

## Health Care Guideline

### Healthy Lifestyles

---

#### How to Cite this Document

Kottke T, Wilkinson J, Baechler C, Danner C, Erickson K, O'Connor P, Sanford M, Straub R. Institute for Clinical Systems Improvement. [Healthy Lifestyles](#). Updated January 2016.

#### ICSI Members, Sponsors and organizations delivering care within Minnesota borders, may use ICSI documents in the following ways:

- ICSI Health Care Guidelines and related products (hereinafter “Guidelines”) may be used and distributed by **ICSI Member and Sponsor** organizations as well as organizations **delivering care within Minnesota borders**. The guidelines can be used and distributed **within** the organization, to employees and anyone involved in the organization’s process for developing and implementing clinical guidelines.
- ICSI Sponsor organizations can distribute the Guidelines to their enrollees and those care delivery organizations a sponsor holds insurance contracts with.
- Guidelines may not be distributed outside of the organization, for any other purpose, without prior written consent from ICSI.
- The Guidelines may be used only for the purpose of improving the health and health care of Member’s or Sponsor’s own enrollees and/or patients.
- Only ICSI Members and Sponsors may adopt or adapt the Guidelines for use within their organizations.
- Consent must be obtained from ICSI to prepare derivative works based on the Guidelines.
- Appropriate attribution must be given to ICSI on any and all print or electronic documents that reference the Guidelines.

All other copyright rights for ICSI Health Care Guidelines are reserved by the Institute for Clinical Systems Improvement. The Institute for Clinical Systems Improvement assumes no liability for any use, adaptations, revisions or modifications made to ICSI Health Care Guidelines by the user or others.

**Sixth Edition  
January 2016**

Text in [blue](#) in this document indicates a link to another part of the document or website.

**Work Group Leaders**

Thomas E. Kottke, MD,  
MSPH  
*Cardiology, HealthPartners  
Medical Group and Regions  
Hospital*

John Wilkinson, MD  
*Family Medicine, Mayo  
Clinic*

**Work Group Members**

**Allina Medical Clinic**  
Courtney Baechler, MD, MS  
*Cardiology*

**HealthPartners Medical  
Group and Regions  
Hospital**

Patrick O'Connor, MD,  
MPH  
*Family Medicine*

Rebecca Straub, RD, LD  
*Dietician*

**Otter Tail County Public  
Health**

Kristin Erickson, MS,  
APHN-BC, RN  
*Public Health*

**Stillwater Medical Group**

Martha Sanford, MD  
*General Internist*

**University of Minnesota  
Clinicians**

Christine Danner, PhD, LP  
*Psychology*

**ICSI Staff**

Jodie Dvorkin, MD, MPH  
*Project Manager, Health  
Care Consultant*

Audrey Hansen  
*Project Manager, Health  
Care Consultant*

**Table of Contents**

**Annotations** ..... 1-28

    Evidence Grading ..... 2

    Foreword

        Introduction ..... 3

        Scope and Target Population ..... 4

        Recommendations Table ..... 5

        Implementation Recommendation Highlights ..... 6

        Related ICSI Scientific Documents ..... 6

        Definition ..... 6

    Annotations ..... 7-28

**Quality Improvement Support** ..... 29-36

    Aims and Measures ..... 30

    Implementation Recommendations ..... 31

    Implementation Tools and Resources ..... 32

    Implementation Tools and Resources Table ..... 33-36

**Supporting Evidence** ..... 37-53

    References ..... 38-46

    Appendices ..... 47-53

        Appendix A – Healthy Lifestyle Behaviors Survey ..... 47

        Appendix B – ICSI Shared Decision-Making Model ..... 48-53

**Disclosure of Potential Conflicts of Interest** ..... 54-56

**Document History and Development** ..... 57-58

    Document History ..... 57

    ICSI Document Development and Revision Process ..... 58

## **Evidence Grading**

### **Literature Search**

A consistent and defined literature search and review is used in the development and revision of ICSI guidelines. Two literature searches were conducted for this guideline. The searches were conducted in PubMed.

The first search included systematic reviews and meta-analyses from January 2008 through February 2015. The search was limited to adults over 18 years of age. The search excluded animal studies and non-English language studies. The terms included healthy lifestyles, patient activation, employer/worksites initiatives, physical and social environment, health assessments, health education programs, worksite physical activity programs, healthy food choices, readiness for change, lifestyle-related screening, motivational interviewing, physical activity, nutrition, tobacco cessation, hazardous drinking, harmful drinking, alcohol abuse/dependence, substance use, positive thinking, positive psychology, sleep hygiene, self-management, pedometer, sugar-sweetened drinks, dietary changes/behaviors, telephone-based counseling, computer-tailored education, brief interventions for healthy behaviors, tobacco telephone quit lines, e-cigarettes, brief alcohol interventions, brief tobacco cessation interventions, brief interventions for primary care, personalized feedback intervention, problem drinking, school-based community education, individually adapted behavior changes, built environment and community-based prevention activities.

The second search included randomized controlled trials and observational studies from January 2008 through April 2015. The search was limited to adults over 18 years of age. The search excluded animal studies and non-English language studies. The terms included positive psychology, positive thinking, sleep habits and sleep hygiene.

In addition to the literature searches, articles were obtained by work group members and ICSI staff. Those vetted by the work group were included in the guideline when appropriate.

### **GRADE Methodology**

ICSI utilizes the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology system.

GRADE has advantages over other systems including the former system used by ICSI. Advantages include:

- development by a widely representative group of international guideline developers;
- explicit and comprehensive criteria for downgrading and upgrading quality of evidence ratings;
- clear separation between quality of evidence and strength of recommendations that includes a transparent process of moving from evidence evaluation to recommendations;
- clear, pragmatic interpretations of strong versus weak recommendations for clinicians, patients and policy-makers;
- explicit acknowledgement of values and preferences; and
- explicit evaluation of the importance of outcomes of alternative management strategies.

GRADE involves systematically evaluating the quality of evidence (high, moderate, low, very low) and developing a strength of recommendation (strong, weak). For more detailed information on GRADE, please go to: <http://www.gradeworkinggroup.org/>.

*[Return to Table of Contents](#)*

# Foreword

## Introduction

This guideline, *Healthy Lifestyles*, summarizes evidence-based best practices that can be used to assess, advise, seek patient agreement and assist patients as they work towards healthy lifestyle behaviors (lifestyles related to physical activity, tobacco, alcohol, nutrition, healthy thinking and sleep).

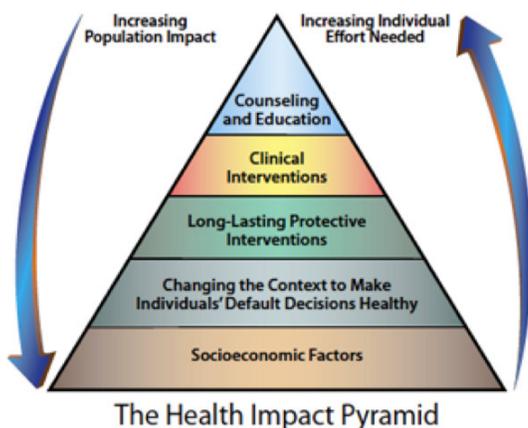
Most of the preventable burden of chronic disease – death, disability and health care costs, particularly from heart disease, stroke, cancer, diabetes and depression – is attributable to just four behaviors: poor nutrition, inadequate levels of physical activity, tobacco use and exposure to tobacco smoke, and hazardous drinking of alcohol (McGinnis, 1993). There is additional evidence that healthy thinking and healthy sleep patterns can help individuals flourish and achieve a state higher than the mere absence of disease (Keyes, 2012; Institute of Medicine, 2006).

The need for intervention is great; only about 5% of the population have no identifiable risk factors and are functioning at an optimal level (Keyes, 2012; Daviglus, 2004). Moreover, the majority of the disease burden and associated costs originate with individuals who are at or not far above the "average" population risk (Lauer, 2007).

The relative infrequency of patient visits, limited time, reimbursement pressures on clinicians, and the high cost of delivering health promotion interventions in the clinic setting all limit the impact of clinical interventions to increase healthy behaviors. However, this is not to say that clinical interventions have no effect. This guideline presents evidence-based interventions that clinicians can provide to their patients to improve rates of healthy behaviors.

Community networks, the physical and social environments, and public policy also have a role in fostering healthy lifestyles. Individuals are very often activated or motivated to adopt and maintain healthy lifestyles by various social factors and supports (including policy, system and/or environmental changes) such as those facilitated by employers and the workplace, health plans, communities, social service agencies, and government policies and programs.

We expect that individuals and systems will use this guideline in various ways, depending on their needs and interests. We outline routine brief interventions supported by the evidence for all patients (e.g., helping patients become tobacco-free, helping patients recognize and modify hazardous drinking patterns). For the other healthy behaviors, we outline evidence-based interventions that clinicians and health care systems can recommend to motivated patients (both what and how to recommend) through a process of shared decision-making.



This guideline provides a framework for health care delivery systems to design and organize themselves around evidence-based best practices as well as collaborate with other stakeholders to support patients. It is through collaborative clinical and community interrelationships (as illustrated by the health impact pyramid) that healthy lifestyle behaviors can be encouraged and supported.

[Return to Table of Contents](#)

## Scope and Target Population

This guideline summarizes evidence-based best practices, which can be used to assess, advise and elicit patient agreement, and assist patients as they work toward the lifestyle behaviors (physical activity, nutrition, tobacco, alcohol use, healthy thinking and sleep) that affect health and well-being.

This guideline focuses on clinical interventions that can be adopted and integrated into the workflow of both individual clinicians and health care systems. Information about complementary community interventions has been extensively and rigorously reviewed by the Community Preventive Services Task Force (CPSTF) and is summarized in The Community Guide, found at <http://www.thecommunityguide.org>.

There is growing evidence that the antecedents of many chronic diseases begin in childhood (*Lavizzo-Mourey, 2007*), and the benefits of healthy lifestyles are increased with earlier adoption. While many of the concepts and interventions presented in this guideline are important for adolescents and children, the evidence for how to implement them is not yet fully developed and is beyond the scope of the current guideline. Therefore, for now, the target population of this guideline is adults greater than 18 years of age.

