typically in the exploratory or experimenting phase of a health compromising behavior (Naar-King & Suarez, 2011). If the practitioner attempts to make him/her see the “right way,” the adolescent will most likely resist. The key to motivational interviewing is to let the patient discover the “right way” by directing nonjudgmental, patient-led discussions toward the behavior that needs modification (Berg-Smith, 2013; Miller & Rollnick, 2002; Rollnick, Miller & Butler, 2008).
2. Listen with empathy. Take time to listen to the adolescent. Much of the issues adolescents face revolve around risk and are tied to social and behavioral factors (Naar-King & Suarez, 2011). Seek to understand the youth’s perspective and reflect on what he/she is saying. People are more persuaded by what they hear themselves say than what someone else tells them (Berg-Smith, 2013).
3. Empower the patient. Encourage hope and optimism. A healthcare provider’s belief in the adolescent’s ability to change can influence his/her decision to move toward change

(Berg-Smith, 2013; Rollnick, Miller, & Butler, 2008). By using motivational interviewing with the adolescent, the provider is allowing the adolescent control in decision-making and responsibility for his/her actions (Berg-Smith et al., 1999; Naar-King & Suarez, 2011; Rollnick, Miller, & Butler, 2008).

4. Acceptance. When a patient feels accepted for who s/he is and what s/he does, no matter how unhealthy, it allows the patient the freedom to consider change rather than to defend against it (Berg-Smith, 2013). Identity exploration is crucial to the developing adolescent. This occurs through multiple role explorations. Social acceptance by peers will help to give the adolescent a sense of well being, while rejection can lead to more risky behavior. There is also a constant flux between the importance of parental and peer acceptance. Being aware of the adolescent's desire for acceptance is crucial to productive motivational interviewing (Naar-King & Suarez, 2011).
5. Style is everything. The style in which the provider approaches the patient will allow for open communication and talk about change. The style of motivational interviewing adheres to the adolescent's desire for self-control and navigates around the normal resentment to authority figures (Naar-King & Suarez, 2011).

The four processes of motivational interviewing. In addition to the style and principles of motivational interviewing, the flow is also vital to successful communication with the patient. The four processes of motivational interviewing which help to guide the flow of the conversation are; engaging, focusing, evoking and planning (Miller & Rollnick, 2013).

Engaging and focusing. The conversation begins with engaging and focusing the client toward discussion about the target behavior (Miller & Rollnick, 2013). Asking permission to discuss, for example diet or exercise habits illustrates respect for the adolescent's choice and

further engages the patient in the conversation. Obesity is multifactorial and numerous behavior changes could be discussed, thus focusing the discussion is very important.

Evoking and planning. The OARS mnemonic is used to remember effective motivational interviewing communication used in the evoking stage. OARS stands for *Open ended questions, Affirmation, Reflective Listening and Summarize* (Berg-Smith, 2013; Miller & Rollnick, 2013). Open-ended questions are key to eliciting the client's thoughts. Examples of open-ended questions focused around the mutually agreed upon target behavior of exercise is: *Tell me about your exercise habits or what are your concerns about your exercise habits?* After asking an open-ended question the provider uses reflective listening in a nonjudgmental manner. Reflective listening illustrates to the adolescent that the provider is listening and encourages the patient to elaborate, amplify, confirm, or correct the provider. Reflections are not questions; the intonation of the providers voice goes down. In addition to reflecting the patient's thoughts, it is also important to affirm. By affirming, the provider is expressing hope and confidence that the patient has the ability to make change. During the evoking phase the provider listens for "change talk." Change talk represents the client's movement toward change. Examples of change talk are phrases such as: I want to..., I can..., I will..., or I plan to... which show the patient is ready to take action.

When a client expresses change talk, it may be time to transition and direct the conversation toward planning. Prochaska and DiClemente's (1982) transtheoretical model of change is used in motivational interviewing to help analyze patient's readiness to progress through the four processes. Prochaska and DiClemente's (1982) five stages of change are: precontemplation, contemplation, preparation, action, and maintenance. In the precontemplation stage, the individual is unaware of the problem. In the contemplation stage, the adolescent is

aware of the problem and is considering making a change, but not in the next month. In the preparation stage, the patient is ready for change in the near future and has thought about how to take action. In the action stage, the patient implements the change. The maintenance stage involves sustaining the behavior change (Prochaska & DiClemente, 1982). If the patient is in the earlier stages of change, and not eliciting change talk, they are not expected to plan or take action, the conversation is focused on barriers to change rather than on action planning (Miller & Rollnick, 2013; Rollnick, Miller, & Butler, 2008). If change talk is heard, summarizing is a way to transition the conversation toward planning. An example of a summary is: *You are having a hard time finding time to exercise. You would like to exercise more for your health and to have more energy to do your homework and go out with friends. Did I get it all?* In this way, the patient hears his/her own motivations for change. This is when the provider can move the conversation forward by evoking the plans for change. For example: *How would it look to incorporate exercise into your life?* By asking this forward moving question, the conversation moves along the direction of planning and promotes action.

Evidence-based research on motivational interviewing. The use of motivational interviewing for behavior change counseling has been endorsed by the American Heart Association, the Veterans Health Administration, The American Academy of Pediatrics, and The American College of Obstetrics and Gynecology (Artinian, et al., 2010; American Academy of Pediatrics, 2006; American College of Obstetrics and Gynecology, 2009; Cucciare et al., 2012). Numerous systematic reviews and over hundreds of research articles have shown its effectiveness to promote healthy lifestyle changes (Artinian et al., 2010; Britt, Hudson, & Blampied, 2004; Hardcastle et al., 2013; Saelens, Lozano, & Scholz, 2013; Thompson et al., 2011).

Comparisons of motivational interviewing to standard of care.

Cardiovascular disease prevention in adults. Artinian et al. (2010) reviewed the evidence-based literature on promoting physical activity and lifestyle changes to reduce cardiovascular risk factors in adults for the American Heart Association and found motivational interviewing to have moderate efficacy towards behavior change. Specifically it was noted that motivational interviewing increased fruit and vegetable consumption and increased physical activity.

Thompson et al. (2011) published a systematic review of the evidence of motivational interviewing from four meta analyses, one systematic review, three literature reviews and five primary studies pertaining to cardiovascular health. The authors found that although the power was low in many of the studies, overall the evidence illustrates that motivational interviewing is more effective than traditional information or advice. Specifically the authors found that providers trained in motivational interviewing were more effective in creating optimal results in reducing BMI and lowering hypertension in cardiovascular patients.

Hardcastle et al. (2013) conducted a prospective randomized control study of 334 patients with cardiovascular disease risk factors of hypertension, hyperlipidemia, or overweight/obese BMI. The authors studied the effectiveness of motivational interviewing in sustaining physical activity as a lifestyle change 12 months after 6 months of motivational interviewing intervention (comprised of 5 counseling sessions). The results showed that intervention patients had higher stage of change levels, and those with high BMIs significantly sustained their walking regimen, reduced their diastolic blood pressure, and reduced their cholesterol levels compared to control patients. BMI was reduced at 6 months, but then, however, returned to baseline at the 12- month follow up. Authors suggested that provider booster sessions in motivational interviewing as well as continued relationship with the patient, as found in primary care settings, might prove helpful

in maintaining change.

Although there is ample research on motivational interviewing, evidence-based research focused on children and adolescents is new. Many of the studies show promise, but are low in power, thus more large scale research is necessary.

Childhood Obesity. Schwartz et al. (2007) compared the use of motivational interviewing to the standard of care (directed advice and educational pamphlets) on diet and exercise, in 725 pediatric primary care office settings across the country to assess its feasibility in behavior change related to childhood obesity. Motivational interviewing was used in well child visits of 91 children age ranged from 3 to 7 years old. The authors compared BMI at baseline and at 6 months, among three groups: a group with standard care, a group with a motivational interviewing trained provider, and a group with a motivational interviewing trained provider and registered dietician. At the 6-month follow up, the mean decreases in BMI were 0.6, 1.9 and 2.6 percentiles in the control, minimal, and intensive groups respectively, however after analysis the results were not significant ($p=.85$). There was a significant decrease in reported snack consumption at home ($p=.01$) between the minimal and the control group and a significant decrease in dining out ($p=.04$) between the intensive group and the minimal group. In addition, 94% of the patients in the motivational interviewing groups stated that the visit helped them to think about making dietary changes. The study only included one motivational interviewing session at baseline for the control and minimal groups and 2 for the intensive group which, when compared to other research, may not be enough to have a sustaining effect.

Tucker et al. (2013) researched the effects of motivational interviewing in a primary care setting in the Midwestern United States. There were three arms to this study: the control standard of care which included directed advice and information on the child's BMI status,

motivational interviewing in the office, and motivational interviewing in the office with a follow up phone call to the parents regarding behavior change. Data were collected on BMI and behavior changes at baseline, 6, and 12 months. Although the BMI did decrease from baseline to 6 months the p-value was not low enough to show significant difference between the groups ($p=.094$). The authors found that increasing fruit and vegetable intake ($p<.001$), decreasing amount of TV watched per day ($p=.035$) and increasing the amount of time spent doing physical activity all showed a significant difference between the control and intervention arms, illustrating motivational interviewing was more effective than the standard of care in these areas. The authors suggested that more recurring visits might increase sustainability of the intervention.