*[Return to Table of Contents](#)*

## Recommendations Table

Topic	Recommendation	Quality of Evidence	Strength of Recommendation	Relevant Resources
<b>Physical Activity</b>	Consider prescribing a pedometer for individuals who are trying to increase their level of activity.	Moderate	Strong	<i>Kang, 2009;</i> <i>Bravata, 2007</i>
	Consider referring a community program to elderly individuals who have insufficient levels of physical activity.	High	Strong	<i>March, 2015</i>
<b>Tobacco</b>	Consider offering behavioral or pharmacologic interventions to patients who use tobacco. Given its superior effectiveness, the combination of pharmacotherapy and behavioral interventions should be provided if acceptable to the patient.	Guideline	Strong	<i>Siu, 2015</i>
	There is insufficient evidence to make a recommendation regarding electronic cigarettes (e-cigarettes). E-cigarettes may be as effective as other types of nicotine replacement therapy, but they may also have unrecognized harms; the potential benefits cannot currently be shown to outweigh the potential risks.	Insufficient	N/A	<i>Ebbert, 2015;</i> <i>Leventhal, 2015;</i> <i>Siu, 2015;</i> <i>McRobbie, 2014;</i> <i>Orr, 2014</i>
<b>Alcohol</b>	Consider offering a brief behavioral intervention for individuals who screen positive on a validated tool for risky/hazardous drinking.	Moderate	Strong	<i>Alvarez-Bueno, 2015;</i> <i>Moyer, 2013;</i> <i>Jonas, 2012;</i> <i>Bertholet, 2005</i>
<b>Nutrition</b>	Consider advising motivated patients who are not at goal to increase their consumption of fruits and vegetables each day.	Moderate	Strong	<i>Oyebode, 2014;</i> <i>Wang, 2014;</i> <i>Bellavia, 2013</i>
	Consider prescribing a Mediterranean-style or the DASH dietary pattern for individuals wanting to improve their nutrition status.	Moderate	Strong	<i>Harmon, 2015;</i> <i>Koloverou, 2016;</i> <i>Estruch, 2013;</i> <i>Kastorini, 2011;</i> <i>Sofi, 2010;</i> <i>Feart, 2009</i>
	Consider recommending self-monitoring (food journals, phone applications, tracking websites, advanced meal planning) for obese and overweight patients.	High	Strong	<i>Lyzwinski, 2014;</i> <i>Lieffers, 2012;</i> <i>Acharya, 2011;</i> <i>Burke, 2011</i>
<b>Healthy Thinking</b>	Consider positive psychology interventions for patients interested in increasing their healthy mental habits.	Moderate	Weak	<i>Ouweneel, 2014;</i> <i>Bolier, 2013;</i> <i>Gander, 2013;</i> <i>Sin, 2009;</i> <i>Emmons, 2003</i>

[Return to Table of Contents](#)

## Implementation Recommendation Highlights

The guideline work group recommends utilization of the following system and environmental changes to support guideline implementation.

- Insert healthy lifestyle promotion into organizational goals.
- Embed information regarding healthy lifestyle promotion into clinician and staff training and orientation materials.
- Embed information regarding team-based care roles into clinician and staff training and orientation materials.
- Embed motivational interviewing training into clinician and staff training and orientation.
- Embed decision supports in electronic medical records to trigger clinicians and staff members to deliver guideline components.
- Offer and promote health assessments at or prior to clinic visit.
- Place healthy lifestyle-related materials such as posters, pamphlets, videos, website links and/or quick response (QR) codes throughout the facility.

*[Return to Table of Contents](#)*

## Related ICSI Scientific Documents

### Guidelines

- [Major Depression in Adults in Primary Care](#)
- [Prevention and Management of Obesity – Adults](#)
- [Preventive Services for Adults](#)

*[Return to Table of Contents](#)*

## Definition

**Clinician** – All health care professionals whose practice is based on interaction with and/or treatment of a patient.

*[Return to Table of Contents](#)*

---

# Annotations

## Five A's Model of Patient-Centered Care and Self-Management Support

The 5A's Model of Self-Management Support (*Glasgow, 2003; Whitlock, 2002*) is the framework around which this guideline is organized:

**Assess:** Ask about or assess lifestyle behaviors (physical activity, tobacco, alcohol, nutrition, healthy thinking and sleep) on a routine basis.

Patient-centered assessment:

- Brief
- Standardized
- Offers feedback and tracks the progress of both patients and team
- Considers patient's goals and values and satisfaction with his or her progress

**Advise:** Give specific information about the benefits and goals of a healthy lifestyle and specific behaviors.

Patient-centered advice

- Includes information about benefits of a healthy lifestyle and how behaviors affect various outcomes
- Tailored to patient's goals, values and environment

**Agree:** Through a process of shared decision-making, collaboratively set realistic, personalized goals with the patient.

Patient-centered goals

- Based on the patient's level of interest and confidence in his or her ability to effect change
- Incorporated into a patient-centered action plan

The use of the SMART acronym can assist individuals in their goal setting process and help them achieve better outcomes. SMART goals are created using the following guidelines (*Bovend'Eerd, 2009*):

1. Specific – Have you explicitly stated what you intend to do?
2. Measurable – Could you definitively say you had achieved your goal?
3. Attainable – Do you feel confident that you can achieve the goal you set?
4. Relevant – Would making this change bring you closer to your overall goal?
5. Timely – Have you stated the time frame in which this goal will be completed?

Examples:

- a. General goal: "I want to eat healthier."
- b. SMART goal: "Starting tomorrow, I will eat a piece of fruit at breakfast and lunch four out of seven days per week."

[Return to Table of Contents](#)

## Annotations

**Assist:** Offer and/or refer to evidence-based interventions and resources, including self-management support.

Patient-centered assistance:

- Evidence-based
- Includes information about benefits and harms of specific interventions
- Identifies personal barriers
- Includes tailored strategies and problem-solving techniques
- Incorporates social and environmental supports

**Arrange:** Specify a plan for follow-up (e.g., visits, phone calls, e-mail, other)

Patient-centered follow-up:

- Evidence-based
- Tailored to patient preferences and schedule

The 5A's Model is most effective in conjunction with:

- Patient-centered discussions that use the principles of motivational interviewing (MI), shared decision-making (SDM) and readiness to change (RTC) as the intervention framework
- An organized system of care, based on the capabilities of each health care organization
- A multidisciplinary team approach

**Shared decision-making (SDM)** involves partnering with the patient to clarify individual values and priorities, so that the patient determines his or her desired goals and specific interventions. Shared decision-making relies on a structured process and specific tools that encourage patients to actively participate in decision-making. Patients and families should have the opportunity to understand the risks and benefits of various services. There is good evidence that well-designed decision aids can improve patient knowledge (*O'Connor, 2007*). Clinician patience, insight and care are required to recognize varying perspectives and to achieve a respectful and balanced discussion about making lifestyle changes for better health.

Please see [Appendix B](#) for additional information on Shared Decision-Making.

**Motivational interviewing (MI)** is a form of collaborative, directional conversation for strengthening a patient's own motivation for and commitment to change. It is a person-centered counseling style for addressing the common problem of ambivalence about change by paying particular attention to the language of change. It is designed to strengthen an individual's motivation for and movement toward a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion.

While initially developed for and tested in the addictions field, motivational interviewing has been widely studied and adopted in health behavior change as an effective strategy in working with patients. There is considerable evidence to support the use of motivational interviewing as a brief intervention for treating substance abuse disorders (*Resnicow, 2002; Dunn, 2001*). A recent observational study also found motivational interviewing during weight-loss discussions to be beneficial for weight loss (*Pollak, 2010*). Brief motivational interviewing to address an assortment of lifestyle changes has been found to have an effect (*Lindson-Hawley, 2015; Rubak, 2005*).

Motivational interviewing can be incorporated into an assortment of settings from health care to workplace with non-clinicians conducting a large portion of the interventions (*Resnicow, 2002*). Familiarity with the principles of motivational interviewing increases the effectiveness of patient interactions.

[Return to Table of Contents](#)

Introductory information can be found on the ICSI website. Additional information is available at <http://www.motivationalinterviewing.org>.

**Readiness to change (RTC)** has been applied to a wide range of specific behaviors such as smoking cessation, seat belt use, sunscreen use, physical activity, healthy eating and alcohol use. Sets of standardized questions have been developed for these specific behaviors and are embedded in many health assessments (*Prochaska, 2005*).

While assessing a patient's readiness to change can help the clinician meet the patient where he or she is at in the change process, the effect on outcomes is less clear. There is good evidence that the readiness-to-change stage is a strong predictor of subsequent improvement in some chronic diseases, but there is only weak evidence supporting the effectiveness of lifestyle interventions based on an individual's "stage of change" or "readiness to change" (*Riemsma, 2003*). A less-structured collaborative decision-making process – simply asking people about their individual priorities, goals and preferred areas of focus – seems to be sufficient.

It may also be helpful to include periodic assessments as to how patients are feeling regarding self-efficacy, general optimism, motivation, volition, commitment to change and viewed importance of change (*Tinker, 2007; Nothwehr, 2006; Armitage, 2004; Resnicow, 2003*), as these may predict initiation of behavior change and continuation of the healthy behavior.

In addition, describing a person as being in a "precontemplation" stage or as someone "not ready to change" may result in missed opportunities for positive change (*Nothwehr, 2006; van Sluijs, 2004; Verheijden, 2004*).

## Patient-Reported Health and Lifestyle Assessment

### Benefits of Health Assessments Plus Feedback and Education

Health assessments are standardized surveys that can measure health status and readiness to change, as well as attitudes, skills and behaviors (*Sorensen, 1998; Sorensen, 1996*). The Community Task Force concluded that health assessments that include individualized feedback and health education show "strong evidence of effectiveness in improving one or more health behaviors or conditions in populations of workers" (*Task Force on Community Preventive Services, 2005*). Domains that improved included physical activity, dietary fat intake, tobacco use, hazardous and harmful drinking/alcohol use, overall (median) blood pressure levels, overall (median) cholesterol levels, number of days lost from work due to illness or disability, and some measures of use of health care services. There is insufficient evidence to determine whether or not such programs improve dietary intake of fruits and vegetables, body composition (body mass index and percentage of fat) and fitness. Integration of patient-reported health data with other sources of health data may lead to more informed and effective clinical decision (*Goetzel, 2002; Richmond, 1999; Maes, 1998; Gomel, 1993*).