Adolescent Obesity. Saelens, Lozano, and Scholz (2013) introduced motivational interviewing into a primary care practice for 72 obese teens and their families. One group received the provider prescribed directed approach and the other the self-directed, motivational interviewing approach. The intervention was 20 weekly visits, 30 minutes each, with data collected at 3, 6, 12 and 24 months. Both the intervention and control groups received the same number of treatment sessions and the same information was provided about healthy eating and physical activity. The intervention group differed from the control group at 5 weeks when the approach became patient driven rather than provider directed. The results showed no significant difference between the two groups in relation to changes in BMI, both groups had a significant BMI decrease ($p<.001$), illustrating that motivational interviewing is as effective as the directed technique in a 20-week intervention. The self-directed approach was, however, a hybrid of the prescribed and self-directed approaches, rather than solely motivational interviewing based.

Neumark-Sztainer et al. (2010) researched the effect of motivational interviewing on 356 teen girls in a 16-week New Moves intervention in an all-girls physical education class. In this

study, girls who elected to enroll in an all-girls physical education class were randomized into the standard physical education class or the New Moves program. The New Moves class incorporated nutrition and social support/self-empowerment sessions, individual motivational interviewing sessions, lunch get-togethers once a week, and parent outreach activities. Follow-up after 9 months showed that the girls in the intervention group increased their stage of change for physical activity ($p=.039$), physical activity goal-setting behaviors ($p=.021$), and their self-efficacy to overcome barriers to physical activity ($p=.003$), as compared to control girls. Improvements were also seen for dietary goal-setting ($p=.002$), fruit and vegetable intake ($p=.002$), and regular breakfast eating ($p=.028$) as compared to the control.

Berg- Smith et al. (1999) studied the effect of brief motivational interviewing sessions with 127 adolescents with known resistance to dietary adherence over 3 months. Sessions lasted between 5 and 30 minutes and were tailored to the patient's individual level of readiness for change. Results showed a significant decrease in dietary fat intake ($p < .001$) between the control and intervention groups and 89% of participants in the motivational interviewing group implemented an action plan for change.

Overall, the research suggests that motivational interviewing is an effective behavior change technique for obesity prevention and management for all ages. It is important to note that motivational interviewing is client centered and does not move toward action planning unless the patient is ready to make change (Miller & Rollnick, 2013). The BMIs may not have decreased significantly in many of these studies, when compared to the control groups, however patients were taking action toward change. These data illustrate the strong potential for motivational interviewing in a primary care setting where the patient provider relationship is long lasting, and suggestive that long-term motivational interviewing enhanced communication will have more

sustainable effectiveness on healthy lifestyle choices.

Effectiveness of motivational interviewing training. The amount and type of training needed to reach effective and sustainable use of motivational interviewing by clinicians is addressed in the literature. Madson, Loignon, & Lane (2009) conducted a systematic review of 28 studies on motivational interviewing training from healthcare professionals including primary care, mental health, substance abuse, medical students, and trained dieticians. Trainings ranged from 9-16 hours with six of the trainings including follow up booster sessions. Most training techniques included a didactic portion, such as a workshop, and a form of experimental activity. Objectives included in the studies were confidence, knowledge, interest in learning more about motivational interviewing, intention to use motivational interviewing, and actual integration into practice. The review concluded that knowledge and understanding of motivational interviewing skill increased however, this does not necessarily transfer to practice unless there is follow up, feedback, and continued use by the clinicians.

Moyers and Hendrickson (2010) analyzed the data from nine studies on motivational interviewing training in mostly mental health or substance abuse settings. Most of the studies included one 2-day workshop with varying degrees of follow up including no follow up, phone calls, and biweekly follow up sessions. The authors concluded that providers with a higher baseline level of motivational interviewing skills prior to the training had less loss of their skills after the training. They also found that feedback following the training had a better effect on change than no feedback. Authors suggested that providers be trained based on their initial individual levels of understanding and competence in motivational interviewing prior to the training and that all training should be followed with objective feedback.

Soderlund, Madson, Rubak, and Nilsen (2009) conducted a systematic review of motivational interviewing training research specifically for general healthcare professionals. Ten studies were included in the review, most of the studies included physicians and nurses. Out of the 10 studies, only 3 were from the United States, the majority was conducted in Europe. The studies ranged in training methods and time. When combined, the average training time was about 9 hours. The authors analyzed the various studies effects on motivational interviewing competence, use of motivational interviewing, and patient health outcomes. The authors found that providers trained in motivational interviewing showed more empathy, used reflections and supported behavior change more effectively than control groups. In addition the authors found that providers whose training in motivational interviewing included feedback and audio taped assessment of their skills had better long term sustainability of their motivational interviewing practice. The authors warned however, that the research on motivational interviewing in the general healthcare setting is extremely varied in its method of training and it is difficult to decipher what training method is most effective (Soderlund et al., 2009).

Miller, et al. (2004) conducted a randomized trial of motivational interviewing training techniques for 130 healthcare professionals treating substance abuse disorders. Authors compared effects of a 2 day workshop, a combination of workshop with performance feedback using audiotapes, a workshop with 6 individualized telephone consultations, a combination of all three (workshop, feedback and telephone consults), and the self directed approach. Authors found that much of the intended knowledge and increase in provider proficiency was seen directly after the 2-day workshop, but over the 12 month assessment time, providers that received feedback or telephone consultations had the highest proficiency ($p < .001$ in all feedback

groups). Authors found the greatest change in provider proficiency was a decrease in use of inconsistent counseling responses.

Carroll et al. (2006) researched reeducation of motivational interviewing in 423 providers in the substance abuse population. It was concluded that retraining, including ongoing supervision, feedback, and mentoring significantly increased patient return visits for sessions (p -value=. 05) and the likelihood of subject to be enrolled in treatment 28 days after their designated treatment date (p -value=. 05).

Olmstead, Carroll, Canning-Ball, and Martino (2011) researched the cost effectiveness of the various training techniques. The objective was to study the clinician's motivational interviewing performance 12-weeks after training. The training was divided into three types: self-study, expert-led, and train-the-trainer. The self-study portion received a text book on motivational interviewing, video taped training sessions, review of material with an expert clinician for 1 hr, and self review of material for 20 hours over the 12 weeks following the training. Expert-led included a combination of didactic with monthly viewing of audio taped provider-patient motivational interviewing sessions and expert feedback on skills for 3 months. Train-the-trainer included 2 workshops, one on motivational interviewing and the other on how to train other clinicians in motivational interviewing, 3 months of monthly phone calls with individual feedback on expert reviewed audiotapes, and providers trained in motivational interviewing delivered a workshop to the clinicians in their site about motivational interviewing skills. The costliest strategy was the expert-led group, however it was also the most cost effective. These findings indicate that investing in longer training periods with feedback for the providers will cost more over a 3-month period, but has more overall value in motivational interviewing effectiveness. The train-the-trainer concept intended to increase the number of clinicians trained

in motivational interviewing, but there was less net benefit to the sites than then the expert-led training method.

The Veterans Health Association published a preliminary study of the effects of minimal motivational interviewing training on primary care practitioners (Cucciare, et al., 2012). Providers were given 1 half-day training, then a 60 minute virtual training, followed by another half-day training. The sessions were spaced two weeks apart. The objectives of the study assessed confidence, knowledge, ability to apply skills to answer vignettes, perceived comfort level or skill with lifestyle counseling, and job related burnout. These objectives were assessed immediately before and after the training. Researchers found that confidence, knowledge and ability to apply MI skills increased significantly (all with $p < .001$) however, significant changes in perceived comfort level and job related burnout was not seen. Further research on long term support in motivational interviewing in the primary care setting is warranted.

Careful review of the evidence indicates that most of the research on motivational interviewing training has been done in the substance abuse arena. A combination of didactic training and long-term feedback on provider competence in motivational interviewing is the most effective strategy that has been published. Primary care settings are beginning to research the effects of training on their providers competence and patient outcomes, however the research is not high quality yet. Primary care settings could benefit from the valuable research already designed and tested in the substance abuse/mental health settings to improve their training and sustainability of the effective use of motivational interviewing for general healthcare.

Nurse practitioner provided motivational interviewing. Van Nes & Sawatsky (2009) analyzed the effective use of motivational interviewing to promote cardiovascular health under the lens of the family health nurse practitioner (FNP). Authors state that the FNP training is

poised for utilization of motivational interviewing because it is rooted in the foundations of holistic health and focuses on the psychosocial role the family and community play in the patient's perception of optimal health. In addition, research on nurse practitioner care has repeatedly shown that NPs have longer consultation times than physicians and patients are willing to return for follow up visits with a higher degree of compliance, illustrating their role in creating effective patient-provider relationships essential to the successful utilization of motivational interviewing (van Nes & Sawatsky, 2009).

Theoretical Framework

Bandura's (1977) theory of self-efficacy is used as a theoretical framework for the implementation of this evidence-based change in practice project. Bandura (1977) states that a person's ability to make change in personal behavior is dependent on their efficacy expectation, or belief that they can successfully execute the behavior required to produce certain outcomes. Efficacy expectations also determine how much effort someone will put into a change and how long they will persist with the change despite the challenges; the stronger the perceived self-efficacy, the more sustainable the change. Those who persist through difficult challenges reinforce their sense of self-efficacy, and more likely sustain the change (Bandura, 1977).

In Bandura's (1977) theory there are two differentiated components that affect a person following through with a function: the efficacy expectation and the outcome expectation. According to Bandura (1977), there are four sources that lead to one's efficacy expectation: mastery experience, social modeling, social persuasion and psychological responses. Mastery experience is performing the task and either succeeding or having difficulties. When success occurs, self-efficacy increases. Social modeling involves seeing other people succeed. Positive experiences with social modeling increase the persons' perspective of their own self-efficacy with the task. Social persuasion describes the effects of encouragement or discouragement.