### Standardization/Content Validation of Health Assessment

Utilization of a reliable tool can confirm that variation over time or between groups is not from instrument inconsistencies, but is due in fact, to true differences (*Gold, 2005*). There are health assessments available that are age-specific for teens, and geriatrics – as well as gender – and risk-specific (cardiovascular disease). The optimal frequency and optimal location for performing health assessments has not been determined.

[Appendix A, "Healthy Lifestyle Behaviors Survey,"](#) provides a survey developed by the Healthy Lifestyles work group. This may be used in a clinical or non-clinical setting to start the conversation with patients regarding the six healthy behaviors discussed in this guideline.

[Return to Table of Contents](#)

## Physical Activity

### Background

According to the U.S. Surgeon General: "Engaging in regular physical activity is one of the most important things that people of all ages can do to improve their health. Physical activity strengthens bones and muscles, reduces stress and depression, and makes it easier to maintain a healthy body weight or to reduce weight if overweight or obese. Even people who do not lose weight get substantial benefits from regular physical activity, including lower rates of high blood pressure, diabetes, and cancer. Healthy physical activity includes aerobic activity, muscle strengthening activities, and activities to increase balance and flexibility." See the following for more information: <http://www.surgeongeneral.gov/priorities/prevention/strategy/active-living.html> (*National Prevention Council, 2014*).

### Assess

Assess whether the patient has adequate aerobic activity and strengthening exercises, and whether he or she has prolonged periods of sitting at work or home. For example, ask these four questions:

- "On average, how many days per week do you engage in moderate to vigorous physical activity (like brisk walking)?"
- "On average, how many minutes do you engage in physical activity at this level?"
  - Multiply the two answers to calculate minutes per week
- "Do you do muscle-strengthening exercises on two or more days per week?"
- "Do you sit for prolonged periods at work or home?"

### Advise

According to the U.S. Department of Health & Human Services 2008 Physical Guidelines for Americans, the following are recommended levels of physical activity:

#### "Adults:

- For substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity\*, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity\*\* aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes, and preferably, it should be spread throughout the week.
- For additional and more extensive health benefits, adults should increase their aerobic physical activity to 300 minutes (five hours) a week of moderate-intensity or 150 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activity.
- Adults should also do muscle-strengthening activities that are moderate or high intensity and involve all the major muscle groups on two or more days a week.

#### Older Adults:

- When older adults cannot do 150 minutes of moderate-intensity aerobic activity a week because of chronic conditions, they should be as physically active as their abilities and conditions allow.
- Do exercises that maintain or improve balance if they are at risk of falling.
- Determine their level of effort for physical activity relative to their level of fitness.

**Annotations**

- Older adults with chronic conditions should understand whether and how their conditions affect their ability to do regular physical activity safely."

\*Moderate-intensity: equivalent in effort to brisk walking

\*\*Vigorous-intensity: equivalent in effort to running or jogging

The WHO Global Recommendations on Physical Activity for Health make the same recommendations for adults (*World Health Organization, 2010*).

**Agree**

Through shared decision-making, collaboratively agree upon one or more SMART (specific, measurable, attainable, relevant and timely) physical activity goals with the patient.

**Assist**

There are differing recommendations regarding physical activity promotion in primary care. Some are summarized by the following table (*adapted and modified from Sanchez, 2014*):

U.S. Preventive Services Task Force (USPSTF), 2014	Recommends offering or referring adults who are overweight or obese and have additional cardiovascular disease (CVD) risk factors to intensive behavioral counseling interventions to promote a healthful diet and physical activity for CVD prevention (Grade B Recommendation) ( <i>LeFevre, 2014</i> ).
U.S. Preventive Services Task Force (USPSTF), 2012	Although the correlation among healthful diet, physical activity and the incidence of cardiovascular disease is strong, existing evidence indicates that the health benefit of initiating behavioral counseling in the primary care setting to promote a healthful diet and physical activity is small. Clinicians may choose to selectively counsel patients rather than incorporate counseling into the care of all adults in the general population (Grade C Recommendation) ( <i>Moyer, 2012</i> ).
National Institute for Health and Care Excellence (NICE), 2013	Advise adults who have been assessed as being inactive to be more physical active ( <i>National Institute for Health and Care Excellence, 2013</i> ).
Royal Australian College of General Practitioners, 2015	Healthy adults not otherwise at risk of chronic conditions should be asked questions regarding current level of physical activity and sedentary behaviors (II-A) every two years (II-C) ( <i>Smoking, Nutrition, Alcohol, Physical Activity [SNAP], 2015</i> ).

(Please see <http://www.uspreventiveservicestaskforce.org/Page/Name/grade-definitions> for a detailed description of the USPSTF grading system.)

In a recent systematic review, Sanchez (2014) found that overall, physical activity promotion in primary care showed a small to moderate positive effect on increasing physical activity levels. Better results were obtained by interventions including multiple behavioral change techniques and those targeted to insufficiently active patients.

Given the above recommendations and findings, the work group agrees that there is benefit to selectively counseling patients about physical activity based on risk level and patient interest/motivation. The decision about whether to counsel all adult patients may be left to the individual clinician, based on benefit/harms assessment. The main harm is the time taken away from discussing other medical issues.

[Return to Table of Contents](#)

**Annotations**

The ICSI Healthy Lifestyles work group does recommend the following two specific evidence-based actions that the clinician can take to increase physical activity and reduce prolonged sitting in certain patients.

Recommendation	Quality of Evidence and Strength of Recommendation
<b>Consider prescribing a pedometer for individuals who are trying to increase their level of activity.</b>	Quality of Evidence: Moderate Strength of Recommendation: Strong
<p><b>Benefit:</b> Pedometers have been shown to be effective in helping individuals sustain walking programs. They are also among the most cost-effective interventions that increase physical activity.</p> <p><b>Harm:</b> Walking may be associated with muscle soreness and fatigue. Orthopedic injuries may result from falls or collisions with cars or bicycles.</p> <p><b>Benefit-Harms Assessment:</b> The benefit that walking has shown to provide and its cost saving outweigh the difficulty in achieving behavior modification and the low risk of musculoskeletal injury.</p>	
<p><b>Relevant Resources:</b> <i>Kang, 2009; Bravata 2007</i></p>	

Recommendation	Quality of Evidence and Strength of Recommendation
<b>Consider referring elderly individuals who have insufficient levels of physical activity to a community program.</b>	Quality of Evidence: High Strength of Recommendation: Strong
<p><b>Benefit:</b> Community programs have been shown to increase levels of physical activity in the elderly. They are also among the most cost-effective interventions that increase physical activity</p> <p><b>Harm:</b> Walking may be associated with muscle soreness and fatigue. Orthopedic injuries may result from falls or collisions with cars or bicycles.</p> <p><b>Benefit-Harms Assessment:</b> The benefit that community physical activity programs provide outweigh the difficulty in achieving behavior modification and the low risk of musculoskeletal injury.</p>	
<p><b>Relevant Resources:</b> <i>March, 2015</i></p>	

A systematic review by Shrestha et al. evaluated evidence relevant to sit-stand workstations. The authors found very low quality evidence that compared to no intervention, sit-stand desks with or without additional counseling reduced sitting time at work at follow-up periods of one week and three months (*Shrestha, 2015*). Total sitting time as well as duration of sitting episodes lasting 30 minutes or more decreased compared to no intervention. According to their findings, the workstations did not have a considerable effect on work performance and had an inconsistent effect on musculoskeletal symptoms and sick leave. Further high-quality studies are needed to better evaluate the effect of sit-stand workstations on activity.

While no particular theoretical model has been shown to be particularly effective in promoting physical activity, the following intervention methods have shown effectiveness: decisional balance; identifying perceived benefits, barriers to change; social support from family and friends; behavioral processes like counterconditioning, helping relationships, reinforcement management, stimulus control and self-liberation; and eliminating barriers to self-efficacy, self-motivation and perceived competency or control (*Bully, 2015*). A systematic review has concluded that performance feedback is the best way to promote physical activity (*Ashford, 2010*).

[Return to Table of Contents](#)

### **Arrange**

Negotiate a plan for follow-up (e.g., visits, phone calls, e-mail, other) with the patient. For example, the patient may be eligible for health coaching through his or her health plan. Increasing the number of contacts or the intensity of the intervention has also been found to increase the length of adherence to a physical activity recommendation (*Eakin, 2007*).

## **Tobacco**

### **Background**

According to the Surgeon General's report on smoking statistics: "on average, compared to people who have never smoked, smokers suffer for years with more health problems due to their smoking and ultimately die earlier by a decade or more than non-smokers. In fact, smokers generally are much less healthy than non-smokers.

- Smokers' overall health is worse and they are sick more often than non-smokers.
- Smokers need to go to the doctor more often and they are admitted to the hospital more often than non-smokers.
- Smokers miss more work than do non-smokers. This costs American businesses, and American workers who smoke, billions of dollars every year" (*Centers for Disease Control and Prevention, 2014*).

### **Assess**

All clinicians, clinics and health care delivery systems should develop a system to ensure that they reliably ask all adults, particularly pregnant women – at every encounter – about tobacco use and exposure.

The USPSTF 2015 recommendation advises all adults to be screened for tobacco use (Grade A recommendation).

Recording a patient's smoking status as a vital sign or listing tobacco use or exposure as a specific problem in the medical record may increase rates of referral for smoking cessation counseling (*Boyle, 2014*).

Although many clinicians believe that patients do not like to be repeatedly asked about smoking, a majority of smokers would like to quit and have an overall positive view of health professionals who discuss this topic (*Siu, 2015; Kottke, 1997*).

### **Advise**

Stopping smoking (or smokeless tobacco) and the avoidance of secondhand smoke, at any time, significantly improves health outcomes.

Even decreasing tobacco use and exposure is beneficial; however, there is no evidence for any safe minimum.

As recommended by the USPSTF, clinicians should advise patients who smoke to quit (Grade A recommendation).

### **Agree**

Through shared decision-making, collaboratively agree with the patient upon one or more SMART (specific, measurable, attainable, relevant and timely) tobacco cessation goals.

[Return to Table of Contents](#)

## Assist

Motivational interviewing, rather than simply providing advice, is more effective in helping patients quit smoking (*Soria, 2006; Butler, 1999*). Motivational interviewing, through a process of empathetic listening and feedback, helps patients articulate gaps between current and desired behaviors, and identify first steps and other opportunities for improvement, as well as barriers and supports.

Effective counseling interventions provide practical problem-solving skills training and social support (*U.S. Department of Health and Human Services, 2008b*).

- Problem-solving skills training includes helping those who smoke to recognize situations that increase their risk for smoking, developing coping skills to overcome common barriers to quitting, and developing a plan to quit.
- Basic information about smoking and successful quitting should also be provided.
- Complementary practices that improve cessation rates include motivational interviewing, assessing readiness to change and offering more intensive counseling or referrals.

The USPSTF (2015) found that three types of counseling and behavioral therapies are especially effective and should be used with all patients attempting tobacco cessation:

- Provision of practical counseling (problem-solving/skills training)
- Provision of social support as part of treatment (intra-treatment social support)
- Help in securing social support outside of treatment (extra-treatment social support)

However, according to the Public Health Service 2008 report, there is not sufficient evidence to recommend securing social support outside of treatment.

A variety of tools and strategies, including both brief office-based interventions and various community interventions, are moderately effective in the aggregate in decreasing tobacco use and exposure.

The USPSTF (2015) recommends that clinicians should provide behavioral interventions and FDA-approved pharmacotherapy for cessation (Grade A recommendation).

All clinicians, clinics and health care delivery systems should develop a system to ensure that they reliably offer these interventions alone or in combination.

According to the USPSTF (2015), the evidence is insufficient to assess the balance of benefits and harms of pharmacotherapy in pregnant women (Grade I recommendation); they should be offered behavioral interventions (Grade A recommendation).

The optimal combination and strategies for specific populations is incompletely understood.

**The following information regarding interventions is taken directly from the USPSTF 2015 recommendation statement (<http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/tobacco-use-in-adults-and-pregnant-women-counseling-and-interventions1>).**

### Behavioral interventions

Behavioral interventions, including telephone quit lines, are more effective in decreasing tobacco use and exposure than simply offering advice.

Behavioral interventions may increase smoking abstinence rates from a baseline range of approximately 5-11% (in control groups) to 7-13% (in intervention groups) (*Patnode, 2015*).

*[Return to Table of Contents](#)*

### **In-person behavioral support and counseling**

In general, there is a dose-response relationship between quit rates and the intensity of counseling (i.e., more or longer sessions improve quit rates). However, even minimal interventions (< 3 minutes), although less effective than longer interventions, have been found to increase quit rates in some studies (*U.S. Department of Health and Human Services, 2008b*).

Effective interventions can be delivered by various types of primary care clinicians, including physicians, nurses, psychologists, social workers and cessation counselors (*Patnode, 2015; U.S. Department of Health and Human Services, 2008b*).

Both individual and group counseling have been found to be effective (*U.S. Department of Health and Human Services, 2008b*).

### **Telephone-based behavioral interventions**

Telephone-based behavioral interventions are also effective (*Patnode, 2015; U.S. Department of Health and Human Services, 2008b*). Effective interventions provide at least three telephone calls (*Patnode, 2015*). Telephone counseling can be provided by professional counselors or health care clinicians who are trained to offer advice over the telephone.

### **Self-help materials**

Providing self-help materials (primarily print-based) that are tailored to the individual patient (i.e., beyond a brochure that simply describes the health effects of smoking) is also effective in improving smoking abstinence. Evidence on non-tailored, print-based self-help materials; computer-based programs; and mobile phone-based (e.g., mHealth) interventions was mixed, although several trials show promise (*Patnode, 2015*).

### **Pharmacotherapy**

Pharmacotherapy, including nicotine replacement therapy (NRT), is moderately effective in decreasing tobacco use and exposure.

The pharmacotherapies currently approved by the FDA for the treatment of tobacco dependence in adults are NRT, bupropion SR and varenicline. NRT includes nicotine transdermal patches, lozenges, gum, inhalers or nasal spray.

Evidence suggests that NRT may increase smoking abstinence rates from about 10% in control groups (placebo or no pharmacotherapy) to 17% in those using any form of NRT, bupropion SR may increase smoking abstinence rates from about 11% in controls (placebo or no bupropion SR) to 19% in those using bupropion SR, and varenicline may increase smoking abstinence rates from about 12% in controls (placebo) to 28% in those taking varenicline (*Patnode, 2015*).

The reader is advised to refer to the package inserts of individual medications for up-to-date prescribing recommendations.

### **Combinations of Pharmacotherapy**

Combinations of pharmacotherapy, as well as combinations of different types of NRT, are more effective than single agents.

Using two types of NRT has been found to be more effective than using a single type.

NRT in combination with bupropion SR may be more efficacious compared with bupropion SR alone, but not necessarily NRT alone (*Patnode, 2015*).

[Return to Table of Contents](#)

## Combinations of Pharmacotherapy and Behavioral Interventions

Combinations of pharmacotherapy and NRT, supported by behavioral interventions, are the most effective strategies for decreasing tobacco use and exposure.

Combining behavioral and pharmacotherapy interventions may increase quit rates from approximately 10% to approximately 20% compared with usual care or minimal behavioral interventions (such as self-help materials or brief advice on quitting) (Patnode, 2015).

Recommendation	Quality of Evidence and Strength of Recommendation
<b>Consider offering behavioral and/or pharmacologic interventions to patients who smoke. Given its superior effectiveness, the combination of pharmacotherapy supported by behavioral interventions should be provided if acceptable to the patient.</b>	Quality of Evidence: High Strength of Recommendation: Strong
<p><b>Benefit:</b> Smoking cessation, or even decreased tobacco use, as well as avoidance of secondhand smoke in non-smokers markedly decreases the risk of several different chronic diseases, particularly heart disease and COPD.</p> <p><b>Harm:</b> Behavioral interventions may be difficult and challenging to maintain. Bupropion SR and varenicline, as well as other various types of NRT, all have the potential for side effects. Clinicians should read the product insert, and consider adverse reactions and contraindications prior to prescribing any medication.</p> <p><b>Benefit-Harms Assessment:</b> The benefits of decreased tobacco use and avoidance of secondhand smoke far outweigh the potential harms of the various interventions.</p>	
<p><b>Relevant Resources:</b> <i>Patnode, 2015; Siu, 2015; U.S. Department of Health and Human Services, 2008</i></p>	

## Electronic Cigarettes

The role of electronic cigarettes (e-cigarettes) as smoking cessation aids is unclear; they are possibly as effective as other types of NRT but may also have unrecognized harms.

E-cigarettes are unregulated and not subject to quality control; the long-term safety, and even the exact composition of their myriad combustion products, is largely unknown. Some types of heating elements, as well as some nicotine concentrates, have been shown to give off carcinogenic substances. Certain flavorings, when heated, have been shown to form compounds with known pulmonary toxicity, including diacetyl, which can cause irreversible bronchiolitis obliterans (Allen, 2015).

At this time the potential benefits of e-cigarettes have not been shown to outweigh the potential risks; patients should be counseled accordingly.

Recommendation:	Quality of Evidence and Strength of Recommendation
<b>There is insufficient evidence to make a recommendation regarding electronic cigarettes (e-cigarettes). E-cigarettes may be as effective as other types of NRT, but they may also have unrecognized harms; the potential benefits cannot currently be shown to outweigh the potential risks.</b>	Quality of Evidence: Insufficient Strength of Recommendation: N/A
<p><b>Benefit:</b> E-cigarettes may be an effective method of helping individuals quit smoking.</p> <p><b>Harm:</b> The long-term safety of e-cigarettes not been proven. Certain flavorings, when heated, have been shown to form compounds with known pulmonary toxicity, including diacetyl, which can cause irreversible bronchiolitis obliterans.</p> <p><b>Benefit-Harms Assessment:</b> The potential benefits cannot currently be shown to outweigh the potential risks.</p>	
<p><b>Relevant Resources:</b> <i>Ebbert, 2015; Leventhal, 2015; Siu, 2015; McRobbie, 2014; Orr, 2014</i></p>	

## Arrange

There is a dose-response relationship between quit rates and the intensity of counseling; more or longer sessions and increased follow-up improve quit rates.

# Alcohol

## Background

Alcohol use is a leading cause of preventable death. According to a 2014 study by Stahre et al., from 2006 to 2010, there was an annual average of 87,798 (27.9/100,000) population alcohol-attributable deaths and 2.5 million (831.6/100,000) years of potential life lost in the United States (Stahre, 2014). Excessive drinking accounted for 1 in 10 deaths among working-age adults. Several conditions or chronic diseases – including hypertension, trauma, certain cancers, mental health issues and others – may be favorably impacted by decreasing levels of alcohol intake.

According to the USPSTF (2013), the following terms reflect varying levels of alcohol consumption:

- **Alcohol misuse** refers to the entire spectrum behaviors related to abnormal alcohol consumption.
- **Hazardous/risky** is drinking in excess of the maximum recommended limits, leading to increased risk of alcohol-related problems.
- **Harmful drinking** is a pattern of drinking that causes damage to physical or mental health.
- **Alcohol abuse** (defined by Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition) is a drinking pattern that leads the individual to recurrently fail in major home, work, or school responsibilities; use alcohol in physically hazardous situations; or have alcohol-related legal or social problems.
- **Alcohol dependence** (defined by Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition) involves physical cravings and withdrawal symptoms, frequent consumption of alcohol in larger amounts than intended over longer periods, and a need for markedly increased amounts of alcohol to achieve intoxication (Moyer, 2013).

Of note, DSM-V no longer uses the terms "alcohol abuse" or "alcohol dependence," but rather has combined the concepts into one broader category of **alcohol use disorder**. See DSM-5 for additional details (American Psychiatric Association, 2013).

## Assess

The USPSTF recommends screening all adults ages 18 years and older for alcohol misuse (Grade B recommendation) (Jonas, 2012).

To assess for alcohol misuse, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) Clinician's Guide recommends the following:

1. Ask a single question about heavy drinking:  
Men: "How many times in the past year have you had five or more drinks in a day?"  
Women: "How many times in the past year have you had four or more drinks in a day?"  
(One or more heavy drinking days is a positive screen.)  
  