Words of encouragement increase self-efficacy. Psychological responses involve mood, stress level and physical reactions to the task. Elevated mood and low stress about a function can increase self-efficacy. Outcome expectation, the other main component of self-efficacy, is the person's estimate that a particular behavior will lead to a certain outcome. Efficacy expectation and outcome expectation are differentiated because a person can believe that a particular action will produce a certain outcome, but if they don't believe they have the ability to do it, they will not perform the task.

For this project, self-efficacy theory was used to help formulate a plan to support provider change in practice to include motivational interviewing. It was used when deciding to assess provider confidence level and use of motivational interviewing as measurable components of self-efficacy. Having confidence to perform the task is a measure of the provider's efficacy outcome expectations. An increase in use of motivational interviewing would illustrate the provider's perceived combination of outcome and efficacy expectation in performing motivational interviewing. Continued success in use of motivational interviewing would increase self-efficacy, and thus in turn, allow it to become incorporated into daily practice.

Bandura's (1977) descriptions of the components necessary to increase provider's efficacy expectation were taken into account when creating the training plan. The plan included individualized training time with the provider to personalize the providers needs based on their perceived self-efficacy. The training also included continued feedback, modeling of behavior, and time to practice skills in a low stress environment to increase efficacy expectations.

Methods

Ethical Issues

The project qualifies as an evidence based quality improvement project. The participants in the project are the adolescent providers at Daly City Youth Health Center and Sequoia Teen

Wellness Center. The training took place in the providers' office during administrative time; there were no ethical issues that affected the patient population during the training. All information given to the providers was evidence-based, there was no new research being conducted on provider care. The University of San Francisco Doctorate in Nursing Practice Department approved the project as an evidence-based quality improvement project and accepted it as IRB exempt. The San Mateo Medical Center's medical executive committee also approved the project and its IRB exempt status (See Appendix A for project approval documents)

Setting

Daly City Youth Health Center is a collaboration between Jefferson High School District and San Mateo Medical Center, and its mission is "to invest in our community through its youth and young adults by providing comprehensive programs that increase resilience, encourage responsibility, and promote self determination" (Daly City Youth Health Center, n.d.). Sequoia Teen Wellness Center is a collaboration of San Mateo Medical Center and Sequoia Union High School District, serving all San Mateo County's youth ages 12-21 regardless of ability to pay, citizenship or school enrollment. Their goal is to treat teens with respect and provide support, while maintaining privacy (Sequoia Teen Wellness Center, n.d.). San Mateo Medical Center's mission is to "open doors to excellence in healthcare." It serves the healthcare needs of all residents of San Mateo County, with an emphasis on education and prevention (San Mateo Medical Center, 2013).

Both clinics provide care for adolescents ages 12-21, regardless of insurance or citizenship. They provide free, confidential care without the consent of a parent/guardian for pregnancy testing, birth control, infectious disease testing and treatment, counseling for substance abuse, sexual or physical assault, or harm to self and others.

Seven percent of San Mateo's population is below poverty level, however the majority of patients seen at Daly City Youth Health Center and Sequoia Teen Wellness Center live below the poverty level. Seventy nine percent of the population is female. Forty five percent are between the ages of 19-21, 39% between the ages of 16-18, and 15% between the ages of 13-15.

Process. Typically, appointments at the San Mateo Clinics are made 1-2 days in advance or on an urgent basis. There are also follow up appointments made in advance. Every patient, regardless of type of visit, has vital signs checked, including height and weight. Providers use the electronic medical record eClinicalWorks. Both clinics make changes to their process based on feedback from providers on flow and time constraints. Providers agree that changes occur best when there is adequate dialogue and communication between clinicians, medical assistants and administrative staff. Experience with previous project implementations for change in practice have highlighted that the major barrier to continued use is time. Providers clearly stated that if the change will increase their workload, they are less likely to adhere.

Patterns. There are monthly medical staff meetings for each clinic. There are also monthly meetings for all of San Mateo County's pediatric providers. The medical staff meetings are where evidence-based changes or recommendations to care are introduced. This is also where difficult cases are discussed and peer-to-peer discussions occur.

Planning the Intervention

The literature on training providers in motivational interviewing clearly states that feedback and continued evaluation increase provider's accurate use of motivational interviewing and the patient's positive response in the form of return visits and advancement through the stages of change (Carroll et al., 2006; Madson et al., 2009; Miller et al., 2004). Anecdotal comments from providers in the county validated this research. Most providers had been to one

or more half to full day didactic motivational interviewing training sessions that did not include follow up feedback sessions. They stated they understood the concepts, but when it came time to incorporate motivational interviewing into their daily practice, they had negative experiences that decreased their self-efficacy. The first arm of the project included a PowerPoint presentation for the providers of each clinic with evidence-based information about the effectiveness of motivational interviewing, its crucial role in promoting healthy lifestyle behaviors in teens, and its relevance in preventing costly chronic conditions in adulthood. The first part of the project intended to give providers the evidence behind the benefits of using motivational interviewing, to analyze provider's baseline confidence and use of motivational interviewing, and to create buy-in for providers to volunteer for the second part of the project. The second part of the project included three sessions of individual motivational interviewing training. The three training sessions aimed to provide personalized training and feedback.

Cost benefit analysis. Direct cost for implementing the project was 1,450.00; this included advanced training in motivational interviewing, materials, and provider time. Indirect cost of medical director administrative time to plan the project was \$140.00. The total cost of project implementation was \$1,540.00. The overall benefit of improving provider confidence and use of motivational interviewing is to decrease patient weight and improve healthy lifestyle. These benefits to adolescent health would in turn prevent the overwhelming cost of chronic conditions in adulthood such as cardiovascular disease and diabetes. Treatment of diseases related to these chronic conditions account for 75% of healthcare expenditure (CDC, 2012). In 2010, the U.S. government estimated the total cost of treating cardiovascular disease such as hypertension, coronary heart disease, stroke, and heart failure was \$444 billion (CDC, 2010). In 2010, the U.S. population was 300,000,000 (U.S. Census Bureau, 2010). The CDC (2011) stated

that in 2010, 2/3 of the population was overweight, therefore 200,000,000 citizens are at high risk for cardiovascular disease. If it is inferred that each overweight or obese adult contributes to the total cost of cardiovascular disease than that would equate to \$2,220 spent per overweight adult. The total direct and indirect cost per provider for the project was \$385.00. The benefit if all four providers in the study prevented one patient from cardiovascular disease would be \$7,290 saved in government healthcare spending (See Appendix B for cost benefit analysis).

Responsibilities/communication plan. Communication about the project plan, its milestones, and variance in the plan was organized via the communication matrix (see Appendix C for communication matrix). Every two weeks, communication on the progress of the project was sent to the chair of the DNP committee, Karen Van Leuven, via email. Any variance to the plan was communicated immediately to the chair and committee members, as well as the medical directors of the clinics, Ilana Sherer and Sylvia Espinoza, via email and detailed in the milestone report. Dr. Hemal Mehta, pediatric provider for the Fair Oaks Health Center in San Mateo County, a board certified obesity specialist and expert in motivational interviewing, agreed to precept for the project residency.

Implementation of the Project

Implementation of the project began with an educational meeting for all San Mateo County pediatric providers (see Appendix D for Presentation). A questionnaire to assess providers' baseline use and confidence in motivational interviewing was given at this initial meeting (see Appendix D for Questionnaire). At the presentation, providers from Sequoia Teen Wellness Center and Daly City Youth Health Center were recruited for the individual training portion of the project. Implementation of the second part of project and confirmation of participating providers was discussed individually with the medical directors of each clinic.

Motivational interviewing session dates were scheduled during administrative time. Each of the three sessions was an hour long. Sessions were spaced two weeks apart and followed a plan presented in a training manual given to each provider. The first training session discussed the spirit and style of motivational interviewing and the basic OARS concepts. The second session educated providers on the flow of the interview and how to move the conversation forward. The third session focused on creating individualized solutions to common traps providers often fall into, such as not resisting the righting reflex or not moving the conversation forward by noticing or helping to evoke change talk. Throughout the training, providers were asked to give examples from their daily practice to help individualize the training to their patient base. Providers were also asked to give feedback on the training and their learning experience.

Planning the Study of the Intervention

Results of the questionnaire given out to providers at the introductory presentation were evaluated to determine the status quo of motivational interviewing confidence and use in San Mateo County. The providers averaged 4 on the confidence scale of 0-10 and used motivational interviewing on average with 3 patients per day. Eighty percent of providers had been trained in motivational interviewing and 90% showed interest in further training. Based on these results, the goals created for the project were to increase confidence on the scale by 2 points and to increase use by 3 patients per day. In order to meet the goals, providers would receive 3 individual training sessions focused on increasing self-efficacy in motivational interviewing. Providers were given a training manual for aid during the training sessions and for self-study. Email was used throughout the training to remind providers to incorporate motivational interviewing into their practice and to offer feedback and support while practicing motivational interviewing (see Appendix E for Gap Analysis).

Timeline. In September 2013, USF's Doctorate of Nursing Practice department and the San Mateo Medical Center's executive IRB board approved the project. The initial presentation to providers was created in November 2013, and presented in December 2013. During the presentation the providers were recruited for the individual training to begin in January 2014. In December 2013, the lead of the project took an advanced course in motivational interviewing and created a training manual for providers. In January 2014, the three individual training sessions began at Daly City Youth Health Center and Sequoia Teen Wellness Center with four recruited providers, two from each clinic. At the beginning of each first session, provider baseline confidence and use were assessed. Prior to sessions 2 and 3, and at the end of the final session, providers were asked to give feedback on the project including barriers or suggested changes. Final levels of confidence and use were assessed at the end of session 3. Communication about completion and variance to the proposed plan and timeline were documented via the Milestone Reporting Matrix (see appendix F for Work Breakdown Structure, Gantt Chart and Milestone Reporting Matrix).