AND/OR
2. Administer a written self-report instrument (e.g., Alcohol Use Disorder Identification Test - AUDIT) (National Institute on Alcohol Abuse and Alcoholism, 2005).

[Return to Table of Contents](#)

## Annotations

In a study population of 394 patients, Smith et al. found the single question above was 81.8% sensitive and 79.3% specific for the detection of alcohol misuse. Other studies using one question with slightly different cutoffs or phrasing resulted in similar sensitivities/specificities (Smith, 2009). Several studies provide support for the use of a single question as a screening for unhealthy alcohol use (Smith, 2009; Canagasaby, 2005).

The AUDIT is a validated screening instrument that assesses hazardous and harmful drinking; it helps identify those who benefit from reducing or ceasing drinking, and indicates future alcohol-related problems.

The AUDIT tool helps identify individuals in the following categories (Babor, 2001a):

- Low-risk or abstinence – no evidence of excessive alcohol intake (score 0-7)
- In excess of drinking guidelines (score 8-15)
- Pattern of alcohol consumption causing harm to the drinker, who may also have symptoms of dependence (score 16-19)
- Possible alcohol dependence – patients should be referred to a specialist (if available) for diagnostic evaluation and treatment (score 20-40)

Although  $\geq 8$  points is the cutoff used by NIAAA as a positive screen, a study by Jonas et al. (2012) suggests that cutoffs of 4 or 5 may achieve a more "optimal balance" of sensitivity and specificity. Because of metabolism and body weight, others have proposed a cutoff of 7 for those over age 65 to increase sensitivity (Babor, 2001b). Improved interpretation of a patient's total score can be obtained by reviewing specific question groups: for example, a score of 1 or more on Questions 2-3 indicates consumption at a hazardous level; a score above 0 on Questions 4-6 may indicate alcohol dependence, and a score above 0 on Questions 7-10 may indicate alcohol-related harm (Babor, 2001b).

The AUDIT-C, a shorter, modified version of the AUDIT, consists of the first three AUDIT questions (how often the patient drinks, how many drinks in a day, and frequency of 6 or more drinks on one occasion) (Frank, 2008; Bradley, 2003; Bush, 1998).

CAGE, a third validated screening instrument, assesses consequences and is less sensitive for at-risk drinking (Maisto, 2003). It consists of four questions:

- Have you ever felt you should **Cut** down on your drinking?
- Have people **Annoyed** you by criticizing your drinking?
- Have you ever felt bad or **Guilty** about your drinking?
- Have you ever taken a drink first thing in the morning to steady your nerves or get rid of a hangover (**Eye-opener**)?

A score of  $\geq 2$  is considered positive. Lowering the threshold to  $\geq 1$  identifies more patients as abusing alcohol or alcohol dependent, making the test more sensitive but less specific (Maisto, 2003).

Jonas et al. (2012) found that the best three screening tools for alcohol misuse are the single-question screen (covering the past 12 months), AUDIT and AUDIT-C. The authors concluded that given its low sensitivity, CAGE is not a good screening tool for detecting risky/hazardous alcohol use or for screening the "full spectrum of alcohol misuse."

**Given the available evidence, the work group agrees with NIAAA recommendation of a single question or written self-report such as the AUDIT as first line tools for alcohol screening.**

If a patient screens positive, under NIAAA criteria he or she is an at-risk drinker (equivalent to USPSTF hazardous/risky drinking). The clinician should then ask additional questions to ascertain the patient's weekly

[Return to Table of Contents](#)

## **Annotations**

---

average as well as to assess for alcohol use disorders (abuse or dependence). See NIAAA Clinician Guide for further details and refer to DSM-V for specifics regarding alcohol use disorder.

### **Advise**

Providing patients with insights and information about excessive drinking can include the following items:

According to NIAAA (2005), maximum drinking limits are as follows:

- Healthy men (less than 65 years old): No more than 14 standard drinks per week and no more than 4 standard drinks in a day. A standard drink is one that contains 14 grams of pure alcohol, such as 12 ounces of beer, or 5 ounces of wine.
- Healthy women (and healthy men over 65 years old): No more than 7 standard drinks per week and no more than 3 standard drinks in a day.
- Lower limits or abstinence should be recommended when medically indicated (i.e., pregnancy, certain health conditions, the patient is on a medication that interacts with alcohol).

In addition, clinicians should remind patients to:

- Avoid alcohol entirely if pregnant or trying to conceive
- Avoid alcohol if operating a vehicle (e.g., car, motorcycle, bicycle, boat)
- Avoid traveling in any vehicle with a driver who has been drinking

### **Agree**

Through shared decision-making, collaboratively agree upon one or more SMART (specific, measurable, attainable, relevant and timely) goals regarding alcohol consumption.

### **Assist**

According to the USPSTF 2013 recommendation, brief behavioral counseling interventions should be offered to those who screen positive for risky or hazardous alcohol use. They may include "cognitive behavioral strategies, such as action plans, drinking diaries, stress management, or problem solving. Intervention may be delivered by face-to-face sessions, written self-help materials, computer- or Web-based programs, or telephone counseling." Duration of intervention is 10-15 minutes and is most effective after multi-contacts. Very brief (< 5 min.) and single-contact interventions tend to be ineffective or less effective than multi-contact interventions (*Jonas, 2012*).

Recent evidence suggests that brief alcohol interventions positively affected intermediate outcomes (amount of drinking). Brief intervention also was shown to reduce hospital stay. There was no effect on all-cause mortality or general quality-of-life measures, and insufficient evidence to evaluate alcohol-related liver disease or alcohol-related accidents (*Jonas, 2012*). Alvarez-Bueno et al. conducted a systematic review of brief interventions in primary care and found that they reduced alcohol consumption at 6 months (*Alvarez-Bueno, 2014*). Similarly, Bertholet et al. found that brief alcohol intervention reduced alcohol consumption at 6 and 12 months (*Bertholet, 2005*).

The modality used for the intervention has also been evaluated. Electronic screening and brief electronic interventions were found to be effective (*Donoghue, 2014*). Systematic reviews conducted by Tait and Christensen and White et al. found that Web/online interventions are effective in reducing alcohol consumption, although most studies have focused on student populations (*Tait, 2010; White, 2010*). The intervention was found to be most effective when occurring in a primary care setting particularly for men (*Kaner, 2009*), while Schulte found the heterogeneity of settings made it difficult to make broad conclusions regarding screening and intervention in non-medical settings (*Schulte, 2014*).

[Return to Table of Contents](#)

[www.icsi.org](http://www.icsi.org)

Recommendation	Quality of Evidence and Strength of Recommendation
<b>Consider offering a brief behavioral intervention for individuals who screen positive on a validated tool for risky/hazardous drinking.</b>	Quality of Evidence: High Strength of Recommendation: Strong
<p><b>Benefit:</b> Brief interventions have been shown in multiple studies to reduce alcohol consumption.</p> <p><b>Harm:</b> The main harm is using time in a patient visit that could be dedicated to other medical concerns.</p> <p><b>Benefit-Harms Assessment:</b> The potential benefits of reduced alcohol consumption outweigh the potential risk of mismanaging clinical time with the patient.</p>	
<p><b>Relevant Resources:</b> <i>Alvarez-Bueno, 2015; Moyer, 2013; Jonas, 2012; Bertholet, 2005</i></p>	

## SBIRT

The work group supports the use of SBIRT (Screening, Brief Intervention, Referral to Treatment), a public health approach to substance abuse disorders. It consists of integrating the above screening and counseling components into a simple, practical framework. The core components of SBIRT consist of the following (*Babor, 2007*):

**Screening:** Utilize systematic screening (such as the AUDIT tool) via normal routines at health care facilities. SBIRT programs are encouraged to consider accuracy, cost and efficiency, cultural sensitivity and which target group they are wishing to identify (e.g., looking for alcohol dependence versus those at risk of developing dependency) when choosing their screening instrument (such as the AUDIT tool).

**Brief intervention:** A time-limited intervention (e.g., one to two conversations or meetings), which may be as little as one to two brief conversations between patients and clinicians at the time of screening, to provide information or advice, address motivation for change and/or teach concrete behavior change skills with the goal of reducing substance use or the negative consequences of substance use. It is typically aimed at individuals at low to moderate risk.

**Brief treatment:** The goal of brief treatment of hazardous drinking is to assist patients at higher risk or in the early stages of dependency to develop the skills and resources to reduce consumption. Brief treatment often involves two to six sessions with a trained clinician utilizing motivational enhancement or cognitive behavioral therapy.

**Referral for treatment:** Referral is recommended for patients who have signs of substance dependence and need a level of care beyond brief service.

**Integration and coordination activities:** A key component of SBIRT includes developing a system to support the integration and coordination of the intervention components (screening, brief intervention and referral for treatment).

In an analysis of SBIRT results from multiple program sites, Madras et al. found that those reporting baseline rates of heavy alcohol use were 38.6% lower at six-month follow-up, with comparable findings across sites, gender, race/ethnic and age subgroups (*Madras, 2009*). Despite these promising results, potential barriers to implementation remain, including inadequate support (training and resources) and potential stereotyping of at-risk individuals by clinicians (*Johnson, 2010*).

## Arrange

When a diagnosis of alcohol dependence has been made, document the diagnosis and refer to chemical dependency counselor or program while the patient is in the office. When a diagnosis of harmful or hazardous

drinking has been made and brief intervention administered, set up a follow-up appointment in order to support the behavior change and reassess drinking behaviors.

## Nutrition

### Background

The 2015 Dietary Guidelines Advisory Committee defined a healthy dietary pattern as "higher in vegetables, fruits, whole grains, low- or non-fat dairy, seafood, legumes, and nuts; moderate in alcohol (among adults); lower in red and processed meat; and low in sugar-sweetened foods and drinks and refined grains." The committee also observed that when the components of healthy diets were analyzed, "vegetables and fruit are the only characteristics of the diet that were consistently identified in every conclusion statement across the health outcomes" (*Dietary Guidelines Advisory Committee, 2015*).