Methods of Evaluation

The project plan was discussed with the end point users, including the pediatric providers and the medical directors of the clinics. Careful discussion about how to best implement the project led to agreement that individual training with each provider was not only the most evidence-based approach, but would also increase provider attendance.

Overwhelming interest in the topic and provider readiness to change contributed to successful buy-in from the providers and medical directors of the clinics. Results from the initial questionnaire demonstrated that only one provider was not interested in the training and this provider already had full competence in motivational interviewing (scored 9/10 on confidence

scale and used it in 100% of patients). The busy nature of the clinics presented a challenge. Motivational interviewing may increase the length of a visit and cause providers to run behind schedule or decide not to use it to stay on time. In addition, providers may not find time to practice in between trainings, which may influence the retention of new information learned.

The fact that most providers had been previously been trained in motivational interviewing and still requested further training created an opportunity for implementation of the project. In addition, the medical director for the county endorses the use of motivational interviewing, supporting the need for more behavior change counseling and a potential for expansion of the project in the future. Despite previous training in motivational interviewing, providers still have low use in their daily practice, indicating that this project, like previous trainings, may not be sustainable. According to the literature, continued feedback and reeducation is necessary for sustainability. Further trainings could be offered, but would have to be funded, thus introducing a barrier to ongoing sustainability of the project (see Appendix F for SWOT analysis).

Budget and cost benefit analysis for funded extension project. The potential for the project be extended in both length and further macrosystem involvement to the other five clinics in the county warrants budgetary evaluation. Cost benefit analysis of this extension project would be beneficial to the County of San Mateo. Sustaining provider confidence in the use of motivational interviewing for obesity prevention may have far ranging effects. Funding would be necessary for the extension and would include the direct cost of trainer time, printing of the training manual, and provider time for training.

The extension project will include the current sites continuing the training for two additional training sessions. During these sessions providers will be evaluated for competence in

motivational interviewing style using validated assessment tools. Further explanations of the reasoning for these additions to the plan are explained in the results and discussion sections. The other five sites would recruit 2 providers from each site for the entire training of 5 training sessions each 3 weeks apart. After the training sessions all 14 providers will receive 5 years of quarterly feedback sessions. The research does not specify how long feedback should continue since studies have not been conducted longer than 12 months, however it does clearly recommend ongoing booster sessions.

The total estimated cost for initiation of the extension project and ongoing training is \$45,780. Implementation of the extension project is an estimated \$7,980. Five years of quarterly feedback sessions is an estimated \$7,560 per year. If each of the 14 providers trained in motivational interviewing prevented one overweight child from obesity, this would amount to \$23,100.00 annual savings in healthcare spent on cardiovascular disease alone (see cost benefit analysis in Appendix B for details on how this was calculated). If this analysis of one child prevented from obesity per year for each provider trained is extended over five years with quarterly feedback sessions to confirm expert motivational interviewing status of the clinicians, the benefit would grow to \$117,600.00. (see appendix G for Budget and Cost Benefit Analysis for funded Extension Project). The long-term benefits of the project clearly outweigh the costs to fund the training. This analysis was conservative in estimating that one patient per year would be prevented from overweight status, as providers see numerous weight management patients daily.

Analysis

Analysis of the project consisted of comparing the individually trained providers confidence and use in motivational interviewing at the end of three training sessions to their baseline values. Confidence was measured on an 11- point scale (0=no confidence and 10

=complete confidence in motivational interviewing). Use was determined by the amount of motivational interviewing used on an average patient day. Both of these assessment values were based on provider report. Tools such as the Motivational Interviewing Treatment Integrity (MITI) and the Behavior Change Counseling Index (BECCI) assessment scales have been tested and confirmed for validity and reliability in assessing provider accuracy in conducting motivational interviewing, however they require the trainer to code audiotapes of the provider's interviews, which is not compliant with this project's IRB exempt status (Moyers, Martin, Manuel, & Miller, 2007; Lane, 2002).

Provider's change in confidence and use of motivational interviewing were evaluated to determine successful change in practice. Objectives were set to measure the effectiveness of the implementation based on the evidence from the literature and the assessment of San Mateo County's provider baseline levels in motivational interviewing confidence and use determined from the provider questionnaire at the initial presentation. The predetermined objectives of the training sessions were to increase provider confidence by 2 points on the 11-point scale and increase the use of motivational interviewing on an average patient day by 3 patients. Originally, in the project prospectus, the goal for the increase of these objectives was determined using a percentage (50% and 20% respectively). After careful consideration it was understood that a percentage increase would disproportionately affect participants.

Qualitative evaluation included discussion with providers in person and via email to determine what pieces of the training were most useful and allow a voice for feedback on areas that were not helpful or could be improved.

Results

Program Evaluation/Outcomes

Initially, the project was planned to begin with a presentation on the evidence-based effectiveness of motivational interviewing to each individual clinic. However, when Dr. Hemal Mehta was informed of the project, she requested the presentation be made available all pediatric providers of San Mateo County, thus increasing macrosystem involvement. Results from the questionnaire given to providers during this presentation illustrated need and interest in motivational interviewing training.

Two providers from each site, Daly City Youth Health Center and Sequoia Teen Wellness Center, agreed to take part in the individual training. The initial plan was to include one patient and have them followed through each of the three training sessions to illustrate the effect of motivational interviewing on the patient's readiness for change. This was modified during project implementation. The providers all agreed to use administrative time for the individual training and to discuss patients during the training and over email throughout the week. This change was made to accommodate the schedule of the providers and to provide consistency in the time between training sessions independent of patient availability.

All providers involved increased their confidence in motivational interviewing by at least 2 points on the 11-point scale (average increase = 2.5 points). Use was increased in all providers except one (average increase = 2 patients) (see Table 1 for results). This provider explained that her use did not change, but the content and effectiveness of motivational interviewing was notably different. The provider stated that her use of motivational interviewing was drastically more patient directed and included more reflections, less directed advice, and was more consistent with the style of motivational interviewing. Other providers stated that frustration in the skills required for successful use of motivational interviewing that was once their barrier to use was minimized and they were seeing positive changes in patient behavior. One provider

stated that she had been working with a specific patient for years to take anxiety medications for self-care, but the adolescent was too afraid. She has one session of motivational interviewing with her and barriers to taking the medication were revealed that she had never heard before. She was shocked at the information she was able to get from the patient and the increase in trust the patient had to reveal this information. At the end of one session the patient stated her confidence was a 7/10 to try to take a small dose of her anxiety medication. Another provider, in assessing dietary recall on a 16-year-old female, discovered many areas that could be improved for weight loss. Instead of just choosing the area that needed to be modified, as she would have done before, the provider let the patient scale each area for her confidence in being able to make changes. Improving the content of her breakfast was what the patient was most confident in changing. Although this was not what the provider would have chosen to obtain the most weight loss, it led to the patient having ownership in the decision and increasing her chances of being able to make the change. These specific examples will hopefully lead to positive outcomes for the patient and in turn increase provider self-efficacy in their effectiveness in conducting motivational interviewing.

Themes that arose from the training that stood out as essential elements to increasing understanding, confidence, and use of motivational interviewing were: having an open mind to learn a completely new way of provider-patient communication, letting go of the expert role, noticing change talk, and understanding when and how to move the conversation forward with complex reflections. Further analysis of this will be explained in the discussion section of the project report.

The final dissemination of the results was modified from original the plan. Instead of presenting results separately to the 2 clinics involved in the training, results were presented at the

San Mateo county pediatric providers meeting (see Appendix H for final presentation). The providers involved in the training presented cases to illustrate their progress in motivational interviewing. This presentation increased macrosystem knowledge of the effectiveness of the training and sparked potential for further trainings for providers in other clinics in San Mateo County.

Discussion

Summary

The results show that the quantitative goal was met for the confidence objective and was not met for the use objective. All providers stated they felt confident in identifying when to use it, but still indicated low self-efficacy in using it themselves. The most common reason for this was that the style of motivational interviewing was very different than how they had been trained to communicate with patients. Providers compared it to learning a new language and not quite having the confidence to speak it yet. Letting go of the expert role was the key concept of motivational interviewing that they had the most difficulty changing. Specifically, giving advice and directing the conversation were the most challenging to aspects of their role that they had a hard time letting go of. Time was the most common barrier to use among providers. As expected, they found it difficult to incorporate into their busy schedule and found that when they did, it increased the time of their visits.

Individualized training was the most successful aspect of the project. Private one-on-one experience was very valuable to the growth of the providers. Providers helped to parse out themes that emerged from the training. These themes, such as letting go of the expert role, and noticing change talk, are also found in the literature (Berg-Smith, 2013; Naar-King & Suarez, 2011; Rollnick, Miller, & Butler, 2006). The themes are also discussed in the BECCI scale in

addressing proper use and knowledge of motivational interviewing (Lane, 2002). Provider discussions of these themes during the training and during the final presentation demonstrated significant growth in their understanding of motivational interviewing.

In evaluating the training from the perspective of Bandura's self-efficacy theory, it was found that the importance of peer modeling could have been addressed more. In the future, group sessions discussing patients and getting peer feedback on use would be helpful to increase self-efficacy.