Identifying high-risk patients in the primary care setting and providing intensive behavioral dietary counseling by specially trained health care clinicians can produce medium to large changes in average daily intake of saturated fat, fiber, fruits and vegetables. There is a parallel relationship between individuals at high risk for a health condition and their ability to make dietary changes (*Pomerleau, 2005; Lindström, 2003; Pignone, 2003; Ammerman, 2002*). Based on a review of 44 articles, it has been concluded that several interventions can increase fruit and vegetable intake (*Pomerleau, 2005*).

Two additional systematic reviews indicated that, for the promotion of a healthy diet and the Mediterranean-style dietary pattern, intensity of intervention in the primary care setting is associated with improved nutrient intakes from fruits and vegetables, decreased saturated fat, increased activity and moderately improved healthy habits. Interventions ranged from individual sessions with either a general practitioner or a nutritionist to group visits with additional print materials (*Maderuelo-Fernandez, 2015; Bhattarai, 2013*).

The 2015-2020 U.S. Dietary Guidelines were released after this guideline was approved by the ICSI Committee on Evidence-Based Practice. For more information, please visit <http://www.health.gov/dietaryguidelines/>.

### Assess

Asking patients two simple questions can give a glimpse into their nutrition pattern:

- How many fruits and vegetables do you eat a day?
- How many times per day do you eat sweets, fatty foods and sugary drinks?

Other brief nutrition assessment tools can be used. Validated tools include the REAP assessment, the Rate Your Plate assessment (*Gans, 2006; Gans, 2003*), the Starting the Conversation Food Frequency Assessment (*Paxton, 2011*), the recommended food score (RFS) checklist (*Kant, 2000*), and the beverage assessment questionnaire BEVQ-15 (*Hedrick, 2012*).

A food/beverage frequency checklist, food/beverage tracking phone apps, three-day food/beverage records and weekly food/beverage diaries can be used to collect information about dietary habits. These would likely be best utilized if completed prior to visit.

Factors such as sleep, alcohol consumption and even screen time can have an impact on dietary patterns and should be assessed/considered (*Chapman, 2012*).

### Advise

- Eat a variety of colorful fruits and vegetables every day.
- Enjoy food but eat less.

[Return to Table of Contents](#)

[www.icsi.org](http://www.icsi.org)

## Annotations

---

- Avoid oversized portions.
- Each day, get a balance of nutrients from all of the food groups (*U.S. Department of Agriculture, 2015*).
  - Whole grains: four to eight servings
  - Vegetables: two or more cups
  - Fruits: two cups
  - Dairy: two to three servings of low-fat or fat-free
  - Fats and oils: five to seven teaspoons
  - Meat and protein foods: four to six ounces
    - Fish and seafood should be consumed at least eight ounces per week.
    - Nuts, seeds and legumes should be consumed four ounces or more per week.

The following are serving sizes:

- Three ounces of meat, a portion about the size and thickness of a deck of playing cards
- Fruit such as an apple or peach (equivalent to one cup of fruit) that is about the size of a tennis ball
- One ounce of cheese, a portion the size of four stacked dice
- One-half cup of mashed potatoes, a portion about the size of a tennis ball
- One cup of whole wheat pasta or broccoli, a portion that is about the size of a fist
- One teaspoon of butter or peanut butter, a portion that is about the size of a thumb
- One ounce of nuts, a portion that equals about one handful
- Make half of the plate fruits and non-starchy vegetables.

<http://www.choosemyplate.gov> is a good resource for simple meal planning guidelines.

- Switch to fat-free or low-fat (1%) milk.
- Compare sodium in foods like soup, bread and frozen meals, and choose the foods with lower sodium. Try to limit sodium to 2,300 mg or less per day.
- Choose whole fruit servings verses portions of fruit juice.
- Drink water instead of sugary drinks.
- Reduce or eliminate sugar-sweetened drinks (sugar-sweetened drinks include regular soda, sweet tea, sports drinks, coffee drinks and other beverages containing added sucrose, high fructose corn syrup, glucose or other caloric sweeteners) (*Chen, 2010; Malik, 2010; Brownell, 2009; Chen, 2009; Vartanian, 2007; Malik, 2006*).

(*U.S. Department of Health and Human Services, 2010*)

There are a number of detailed diet plans that can optimize an individual's nutritional status. This guideline does not recommend one diet over another, as there is no "one-size-fits-all" plan. A recent study by Harmon et al. demonstrated that the use of four diet-quality indexes was associated with lower risk of mortality from all causes in men and women. These indexes offer a variety of healthy eating patterns for individuals to choose from (*Harmon, 2015*). Mediterranean-style dietary patterns, along with the DASH diet, are examples

[Return to Table of Contents](#)

[www.icsi.org](http://www.icsi.org)

**Annotations**

of evidence-based diet plans. A Mediterranean-style diet consists of an abundant amount of vegetables, legumes and whole grains; moderate red meat intakes with seafood and chicken selections when animal protein is consumed; and usage of olive oil and nuts as primary fat sources.

The DASH diet consists of a flexible eating plan that includes a large amounts of fruit and vegetable choices, low-fat dairy options, whole grains, very lean animal protein choices and frequent consumption of legumes and nuts.

*(Estruch, 2013; Fung, 2008; Panagiotakos, 2007; Jenkins, 2006; Obarzanek, 2001)*

Recommendation	Quality of Evidence and Strength of Recommendation
<b>Consider advising motivated patients who are not at goal to increase their consumption of fruits and vegetables each day.</b>	Quality of Evidence: Moderate Strength of Recommendation: Strong
<p><b>Benefit:</b> Increase in fruit and vegetable consumption (which results in more fiber consumption) has been linked to reduced mortality from cancers, cardiovascular diseases, and strong correlation between weight management and fruit and vegetable intakes.</p> <p><b>Harm:</b> Possible financial constraints associated with purchasing additional fruit and vegetable choices.</p> <p><b>Benefit-Harms Assessment:</b> Long-term benefits and possible health care savings outweigh the initial food purchase costs.</p>	
<p><b>Relevant Resources:</b> <i>Oyebode, 2014; Wang, 2014; Bellavia, 2013</i></p>	

Recommendation	Quality of Evidence and Strength of Recommendation
<b>Consider prescribing a Mediterranean-style* or the DASH** dietary pattern for individuals wanting to improve their nutrition status.</b>	Quality of Evidence: Moderate Strength of Recommendation: Strong
<p>*Mediterranean-style diet consists of an abundant amount of vegetables, legumes and whole grains; moderate red meat intakes with seafood and chicken selections when animal protein is consumed; and usage of olive oil and nuts as primary fat sources.</p> <p>**DASH diet consists of a flexible eating plan that includes a large amounts of fruit and vegetable choices, low-fat dairy options, whole grains, very lean animal protein choices and frequent consumption of legumes and nuts.</p> <p><b>Benefit:</b> The Mediterranean dietary patterns have been associated with decreased mortality from stroke and cardiovascular disease, and reduced inflammation as well as some slower cognitive decline.</p> <p><b>Harm:</b> High consumption of fish may be difficult because of taste preferences, allergies or availability. Increased fruit and vegetable consumption could cause financial constraints.</p> <p><b>Benefit-Harms Assessment:</b> Long-term health benefits and potential for prevention of long-term diseases outweigh the harms. Options are also available for individuals who cannot consume fish/seafood.</p>	
<p><b>Relevant Resources:</b> <i>(Harmon, 2015; Koloverou, 2016; Estruch, 2013; Kastorini, 2011; Sofi, 2010; Feart, 2009)</i> *See above text for description.</p>	

**Agree**

Through shared decision-making, collaboratively agree upon one or more SMART (specific, measurable, attainable, relevant and timely) nutrition goals with the patient.

[Return to Table of Contents](#)

**Assist**

Recommendation	Quality of Evidence and Strength of Recommendation
<b>Consider recommending self-monitoring (food journals, phone applications, tracking websites, advanced meal planning) for obese and overweight patients.</b>	Quality of Evidence: High Strength of Recommendation: Strong
<p><b>Benefit:</b> Consistent tracking of intakes has been linked with increased fiber from fruit and vegetable consumption, reduction of body weight and overall improvement of self-awareness in relation to healthy habits. <i>While trials have been done in obese patients, the work group feels this recommendation may apply to any patient wanting to change dietary behavior.</i></p> <p><b>Harm:</b> Limited harms associated with self-monitoring.</p> <p><b>Benefit-Harms Assessment:</b> Benefits of tracking far outweigh any harms.</p>	
<p><b>Relevant Resources:</b> <i>Lyzwinski, 2014; Lieffers, 2012; Acharya, 2011; Burke, 2011</i></p>	

Self-monitoring of behaviors (such as smoking, calorie intakes and physical activity) helps to move the behavior to the desired outcome. When using smartphone applications for dietary tracking, there is improved dietary monitoring adherence, as well as overall improvement in dietary choices and/or anthropometric measures. Consistent tracking of intakes (at least 75% of the time) resulted in more weight-loss success for participants in weight-loss programs (*Lyzwinski, 2014; Lieffers, 2012; Wang, 2012; Boutelle, 1998*).

In recent years the topic of plate size has been studied in relation to eating behaviors. There has been some indication that smaller plate sizes yield smaller meal portions, yet two reviews concluded that reduction of plate size doesn't necessarily reduce energy consumption (*Libotte, 2014; Robinson 2014*).

Provide patients with some additional resources to address the nutrition areas they would like to work on. It may be through appropriate websites such as [www.fruitsandveggiesmatter.gov](http://www.fruitsandveggiesmatter.gov) or [www.choosemyplate.gov](http://www.choosemyplate.gov). Simple written materials may also be useful in getting the patient started.

A tailored nutrition message followed by written material, computer-generated reports or individual counseling sessions on dietary behaviors increases individuals' reported intentions to consume more fruit and vegetables and lower-fat foods (*Tessaro, 2007; Fries, 2005; Stevens, 2003*).

Offer patient local resources as appropriate (e.g., farmer's market guide or phone number for food stamp benefits).

**Arrange**

Referrals for additional behavior dietary counseling may be warranted.

Arranging for patient participation in a telephone-based nutrition counseling program may also be effective.

**Telephone-based counseling** is effective for promoting reduced dietary fat intake and increased consumption of fruits and vegetables. The following recommendations focus on high-risk individuals as they seem to respond more favorably to telephone-based counseling:

- Match the intensity of telephone-based counseling to the level of health risk.
- Focus on changing one or two eating behaviors at a time.
- A reasonable amount of time is 15 to 20 minutes per session of telephone-based counseling.
- Use a feedback loop to communicate with clinical clinicians, especially when a person's condition changes or adjustment in medications is needed.