Relation to other evidence

There are numerous studies and systematic reviews analyzing the effects of training on motivational interviewing. Most of the research on motivational interviewing training has been done in the substance abuse arena and demonstrates that a combination of didactic training and long-term feedback on provider competence in motivational interviewing is the most effective strategy (De Roten et al., 2013; Madson et al, 2006; Moyers & Hendrickson, 2010). Primary care settings are beginning to research the effects of training on providers' competence and patient outcomes, however the research is not high in quality. The results of this quality improvement project were consistent with Cuccaire et al.'s (2012) research for the VHA that deduced that brief motivational interviewing training to primary care providers with little to no knowledge of motivational interviewing increased knowledge and confidence in promoting lifestyle changes. The project's training plan matched the research in style and approach, however it was short in length, and limited in scope owing to the non-research status of the project. Furthermore, long term follow up of provider competence in motivational interviewing is warranted to assess sustainability.

Barriers to Implementation/ Limitations

This project had several barriers and limitations. First, there was no funding granted from the sites for implementation. This led to limitations in the amount of providers trained, the extent of the training materials and time spent with providers. Only 4 providers were able to take part in the training, if the resources had been greater, more providers could have been trained thus allowing for an increased macrosystem involvement and more confident evaluation of the results. Secondly, the project implementation only lasted 2 months. According to the research, this is not sufficient to promote sustainable change. With a longer time frame there could have been more sessions and increased learning, feedback, and practice time for the providers. Thirdly, the trainer and lead of the project was not proficient in motivational interviewing prior to the project's creation. Training consisted of extensive reading and a 3-day advanced motivational interviewing course. The trainer did not have a prolonged period of sole practice and use of motivational interviewing, thus a more experienced trainer could have possibly had a larger effect on the providers increase in confidence and use of motivational interviewing. Lastly, It was realized during project implementation that assessing provider use of motivational interviewing over an average day did not yield the intended information most valuable to the results of the project. Variability in provider use due to patient type, load, and the time constraints of the day, led to difficulty in attaining responses from the providers that illustrated their practical use of motivational interviewing. One provider stated that in retrospect her initial use number was inaccurate, as she has now realized that she was not really practicing motivational interviewing. This is where the MITI or BECCI scales could have been more effective in assessing use of motivational interviewing, rather than just assessing the number of patients. In the future, measuring change over time and using reliable scales will improve evaluation of the project

Interpretation

Madson (2009) discusses two phases of motivational interviewing proficiency. The first phase focuses on the creating the client's motivation for change. The second phase is based on consolidating the patient's commitment to acting on their plan for change. The initial proposed plan for the project was to address both of these phases by following one patient through the various stages of readiness for change. The providers did experience practice with patients in differing stages of change however, they did not have experience following one patient thorough the process of creating motivation to consolidating commitment. Success in this experience would have most likely illustrated the positive effects of motivational interviewing and thus may have had an increased effect on confidence and use results.

The research on training suggests that audio taped recordings of provider use of motivational interviewing in practice are highly effective in providing feedback and increasing provider proficiency in motivational interviewing. The extent of approval for this project likely would not allow recording without IRB approval and consent of the patients and their parents. The benefits and risks of this additional piece to the training would have to be fully addressed to be able to improve the project with audiotaping.

Implications for the future. Future opportunities this project are abundant and include continuing the training longer to ensure sustainability, obtaining funding for training the rest of San Mateo County, and introducing motivational interviewing to FNP education programs. Research clearly states that healthcare providers have low confidence in motivational interviewing and would like more training in this area. Providers who took part in the training agreed that there was adequate time for the baseline learning of motivational interviewing, however, more practice with reflections was lacking. One provider suggested adding workbook

pages to the training manual with examples and spaces for providers to write in their possible reflections. This would demonstrate their ability and give them practice in creating reflections on their own time. Another provider suggested providing case studies and peer feedback at the monthly clinic provider meetings. An example of this was illustrated in the final evaluation presentation. Providers who participated in the training presented cases of their motivational interviewing use to the group. This example of peer modeling provoked discussion about motivational interviewing for providers that were not involved in the training and sparked significant interest in further training. This interest illustrated the success of the project in presenting positive results as well as the need for further macrosystem evolution of the training program.

Highlighting motivational interviewing techniques in advance nursing practice training programs, such as in family nurse practitioner programs, would improve NP skill and efficacy in motivational interviewing.

Conclusions

The success of this project and the positive feedback from San Mateo County exemplified the evidence based effectiveness of motivational interviewing, and also solidified the evidence that providers are in need of training in behavior change techniques. With the growing trend of childhood obesity and the recent national interest in this subject, there is potential for grant funding to help support the expansion of this project. Research has begun to show MI effectiveness in the younger age groups with parental involvement, providing evidence towards the benefit of expansion of this project to include the younger pediatric populations in San Mateo County (Schwartz et al., 2007; Tucker et al., 2013). Training more providers would strengthen use within the County health system. Introducing motivational interviewing into FNP curricula is

another way to increase the number of providers with confidence in behavioral change management skills. This project and the proposal for its expansion will help to increase the knowledge and awareness of the use of motivational interviewing in pediatric primary care settings where the foundations of weight management and prevention of obesity are crucial for the health of future adults.

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Table 1

Results of Confidence and Use of Motivational in the Individual Provider Training

Provider	Training Prior to Implementation	Confidence Before Individual Training	Confidence After Individual Training	Use Before Individual training	Use After Individual Training
Provider 1 Daly City Youth Health Center	1 day training	4	6	0/12 patients	4/12 patients
Provider 2 Daly City Youth Health	1 day training	4	7	0/12 patients	1/12 patients

Center					
Provider 1	1 day training	2	5	0/12	2/12
Sequoia Teen				patients	
Wellness					
Center					
Provider 2	3- 2Hr trainings	5	7	5/12	5/12
Sequoia Teen				patients	patients
Wellness					
Center					



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Approved:
SONHP Leadership Council
7.8.13

**University of San Francisco
School of Nursing and Health Professions**

**Student Project Approval:
Statement of Determination**

Title of Project:

A Motivational Interviewing Guideline for Increasing Physical Activity in San Mateo County's Adolescent Population

Brief Description of Project:

The aim of this project is to prompt the usage of motivational interviewing (MI) as a way to promote physical activity (PA) in San Mateo County's adolescent population.

The objectives of this evidence-based quality improvement project are to: 1) increase the usage of MI techniques in San Mateo County's adolescent providers by 30% and 2) to promote increase in PA regimen in 50% of adolescent patients in which MI is used.

The evidence-based MI tool will begin with an algorithm for the provider to determine what stage of change the patient is in based on Prochaska and DiClemente's (1982) Transtheoretical Model of Change. After determining the stage of change, the provider will be given a set of helpful guidelines to an evidence-based approach for motivational interviewing about physical activity within this stage of change. There will also be resources, including websites, and literature to support this evidence and to promote further guidance for the providers if necessary.

****Please see attached brief literature review and statement of need on this topic****

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used:
(<http://answers.hhs.gov/ohrp/categories/1569>)

This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.



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implementation.

This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

Signature of Supervising Faculty [Signature] 9/23/13 (date)

Signature of Student Emilie Gruhl 9/23/13 (date)

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

STUDENT NAME: Emilie Gruhl DATE: 9/23/2013

SUPERVISING FACULTY: Karen Van Leuvan, PhD, FNP

Instructions: Answer YES or NO to each of the following statements:

Project Title:	YES	NO
The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.	X	
The specific aim is to improve performance on a specific service or program and is a part of usual care. ALL participants will receive standard of care.	X	
The project is NOT designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does NOT follow a protocol that overrides clinical decision-making.	X	
The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does NOT develop paradigms or untested methods or new untested standards.	X	
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does NOT seek to test an intervention that is beyond current science and experience.	X	
The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.	X	
The project has NO funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.	X	
The agency or clinical practice unit agrees that this is a project that will be	X	





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students and/ or patients.		
If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: "This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board."	b*	*

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Students & Alumni DonsApps Mail - Answers to your questions re: MI evidence-based change in practice QI project

1/6/14 5:43 AM



Emilie Jospe Gruhl <ejospe@dons.usfca.edu>

Answers to your questions re: MI evidence-based change in practice QI project

Janet Chaikind <jlchaikind@smcgov.org>
To: ejospe@dons.usfca.edu

Fri, Nov 22, 2013 at 1:56 PM

Janet Chaikind M.D.
San Mateo Medical Center
phone: 650-573-2526
pager: 650-524-8066
fax: 650-578-8495
e-mail: jlchaikind@co.sanmateo.ca.us

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From: "Naomi Yunker" <Nyunker@smcgov.org>
To: "Ann Marie Silvestri" <ASilvestri@smcgov.org>, "Bryan Gescuk" <BGescuk@smcgov.org>, "David Lin" <DLin@smcgov.org>, "Evelyn Haddad" <EHaddad@smcgov.org>, "Fred Lui" <flui@smcgov.org>, "John Furman" <JFurman@smcgov.org>, "Janet Chaikind" <JLChaikind@smcgov.org>, "Stephen Cummings" <SCummings@smcgov.org>, "Steven Hassid" <SHassid@smcgov.org>, "Serena Lee" <SKLee@smcgov.org>, "Scott Oesterling" <SOesterling@smcgov.org>
Cc: "Serena Lee" <SerenaLee@cep.com>, "Alpa Sanghavi" <ASanghavi@smcgov.org>, "Chester Kunnappilly" <CKunnappilly@smcgov.org>, "Gary Chawk" <gchawk@smcgov.org>, "Glenn Levy" <GLEvy@smcgov.org>, "Hemal Mehta" <HMehta@smcgov.org>, "Ilana Sherer" <isherer@smcgov.org>, "Joan Spicer" <jspicer@smcgov.org>, "John Thomas" <JThomas@smcgov.org>, "Liz Evans" <LEvans@smcgov.org>, "Linda Wallach" <LWallach@smcgov.org>, "Michael Trindade" <mtrindade@smcgov.org>, "Neel Patel" <NPatel@smcgov.org>, "Randolph Chen" <rachen@smcgov.org>, "Rita Kavanaugh" <RKavanaugh@smcgov.org>, "Rita Ogden" <rogden@smcgov.org>, "Susan Ehrlich" <SEhrlich@smcgov.org>, "Sylvia Espinoza" <SEspinoza@smcgov.org>
Date: Fri, 22 Nov 2013 13:49:05 -0800
Subject: Answers to your questions re: MI evidence-based change in practice QI project

Hello Everyone -

Based on the responses to the questions raised by MEC and the responses from Ms. Gruhl, Dr. Vivian Levy, MD, SMMC representative to M/Peninsula IRB was asked to review the project. As a representative for our IRB, she has "approved" the project; so it's a go.

Please proceed with implementation.

NaoY

Appendix B

Budget and Cost Benefit Analysis

Expenses		
Direct		Cost
<i>Resources</i>		
	3 Day Advanced MI Training	\$500.00
	Books	\$60.00
	Tools for Providers	\$50.00
	Individual staff time	\$720.00
<i>Transportation</i>		
	Gas	\$120.00
Total Direct		\$1,450.00
Indirect		
<i>Personnel</i>		
	Medical Director time	\$140.00
Total Indirect		\$140.00
Total Expenses		\$1,590.00

<u>Assumptions</u>			
Books	2 books needed for project	30	\$30/eac
Advanced Training		500	
Tools	5 packets each site	10	\$5/pack
Gas	3 full tanks for driving 5 trips (each site)	40	\$40/tan
Medical Director	each 30 min of time	140	\$140/hr
Individual Staff	3 hrs/provider	60	\$60/hr

<u>Cost Benefit Analysis</u>		
Projected Costs for project	4 providers individually trained in MI	\$1,590.00
	See budget above for full analysis of cost	
Projected Benefits in prevention	Prevention of CV disease for 1 patient/provider	\$8,880.00
Benefit to Healthcare Spending		\$7,290.00

Assumptions

Cost per provider for project	\$397.50
Cost per person for CV Disease	\$2,220.00

based on 2010 estimates
of population in US is 300,000,000
2/3 of population is overweight

Appendix C
Communication Matrix

Information	Audience	When	Method of Communication	Provider
Milestone Report	DNP Committee Van Leuven, Loomis and Curtis. Lemmon	Every 2 weeks	Email using milestone reporting chart	E Gruhl
Project status	Van Leuven	Weekly	Email	E Gruhl
Variance	Van Leuven, providers, experts for advice	When arises	Email using Milestone Reporting chart	E Gruhl
Changes to plan/ timeline	DNP Committee, medical directors, providers	When arises	Email	E Gruhl

Appendix D: Presentation

5210

Childhood Obesity Prevention and Management

Hemal Mehta, MD
Emilie Gruhl, RN, MSN, CNL

EXTENT OF PROBLEM IN SMC

Overweight and obesity in children
Between 1988-2008 the rate of obesity rose from 11% -20% in adolescents ages 12-19 (CDC, 2013).
In SMC:

Overweight and obesity in adults
60% of the adult US population is overweight or obese
In SMC:

Diabetes and cardiovascular risk factors:

AAP RECOMMENDATIONS FOR PREVENTION AND TREATMENT OF OVERWEIGHT AND OBESITY

A) PREVENTION
B) STAGE APPROACH TO TREATMENT

STAGE 1: PREVENTION PLUS

STAGE 2: STRUCTURED WEIGHT MANAGEMENT

STAGE 3: COMPLEX MULTI DISCIPLINARY TREATMENT

STAGE 4: TERTIARY CARE

PREVENTION AT WELL CHILD VISIT

ASSESSMENT, ORDERING LAB, BRIEF GOAL SETTING AND SCHEDULE FOLLOW UP at CHDP

MESSAGE AT CHDP

5=Increased fruit and vegetable ingestion: ME, 5=Eat diet rich in calcium and fiber

5=Limit eating out: CE, 5=Encourage BF

5=Increase family meals at home: 5=Limit portion size: CE,

5=Eat breakfast daily: CE

2=Limit daily hours of screen time(<2hours): CE

1=Encourage PA(1 hour daily): CE

0=Limit sweetened beverage use: CE

Visit #1

Well Child visit: Well Child Template
5210 questions

2 min Brief negotiation

During visit: Notice healthy lifestyle areas that could use improvement
Ask: *I'd like to talk about your weight and lifestyle and how it is affecting your child's health. Is it okay to discuss this?*

Give Choice:
If they say no: *That is your decision. Lets agree to talk about it at your next visit.*
If they say yes: *Improving your child's lifestyle and maintaining their weight is the best thing you could do for your child's health.*
These are some lifestyle changes, I would recommend. Which is an easy one for you to change over the next one month.

EXAMPLE: Eat vegetables during a one meal a week
Cut out fruit juice one day out of the week

Determine confidence that they can do it: if not- alter the plan
End it there!

STAGE 1: PREVENTION PLUS

5210 MESSAGE AS WITH PREVENTION

IN PRIMARY CARE OFFICE

IMPLEMENTED BY PROVIDER OR RN

ORDER LABS IF NOT DONE PREVIOUSLY

F/U MONTHLY WITH FREQ OF VISIT BASED ON READINESS

GOAL: WT MAINTENANCE, IF NO CHANGE IN 3-6 MO, MOVE TO STAGE 2

STAGE 2: STRUCTURED WEIGHT MANAGEMENT

BALANCED MACRONUTRIENT: S, STRUCTURED MEALS: 3 MEALS+2 SNACKS: S

1 HOUR SCREEN TIME

SUPERVISED PA, ME

IN PRIMARY CARE OFF WITH RD REF

MEDICAL SCREEN INCL: VITALS, ASSESSMENT, LAB, INTAKE AND OUTPUT MONITORING: CE

MI/BEHAV CHANGE, RESOLVING FAMILY CONFLICT, PARENTING SKILLS, POSITIVE REINFORCEMENT: S

GOAL: WT MAINTENANCE, <1LB/MO WT LOSS IN 2-11YO, APPROX 2 LB/WK WT LOSS IN >12YO

IF NO SUCCESS IN ~6 MO ADVANCE TO STAGE 3, FOLLOW UP MONTHLY

CARE ACC TO AGE AND BMI

	85-94%	95-98%	99% AND UP
2-5YR OLD	START at st 1, adv to st 2, in 3-6 mo, conti wt maintenance till <85%	START at st 1, adv to st 2 in 3-6 mo, conti wt maintenance till <85%, wt loss 1 lb/ mo on healthy low energy eating plan	AS BEFORE, adv to st 3 in 3-6 mo, with wt loss goal of 1 lb/month
6-11YR OLD	START at st 1, adv to st 2, in 3-6 mo, conti wt maintenance till <85%	AS with <94%, adv to st 3 if no progress in 3-6mo, conti till <85%, 1 lb wt loss/ month goal on healthy low energy eating plan	AS with <98%, with 2lb/wk wt loss goal on low energy healthy eating plan, adv to st 4 if co morbidity and no change
12 YR AND UP	START at st 1, adv to st 2 after 3-6 mo, if no change and fx or co morbidity, with wt loss goal of 1lb/mo	START AT st 1 or 2, adv to st 3 if no progress in 3-6mo, and to st 4 if co morbidity and no change, wt loss goal of 2 lb/ wk	START AT st 1,2 or 3, adv to st 4 if co morbidity and no change, with wt loss goal of 2 lb/ wk

TOOLS FOR THE VISIT

PARENTS: PARENTING STYLE AND SKILLS AT DIFFERENT DEVELOPMENTAL AGES: prenatal, infancy, childhood, adolescent

CLINICIAN COUNSELLING: 5210 MESSAGE, MI

OTHER COGNITIVE AND BEHAVIORAL STRATEGIES:

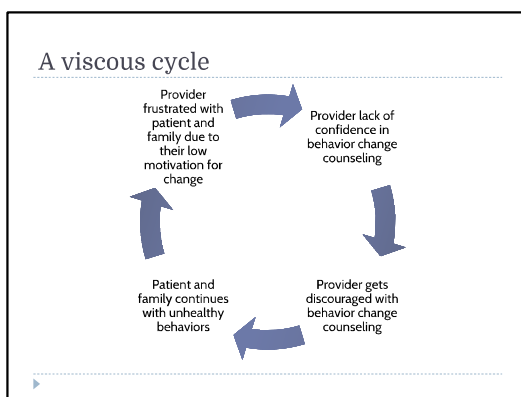
- GOAL SETTING: SMART goal with MI
- POSITIVE REINFORCEMENT: by provider and parent
- SELF MONITORING: pedometer, diary

COGNITIVE RESTRUCTURING: CBT with therapist

Behavior Change and the Childhood Obesity Epidemic

93% of children receive regular health care yet only only 7% of all visits and 30% of general medical visits involve counseling on behavior changes to improve diet and increase their PA regimen. Research shows that although most providers understand:

- Obesity is a problem
- Behavior change is a key player in management
- Barriers found in research
 - Technical expertise and confidence
 - TIME, TIME and TIME



MI training- What works

Minimal training (2 ½ days and a 6 hr online) increases provider confidence and usage of MI skills (Cucciare et al., 2012)

Healthcare providers need booster sessions in MI after first training (Carpenter et al., 2012; Noordman et al., 2012)

Retraining in MI: individual supervision, feedback, and mentoring

- Increases patient return visits
- Likelihood of long term, sustainable patient directed care (Carroll et al., 2006)

Motivational Interviewing

Definition of MI

Motivational interviewing (MI) is a client-centered, guiding method of communication & counseling to elicit and strengthen motivation for change

The paradox of change:
when a person feels accepted for who they are and what they do-no matter how unhealthy-it allows them the freedom to consider change rather than needing to defend against it.