*Return to Table of Contents*

## Annotations

- Use telephone counselors who are well trained in the theoretical bases of dietary behavior change.

*(Vanwormer, 2006)*

Arrange a follow-up call in one to two weeks and a letter reminding the patient of his or her goals. Follow up at future clinic visits with a review of patient goals.

## Healthy Thinking

### Background

There is a growing body of literature from the field of positive psychology that documents the efficacy of positive psychology interventions (PPIs) to enhance resiliency, mental health and subjective well-being. PPIs may be defined as "a psychological intervention (training, exercise, and therapy) primarily aimed at raising positive feelings, positive cognitions or positive behavior as opposed to interventions aiming to reduce symptoms, problems or disorders" (*Bolier, 2013; Sin, 2009*). While research still needs to be conducted to identify how practice of PPIs enhances well-being, it has been postulated that positive emotions allow the brain to be more open and creative, and to produce collaborative activities (*Fredrickson, 2008; Fredrickson, 2001*). Thus, positive emotions allow individuals to broaden their circle of support and build emotional and physical resources that would then lead to greater life satisfaction and societal strength.

### Assess

Currently there is no evidence that screening for PPIs results in improved outcomes for patients, so the recommended process of assessment is informal at this time. Assessment of patients' current practice of PPIs could be as simple as asking patients if they regularly participate in any of the recommended behaviors listed below. Clinicians could inquire about the frequency and impact of such behaviors, as well as patient awareness of the variety of PPIs available.

### Advise

Patients should engage in at least one PPI of demonstrated efficacy in enhancing well-being on a regular basis (at least weekly). These strategies include but are not limited to the following:

- Three good things: Write down three good things that happened at the end of each day and why they happened (*Gable, 2004*).
- Gratitude visit: Write and deliver a letter of gratitude to a person to whom you are grateful, but have never thanked appropriately.
- Signature strengths: Identify signature strengths and use one of them in a new way.
- Acts of kindness: During the week, perform at least five acts of kindness per day and write them down later in the evening, including the response you received from others. Examples of kindness include holding the door open for someone and greeting strangers.
- Share positive events with others: Seek out others and share with them a positive event, and actively respond with constructive comments when others share positive events they have experienced.

### Agree

Through shared decision-making, collaboratively agree upon one or more SMART (specific, measurable, attainable, relevant and timely) healthy thinking goals with the patient.

[\*Return to Table of Contents\*](#)

**Assist**

Lyubomirsky and Layous have put forward a Positive-Activity Model based upon the concept that finding the optimal "person-activity fit" predicts increases in well-being (Lyubomirsky, 2013). Activity features of PPIs may include factors such as dosage, triggers for the activity, variety, present vs. future orientation, self- vs. other orientation and social vs. reflective nature. Person features may include level of motivation and effort, beliefs regarding efficacy, baseline affective state, personality, social support and demographics. From this perspective, successful increases in well-being or happiness may be dependent upon finding the optimal person-activity fit. Lyubomirsky and Layous also conclude that "happiness seekers" should vary their positive practices over time to avoid adaptation and diminishing rewards of positive activities. The work of Gander et al. also highlighted the importance of continued practice of PPIs over time, but only if the individual is motivated to continue the activity voluntarily (Gander, 2013). It stands to reason that actively involving the individual in the selection of the particular PPI is important.

Clinicians should be prepared to suggest sources of additional information and details of implementation for suggested PPI activities (e.g., books, articles, on-line resources and behavioral health clinicians who may provide additional education and support in skill development).

Recommendation	Quality of Evidence and Strength of Recommendation
<b>Consider positive psychology interventions for patients interested in increasing their healthy mental habits.</b>	Quality of Evidence: Moderate Strength of Recommendation: Weak
<p><b>Benefit:</b> Interventions that focus on gratitude, kindness and appreciation (e.g., taking stock at the end of every day and finding three good things that happened and why they did, thanking people when they help, and making a point of practicing acts of kindness) have evidence of benefit. PPIs are a low-cost, non-pharmacological intervention that has been shown to have positive impact on psychological well-being and resilience.</p> <p><b>Harm:</b> Potential harms of PPIs might include disappointment on the part of individuals if energy expended in these activities was not rewarded by improvements in general mood or well-being.</p> <p><b>Benefit-Harms Assessment:</b> The benefits of PPIs appear to outweigh any associated risks of this practice.</p>	
<p><b>Relevant Resources:</b> <i>Ouweneel, 2014; Bolier, 2013; Gander, 2013; Sin, 2009; Emmons, 2003</i></p>	

**Arrange**

Follow up with patients who expressed interest in PPIs by inquiring about the status of their participation and related outcomes. Offer support for continued participation, and arrange for referral to appropriate community resources if the patient is interested.

**Sleep**

**Background**

According to the CDC (2015), 50-70 million U.S. adults have a sleep or wakefulness disorder. Data from the 2009 Behavioral Risk Factor Surveillance System (BRFSS) found that 35.3% of respondents reported having < 7 hours of sleep on average during a 24-hour period, 37.9% reported unintentionally falling asleep during the day at least one day in the preceding 30 days and 4.7% reported nodding off or falling asleep while driving in the preceding 30 days. In Minnesota, 27.6% of respondents reported < 7 hours of sleep in a 24-hour period (Centers for Disease Control and Prevention, 2011b).

Similarly, data from the National Health and Nutrition Examination Survey (NHANES) found that 37.1% of U.S. adults reported sleeping < 7 hours a night. Sleep-related difficulties were more common among

[Return to Table of Contents](#)

## Annotations

those with shorter sleep duration, and the most prevalent difficulty was not being able to concentrate on doing things (*Centers for Disease Control and Prevention, 2011a*).

Studies from multiple countries show that sleep affects overall health and mortality (*Altman, 2012*).

Short sleep duration has been associated with obesity, diabetes, hypertension, hypercholesteremia, heart attacks and stroke (*Kim, 2015; Altman, 2012; Knutson, 2010; Shankar, 2010*).

Data from the National Health Interview Survey found that the following factors placed individuals at increased odds of both short and long duration of sleep: older, non-Hispanic black, current or former smoker, low levels of education/income, and few/numerous alcoholic drinks in a week. Shorter duration of sleep was also associated with living with young children, being unmarried, working long hours and more frequent binge drinking. Longer duration of sleep was associated with being younger, Mexican-American or pregnant, or having low levels of physical activity (*Krueger, 2009*).

### Assess

According to an IOM 2006 report, the most common sleep conditions are sleep loss, sleep-disordered breathing, insomnia, narcolepsy, restless legs syndrome (RLS), parasomnias, sleep-related psychiatric disorders, sleep-related neurological disorders, sleep-related medical disorders and circadian rhythm sleep disorders.

Sleep loss, which refers to shorter duration sleep, is not a disorder itself but can be caused by the other sleep disorders. Or it can be caused by individual behavior, including lifestyle and occupation.

Although there are approximately 90 distinct sleep disorders in the International Classification of Sleep Disorders, most have one of the following symptoms (*Institute of Medicine [US] Committee on Sleep Medicine and Research, 2006*):

- Excessive daytime sleepiness
- Difficulty initiating or maintaining sleep
- Abnormal movements, behaviors and sensations occurring during sleep

Clinicians should inquire about these three symptoms, as well as assess the quantity and quality of sleep patterns and the patient's sleep habits. Also, clinicians should be aware that insomnia and hypersonmia can both be signs of depression or other psychiatric illness (*Institute of Medicine, 2006*).

Senthilvel et al. found that symptoms of sleep disorders are common but not usually screened for in primary care. Evaluation of the clinical encounters of 101 patients revealed only 24.8% had a documented sleep history. Eighty-nine percent of patients had a documented sleep disorder despite the fact that after-appointment sleep questionnaires identified that 28-33% were at risk of sleep disorder (*Senthilvel, 2011*).

The following are validated questionnaires for consideration:

- Epworth Sleepiness Scale for measure of daytime sleepiness (*Johns, 1991*)
- Berlin Questionnaire for risk for obstructive sleep apnea (*Netzer, 1999*)
- STOP and STOP-BANG Questionnaire for risk of obstructive sleep apnea in surgical patients (*Chung, 2008*)

[Return to Table of Contents](#)

## **Annotations**

---

### **Advise**

The American Academy of Sleep Medicine and Sleep Research Society recommend the following (*Watson, 2015*):

- Adults should sleep seven or more hours per night on a regular basis.
- Sleeping more than nine hours per night on a regular basis may be appropriate for young adults, individuals recovering from sleep debt and individuals with illnesses. For others, it is uncertain whether sleeping more than nine hours per night is associated with health risk.

Similarly, the National Sleep Foundation recommends that young adults (18-25 years) and adults (26-64 years) sleep seven to nine hours per night, and older adults (65+ years) sleep seven to eight hours per night (*Hirshkowitz, 2015*).

Clinicians should advise patients on the risks and adverse effects of any medication prescribed for sleep.

### **Agree**

Through shared decision-making, collaboratively agree upon one or more SMART (specific, measurable, attainable, relevant and timely) sleep hygiene goals with the patient.

### **Assist**

Assist patient in creating an action plan to support improved sleep patterns. The treatment or intervention may vary depending on the specific sleep disorder that is diagnosed. Many patients, however, regardless of whether diagnosed with a sleep condition, may benefit from a discussion of sleep hygiene.

*Your Guide to Healthy Sleep* (2011), by the U.S. Department of Health and Human Services and the National Heart, Lungs, and Blood Institute (NHLBI), recommends the following tips for getting a good night sleep:

- Avoid alcoholic drinks before bed
- Avoid large meals and beverages late at night
- If possible, avoid medicines that delay or disrupt sleep
- Don't take naps after 3 p.m.
- Relax before bed
- Take a hot bath before bed
- Eliminate noises, bright lights, uncomfortable bed and warm temperatures
- Get exposure to natural sunlight for at least 30 minutes a day
  - Grigsby-Toussaint et al. found that individuals with less access to the natural environment reported more days of sleep insufficiency, particularly men (*Grigsby-Toussaint, 2015*).
- Don't lie in bed awake

(*U.S. Department of Health and Human Services, 2011*)

Clinicians may also consider formal sleep testing and/or referral to a sleep specialist.