CORE MI Interviewing Concepts

A counseling STYLE that is:

- Empathic (seeks to understand things from the client)
- Collaborative (dances versus wrestles)
- Accepting/non-judgmental
- Positive & Hopeful
- Honoring autonomy
- Holds the reins on action planning until the client is ready**
- Able to let go when client is not ready to change**

Suspends the expert-didactic-prescriptive-authority role
Resists the "righting reflex"
Rolls with resistance "instead of fighting it"
Listen's first: Client does most of the talking
Uses O.A.R.S. to support the client in safely
Open-ended questions - Affirmation -Reflective Listening- Summaries
After exchanging information (advice, education, clinical feedback), asks for client's response
Ask Permission

Stages of Change

- Precontemplative- 0-3 on readiness scale**
NOT READY FOR CHANGE
- Contemplative: 4-7 on readiness scale**
AMBIGUOUS ABOUT CHANGE
LOOK FOR "CHANGE TALK"
Not ready to change in next month
- Action: 7-10 on readiness scale**
Ready for an action plan
Confident to take action for change in the next month

15 MIN OBESITY VISIT

- STEP 1:**
See template 1: initial visit after chdp: ASSESS: BMI, Lifestyle.
See template 2: Healthy weight plan: Elicit concerns of weight, reflect/ probe concern, provide feedback and positive reinforcement and elicit response/probe
- STEP 2: SET AGENDA:** query about target behavior and easiest behavior to change, agree on target behavior
- STEP 3: ASSESS MOTIVATION AND CONFIDENCE:** assess importance, confidence, explore benefits, barriers and solutions: discussed further during the MI training
- STEP 4: PROBE CHANGES and SUMMARIZE:** QUERY next steps, plan of change, SET SMART goal, SUMMARIZE
- STEP 5: SCHEDULE FOLLOW UP:** AGREE to a follow up plan, even if no plan of change made agree to follow up.

Step 1: Elicit Concern about weight and health habits with permission

- ASK PERMISSION-** Would you like to talk about your child's weight today?
- See first question of the readiness to change section of template: "PED Weight Plan (male/female)
- If they say yes/ no,** are you concerned about your child's health habits?
- If they say No:** discuss the health risks of unhealthy lifestyle habits and then ask
Do you want to talk about your child's unhealthy habits
If they say no: PRECONTEMPLATION ACTION PLAN
Discuss Barriers
Discuss Solution
Schedule F/U
End it Here

Step 1 cont.

If they say **Yes** they are concerned with their child's health habits
ASK: What do you think is causing the problem?
Choose:
 inadequate vegetable and or fruit servings
 Choosing refined grain
 Energy dense junk food
 etc

LEVEL OF CONCERN
 On a scale of 0 to 10, how concerned are you?
 0-3.....4-6.....7-10
 Not at all somewhat extremely

If they are 0-3 discuss health risks and **PROBE**
 if they are 4-6 discuss health risks and **PROBE**
 Why are you at 4 and not at 1?
 What would it take for you to move from a 4 to a 6?

Listen for "Change Talk"- DARN-C

Desire: statements patients make about preference for change
 I would like my child to drink water instead of juice

Ability: Statements patients make about self-capability
 I think I will offer drink juice 3 times a week

Reasons: Statements patients make that are specific arguments for change
 I know juice is bad for the teeth and health

Need: Statements patients make about feeling an obligation to change
 My child will have better teeth and health if we cut back on juice

Commitment: Statements patients make about the action(s) they will take to changes
 I will offer water everyday and offer juice x3/ week

Step 2: Query about target behavior

For all patients (including score of 7-10)
Ask: Are you thinking about making a change?
 If they say **NO:** precontemplative action plan

if they say **YES**
 How likely are you to make the change in the next 6 mo?

On a scale of 0 to 10, what number would you give yourself?
 0-3.....4-6.....7-10
 Not at all likely very likely
 Precontemplative Contemplative Action

Score of 4-6 Contemplative Stage

Chart in Template
 Provided medical information
 (Ask- Inform- Ask)
 Evaluated Barriers
 Discuss solutions
 Ask if willing to make a change?
 (select appropriate choice in template:
PARENTS WILLING TO MAKE A CHANGE
 or parents not willing to make a change)
 Ask for Follow up in 1 month

Action Stage

How likely do you think you will make change in the next 6 mo?

VERY LIKELY 7-10: ACTION STAGE

Are you currently making change?
 if they say no: **CONTEMPLATIVE**
 if they say yes: **SETTING GOALS**

Action Stage: Set Concrete goals

Ask the patient or parent what they would like to work on: or what they have been working on?
 Options:
 None- already making changes, no new goals
 Other
 5210:
 5= **WORK** on nutrition, meals, portions,
 2= **WORK** on screen time,
 1= **WORK** on activity, chores,
 0= **WORK** on beverage,
WORK on sleep
**** ONLY ONE GOAL AT A TIME*****want them to succeed

Action Stage: CONCRETE GOAL SETTING
Example: Nutrition

SET SMART GOALS:
 Specific- juice
 Measurable- cut back to 3 times a week
 Action-oriented- have less juice at home, have water available at home
 Realistic - 3 times a week instead of 1, what is easy/ doable for family
 Time specific- in one week

CHART IN THE TEMPLATE

▶

Action: Parent Confidence

On a scale of 0 to 10, how confident are you in making this change

0-3.....4-6..... 7-10
 Not at all Likely Very likely

Why are you at 4 and not at 1?

What would it take for you to move from a 4 to a 6?

If a 4- goal needs to be modified
 if a 10- go with it or needs a harder goal

▶

DNP Evidence-based Change in Practice Project

Individualized training and evaluation of MI at the point of care.

Goal: Increase provider confidence and use in MI
 Over a three month time frame

Patient initial visit: January 2014
 1 month follow-up: February
 2nd follow up: March

Assist you with your challenges and MI techniques

Please email me if you are interested: ejospe@dons.usfca.edu

▶

ROLEPLAY

Precontemplative- 0-3 on readiness scale
 3-4 y.o. child's parent- nutrition- juice

Contemplative: 4-7 on readiness scale
 7 y.o. with her parent- nutrition- vegetables

Action: 7-10 on readiness scale
 teenager- ready for an action plan- nutrition- eating breakfast

▶

Questionnaire for San Mateo Pediatric Providers

Questions for Providers

Have you been trained in MI before? ___YES_____NO___

If so, was please describe the training? i.e. 4 hour in service, 2 day training,

Do you use MI daily? _____YES_____NO_____

If so: what percentage of your patients/day do you use MI with:

0-25% 25-50% 50-75% 75-100%

On a scale of 1-10 1 being the lowest and 10 highest, How confident are you in Using MI?_____

What are your barriers to using MI i.e. time, skill level

Would you like to know more about behavior change therapies such as MI for your practice?

Appendix E
Gap Analysis

<u>Future State</u>	<u>Current Situation</u>	<u>Next Actions</u>
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Providers increase confidence motivational interviewing by 2 points on confidence scale (0-10)	Average confidence is 4	1) Increase knowledge of evidence-based effectiveness of motivational interviewing
		2) Individual training during administrative time (3 times, 2 weeks apart)
		3) Feedback on style of motivational interviewing
		4) Training manual provided for review on providers own time
Providers increase use of motivational interviewing in practice by 3 patients/day	Wide range of provider use of motivational interviewing. Average use is 3 patients/day (range 0-6)	Individual Training (as described above)
		1) Provide examples of effective motivational interviewing sessions (in training manual and through personal examples)
		2) Allow discussions with feedback on current use of motivational interviewing
		3) Practice with trainer in training sessions
		4) Practice flow sheets for reminders in sessions with patients
		5) Availability of trainer over email and in person to discuss cases

Appendix F
Work Breakdown Structure

Work Breakdown Structure

The work will be divided into the following tasks:

1.0 Buy in for the project and its implementation

1.1 Medical Directors meeting

1.1.1 Brief PowerPoint of project plan

1.1.2 Brief description of staff meeting presentation and plan

1.1.3 Set date for staff medical meeting

1.2 Staff Medical Meeting

1.2.1 Evaluation of Staff use and confidence in motivational interviewing

1.2.2 PowerPoint Presentation about motivational interviewing and the project

1.2.4 Recruitment of providers for individualized education

2.0 Education on Motivational Interviewing

2.1 Staff Meeting (see above)

2.2 Individualized Education for recruited providers- 3 sessions spaced 10 d - 2 wks apart

2.2.1 Set a date for initial training session with each provider

2.2.1 Provide training manual and tools for use with each patient

2.2.3 Set goals for provider for training

3.0 Project implementation

3.1 Site visits for each motivational interviewing session

3.1.1 Prepare training plan individualized to each provider and patient base

3.1.2 Meet with provider before and after patient visit to debrief

3.2 Calls/ Emails to providers to check in on motivational interviewing use

3.1.1 Answer questions

3.1.2 Take suggestions on reworking or additions to training manual

3.3 Variance management

3.3.1 Patient no shows

3.3.2 Provider changes to schedule or plan

4.0 Results

4.1 Data Analysis of provider confidence and use of motivational interviewing

4.1.1 Non-recruited providers during staff meeting education

4.1.2 Recruited providers before and after individualized education

4.2 Dissemination

4.2.1 Staff meeting to report results

4.2.2 DNP paper

4.2.3 DNP presentation

Projected Resource Requirements

1) Locations

- a. Daly City Youth Health Center
- b. Sequoia Teen Wellness Center

2) People

- a. Expert in motivational interviewing training- Steve Berg-Smith
- b. Expert from site for implementation –
 - i. Janet Chaikind, MD Director of Pediatrics for San Mateo County
 - ii. Carol Lemmon, FNP at Daly City Youth Health Center
 - iii. Hemal Mehta, MD, Obesity provider and creator of motivational interviewing template for eClinicalworks
- c. Medical Director Buy in
 - i. Ilana Sherer, MD- Daly City Youth
 - ii. Sylvia Espinoza , MD Sequoia Teen Wellness

- d. 2 providers from each site-
 - i. Daly City: 1. Ilana Sherer, MD 2. Carol Lemmon, FNP
 - ii. Sequoia Teen Wellness: 1. Sylvia Espinoza, MD 2. Meredith Tuttle
- e. Administrative and assistant medical staff for scheduling and rooming
- f. DNP committee-
 - i. Karen Van Leuven, Chair,
 - ii. Jo Loomis and Alexa Curtis, Committee Members

3) Tools/equipment

- a. Use of Electronic Medical Record System

Training Manual- Copy and reproducing for multiple

Gantt Chart

	August	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May
Proposal approved by DNP Committee										
Medical Board Approval/Letter										
Site Approval by Medical Directors										

Development of PowerPoint Presentation									
Medical Staff Meeting/Recruitment of providers									
Prospectus written									
Prospectus Edited and approved by committee									
Provider recruitment of patients for MI counseling									
Staff individual MI Training									
Training Manual Development									
Discussion with staff about Utilization and barriers									
2 nd and 3 rd MI Educational sessions set									
Data evaluation and collection									
Write DNP report and presentations									

Milestone Report

Milestone	Target Date	Final Date	Communicated to Committee	Status
1. Approval of Site	11/1/13	11/22/13	11/22/13	Completed

from San Mateo Medical Executive Board				
2. Medical Director Meeting <u>Sequoia Teen Wellness</u> <u>Daly City Youth</u> <u>Health Center</u>	11/8/2013	11/20/13- DCYHC 11/21/2013 STWC	11/21/13	Completed
3. Staff Meeting	11/2013	12/3/13	11/21/13	Variance- presented to entire San Mateo County Ped Provider community Completed
4. Recruitment of staff for individualized education	At staff meeting 11/2013	1/2/2013- DCYHC and STWC- possibly more providers to come	1/10/2013	Completed 1/23
5. Recruitment of	by		1/10/2013	Variance- will

Patients by Staff members	12/1/2013			be using patients on the schedule for the day (not preselected)
6. First MI sessions	Week of Dec 9th-13	1/22/2014	1/10/2013	Variance- may be more providers to come. Only 2 are scheduled, one at each site Completed
7. Emails to providers. Discuss Barriers/Variance	Week of Dec 16th-20	2/1/2014		Completed
8. 2nd MI sessions set	Week of Jan 13th-17	2/10/2014		Completed
Discuss Barriers/variance with providers	Week of Jan 20th-24	2/17/2014		Completed
9. 3rd MI sessions	Week of Feb 10-	2/25/2014		Completed

	14			
10. Data Analysis	Begin Feb 17	3/1/2014	2/22/2014	Variance- will present at the San Mateo Pediatric Provider Meeting on 3/5 Completed
11 Dissemination: DNP Sites	May 2014	Set for 5/6/2014 at 11 am- at USF 3/5/2014- to San Mateo County	3/5/2014	3/12/2014- Communicated to committee Completed

Appendix G
SWOT Analysis

<u>STRENGTHS</u>	<u>WEAKNESSES</u>
Provider Interest in training	Busy practice setting

<p>Provider readiness for change</p> <p>No cost to the clinics for the training</p>	<p>Limited time to practice</p>
<p style="text-align: center;"><u>OPPORTUNITIES</u></p> <p>Majority of providers have been trained in motivational interviewing</p> <p>Medical director for county is interested in the results of the project</p> <p>Providers from all 7 clinics in the county showed interest in further training</p>	<p style="text-align: center;"><u>THREATS</u></p> <p>Sustainability- other motivational interviewing trainings have not been successful in sustaining provider use</p> <p>Funding would be necessary for further trainings</p>

Appendix H
Budget and Cost Benefit Analysis for Funded Extension Project

DIRECT COST		
Additional Training for 4 providers	2 sessions/provider	\$600.00
Cost for 10 additional providers training	5 sessions/provider	\$3,750.00
Printing of 10 additional training manuals		\$150.00
Admin time for each additional training	8 more sessions	\$480.00

Admin time for new training sessions	50 sessions	\$3,000.00
<u>TOTAL DIRECT COST FOR IMPLEMENTATION</u>		<u>\$7,980.00</u>
Total cost for 5 years of quarterly feedback		\$37,800.00
<u>TOTAL DIRECT COST IMPLEMENTATION & ONGOING TRAINING</u>		
<u>X 5 yrs</u>		<u>\$45,780.00</u>

Assumptions		
Cost for each training session		\$75.00
Number of additional sessions/provider		2
Additional providers trained from the 5 other clinics		10
number of training sessions for new providers		5
Hours of Admin time for each new provider trained		5
Hours of Admin time for additional sessions for trained providers		2
Direct cost for admin time/hr		\$60.00
Cost to print training manual		\$15.00

Cost Benefit Analysis		
Total cost for extension project		\$7,980.00
Cost of CVD for 14 patients		\$31,080.00
Benefit to Healthcare Spending for 1 child/provider		\$23,100.00
Benefit if each provider prevented CVD in one child/year for 5 years		\$117,600.00

Assumptions		
<u>Total cost for provider for additional trainings</u>	-	<u>\$270.00</u>
<u>total cost/provider for new trainings</u>	-	<u>\$690.00</u>
Providers in project		14
**Cost to care for one overweight patient in adulthood with CVD		\$2,220.00
see cost benefit analysis for full explanation		
Total Cost for 4 feedback sessions per year per provider		\$540.00
Total cost of 5 years of quarterly feedback sessions/yr		\$7,560.00

Appendix I

Final Presentation

3/5/14

Motivational Interviewing Individual Training

Evaluation

Emilie Gruhl, MSN, RN
University of San Francisco

Overview of the Project

- 2 sites- Adolescent
 - DCYHC- Carol and Ilana
 - STWC- Meredith and Sylvia
- 3 Sessions
 - 2 weeks apart
 - Training manual
- Evaluate Provider Confidence and use of MI

“RESULTS”

- Research vs. Quality Improvement
- What I found
 - GOAL:
 - Avg increase in confidence: 2-3 points
 - Avg increase use: 3 patients
 - RESULTS:
 - Avg increase in confidence: 2 points
 - Avg increase in use: 2 patients

2 pt increase in confidence (at GOM)	2 patient increase (below goal)
1 providers increased by 2 points 1 increased by 1 point 1 increased by 3 points Beginning Confidence Range was 4-5/10 (still one provider to go)	Avg went from about 0-1/12 pts to a 1-5/12 pts *changes would make to this objective: # weight management/week
Why the increase? *More knowledge of MI and how it works *Know when to keep going now or when to just drop it	Why the increase? *Know when to use is and how to incorporate it into an interview *Know type of behavior change to try it with
Why not a 8-9? *Time *Just haven't had enough practice yet.	Why not a 4-5/12: *TIME *So different than the way have been taught to practice it takes time, thought, preparation to incorporate it *Not in my routine yet. *My numbers seem the same but my approach is more solid and effective

Themes from the Individual Training

- BEGINNER'S MIND
- LETTING GO OF THE EXPERT ROLE
- LISTENING FOR CHANGETALK
- MOVING FORWARD

BEGINNER'S MIND

“In the beginners mind there are many possibilities, but in the experts there are few”
- Suzuki Roshi



3/5/14

**** LETTING GO of the EXPERT ROLE ****

- SITTING ON YOUR HANDS
 - Less teaching, let patient direct
- NO FIXING
- Letting go of the outcome
- Silence
- More reflections and less questions

Change Talk

- Change talk vs. Sustain talk
- Letting go when you don't hear it
- Not missing the opportunity when you do hear it
- Dancing not wrestling

DIRECTION- MOVING FORWARD

- Moving the conversation in the right direction
 - Listen for change talk
 - Summarize
 - Direct toward planning
 - SMART plan
 - Assess confidence
- AVIOD SPINNING

What changes can to be made

- What can be done to get you to an 8-9/10 confidence?
 - Written exercises to try out reflections with feedback
 - Getting more comfortable with the vocabulary
 - Practice
 - Continued Face to Face or Email check ins or group motivational interviewing emails that check in – go over cases, give practice cases etc, open dialogue about successes or failures
- What can be done to increase use?
 - Continued support and feedback
 - More sessions- to review cases as they come
 - Work on 1-2 things each month and revisit those goals every month
 - Support with use of template and documentation

Resources

- Video on motivational interviewing
 - 10 minutes: <http://www.youtube.com/watch?v=0z65FqpM11E>
- Link for information on Brief Action Planning:
 - <http://www.comprehensivem.com/about/brief-action-planning#2>
- Books:
 - Miller, W.R., & Rollnick, S. (2013). *Motivational interviewing: Helping People Change (3rd Edition)* New York: Guilford Publications, Inc.
 - Naar-King, S., & Suarez, M. (2011). *Motivational interviewing with adolescents and young adults* New York: Guilford Publications, Inc.
 - Rollnick, S., Miller, W.R., & Butler, C.C. (2008). *Motivational interviewing in healthcare: Helping patients change behavior*. New York: Guilford Publications, Inc.