### **Arrange**

Plan a time to check in on the progress of sleep problems, and follow up on results of testing/referrals.

[Return to Table of Contents](#)

This section provides resources, strategies and measurement for use in closing the gap between current clinical practice and the recommendations set forth in the guideline.

The subdivisions of this section are:

- Aims and Measures
- Implementation Recommendations
- Implementation Tools and Resources
- Implementation Tools and Resources Table

## **Aims and Measures**

At this point, there are no specifications for these written measures. These are concepts that medical and public health organizations can specify according to their individual needs. Of note, these measures are designed for quality improvement and not for accountability purposes.

Increase the percentage of the population age 18 years and older with documentation of assessment of the six healthy lifestyle behaviors:

- a. Percentage of population with documentation of assessment of physical activity levels
- b. Percentage of population with documentation of assessment of tobacco use
- c. Percentage of population with documentation of assessment of hazardous/risky alcohol use
- d. Percentage of population with documentation of assessment of nutrition
- e. Percentage of population with documentation of assessment of healthy thinking habits
- f. Percentage of population with documentation of assessment of sleep patterns

*[Return to Table of Contents](#)*

## Implementation Recommendations

Prior to implementation, it is important to consider current organizational infrastructure that address the following:

- System and process design
- Training and education
- Culture and the need to shift values, beliefs and behaviors of the organization

The following system changes were identified by the guideline work group as examples to incorporate in support of the implementation of this guideline:

- Develop a plan for educating all clinicians and staff about the organizational goals for the promotion of healthy lifestyles and their role in delivering effective team-based care.
- Develop a process for obtaining height and weight, and then calculating body mass index on patients.
- Develop scripting and brief counseling that promotes a healthy lifestyle and can be utilized by all members of the health care team.
- Develop decision-support processes in electronic medical records to support clinicians and staff in delivering specific components of the guideline.
- Seek leadership support for the implementation of an internal worksite wellness program in order to "lead by example."
- Build a collaborative relationship between health care clinicians and employer leadership to support healthy lifestyles. Create communication processes to share initiatives such as wellness programs, health assessments, educational opportunities and other support programs.
- Place education materials that focus on healthy lifestyle throughout the facility to include but not be limited to posters, pamphlets, videos, Web sites, support groups and promotion of health assessments by informing individuals about the benefits and subsequent assistance with adopting and maintaining healthy lifestyles.
- Build relationships between clinic/medical group leadership and community leaders to learn about what kinds of wellness program(s) they provide or would like to provide for the community.

[\*Return to Table of Contents\*](#)

# Implementation Tools and Resources

## Criteria for Selecting Resources

The following tools and resources specific to the topic of the guideline were selected by the work group. It is expected that users of these tools will establish the proper copyright prior to their use. The types of criteria the work group used are:

- The content supports the clinical and the implementation recommendations.
- Where possible, the content is supported by evidence-based research.
- The author and source for the content are included where possible.
- The content is clear about potential biases and when appropriate conflicts of interests and/or disclaimers are noted where appropriate.

*[Return to Table of Contents](#)*

## Implementation Tools and Resources Table

Author/Organization	Title/Description	Audience	Web Sites/Order Information
<b>General</b>			
American Association of Diabetes	<b>Diabetes Prevention Program</b>	Health Care Professionals	<a href="http://www.bsc.gwu.edu/dpp/index.htmlvdoc">http://www.bsc.gwu.edu/dpp/index.htmlvdoc</a>
American Cancer Society	<b>American Cancer Society:</b> Offers information on cancer, tobacco and healthy lifestyles.	Health Care Professionals; Patients and Families	<a href="http://www.cancer.org/docroot/PED/content/PED_10_13X_Guide_for_Quitting_Smoking.asp">http://www.cancer.org/docroot/PED/content/PED_10_13X_Guide_for_Quitting_Smoking.asp</a>
American Heart Association	<b>American Heart Association:</b> A national voluntary health agency whose mission is "Building healthier lives, free of cardiovascular diseases and stroke."	Health Care Professionals; Patients and Families	<a href="http://www.americanheart.org">http://www.americanheart.org</a>
Centers for Disease Control and Prevention	<b>The Community Guide:</b> Offers evidence-based recommendations for programs and policies to promote population health.	Health Care Professionals	<a href="http://www.thecommunityguide.org">http://www.thecommunityguide.org</a>
Department of Community Health, Brown University	<b>Institute for Community Health Promotion:</b> Promotes health improvement, especially in underserved populations, by conducting interdisciplinary research and education to empower individuals, clinicians, organizations and communities to practice and promote healthier behaviors and environments.	Health Care Professionals	<a href="http://www.brown.edu/Research/ICHP/">http://www.brown.edu/Research/ICHP/</a>
Motivational Interviewing	<b>Motivational Interviewing:</b> Includes general information about the approach, as well as links, training resources and information on reprints and recent research.	Health Care Professionals	<a href="http://www.motivationalinterviewing.org">http://www.motivationalinterviewing.org</a>
National Cancer Institute and National Institutes of Health (NIH)	<b>National Cancer Institute:</b> Coordinates the National Cancer Program, which conducts and supports research, training, health information dissemination and other programs with respect to the cause, diagnosis, prevention and treatment of cancer, rehabilitation from cancer, and the continuing care of cancer patients and the families of cancer patients.	Health Care Professionals	<a href="http://rtips.cancer.gov/rtips/index.do">http://rtips.cancer.gov/rtips/index.do</a>
National Institute of Diabetes and Digestive and Kidney Diseases, and the American Diabetes Association	<b>American Diabetes Association:</b> Provides information on preventing, diagnosing and treating diabetes.	Health Care Professionals; Patients and Families	<a href="http://www.diabetes.org">http://www.diabetes.org</a>

[Return to Table of Contents](#)

**Implementation Tools and Resources Table**

Author/Organization	Title/Description	Audience	Web Sites/Order Information
<b>General (Continued)</b>			
Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human	<b>Healthy People 2020:</b> Challenges individuals, communities and professionals to take specific steps to ensure that good health, as well as long life, are enjoyed by all.	Health Care Professionals; Patients and Families	<a href="http://www.healthypeople.gov">http://www.healthypeople.gov</a>
Robert Wood Johnson Foundation	<b>The Active Living By Design:</b> Offers innovative approaches to increase physical activity through community design, public policies and communications strategies.	Health Care Professionals; Patients and Families	<a href="http://www.activelivingbydesign.org">http://www.activelivingbydesign.org</a>
St. Paul-Ramsey County Public Health	<b>Hmong Health Lifestyles:</b> Best practices document to help Hmong patients in areas of nutrition, physical activity and tobacco cessation.	Health Care Professionals	Will be available in early 2016. ICSI will update when ready.
State of South Dakota	<b>Healthy South Dakota:</b> This Web site was created to help South Dakotans become more physically active and eat healthier foods.	Health Care Professionals; Patients and Families	<a href="http://www.healthysd.gov/">http://www.healthysd.gov/</a>
U.S. National Library of Medicine	<b>U.S. National Library of Medicine and National Institute of Health:</b> Offers visitors the opportunity to click on a wide range of health topics and then navigate further to find resources in their local communities to address those health issues; this Web site is part of a national project coordinated by the U.S. National Library of Medicine and National Institutes of Health.	Health Care Professionals; Patients and Families	<a href="http://www.nlm.nih.gov">http://www.nlm.nih.gov</a>
<b>Physical Activity</b>			
American College of Sports Medicine	<b>American College of Sports Medicine:</b> Promotes and integrates scientific research, education and practical applications of sports medicine and exercise science to maintain and enhance physical performance, fitness, healthy and quality of life.	Health Care Professionals	<a href="http://www.acsm.org">http://www.acsm.org</a>
American College of Sports Medicine	<b>American College of Sports Medicine:</b> Identifies the engagement of the individual, the clinician, community groups, and health and fitness professionals in improving the activity level of patients.	Patients and Families, Health Care Professionals	<a href="http://www.exerciseismedicine.org">http://www.exerciseismedicine.org</a>

[Return to Table of Contents](#)

**Implementation Tools and Resources Table**

<b>Author/Organization</b>	<b>Title/Description</b>	<b>Audience</b>	<b>Web Sites/Order Information</b>
Centers for Disease Control and Prevention	<b>Growing Stronger – Strength Training for Older Adults:</b> Describes the benefits and provides resources for motivation, preparation and sample exercises.	Health Care Professionals; Patients and Families	<a href="http://www.cdc.gov/physicalactivity/growingstronger/index.html">http://www.cdc.gov/physicalactivity/growingstronger/index.html</a>
Department of Health and Human Services	<b>President's Council on Physical Fitness and Sports:</b> Provides information on health, physical activity, fitness and sports.	Health Care Professionals; Patients and Families	<a href="http://www.fitness.gov">http://www.fitness.gov</a>
International Physical Activity & the Environment Network (IPEN)	<b>International Physical Activity Questionnaires (IPAQ):</b> Comprises a set of 4 questionnaires. Long and short versions for use by either telephone or self-administered methods are available. The purpose of the questionnaires is to provide common instruments that can be used to obtain internationally comparable data on health-related physical activity.	Health Care Professionals	<a href="http://www.ipenproject.org">http://www.ipenproject.org</a> Click on links for the questionnaire.
U.S. Department of Health and Human Services	<b>Steps to a Healthier MN:</b> Provides current news and links to general information about the Steps program.	Health Care Professionals; Patients and Families	<a href="http://www.stepstohealthiermn.org">http://www.stepstohealthiermn.org</a>
<b>Tobacco</b>			
Centers for Disease Control and Prevention	Provides resources for tobacco control program.	Health Care Professionals	<a href="http://www.cdc.gov/tobacco/stateandcommunity/">http://www.cdc.gov/tobacco/stateandcommunity/</a>
Clearway Minnesota	Provides resources for tobacco cessation.	Health Care Professionals; Patients and Families	<a href="http://clearwaymn.org/">http://clearwaymn.org/</a>
Minnesota Department of Health	Provides tobacco news and resources.	Health Care Professionals	<a href="http://www.health.state.mn.us/divs/hpcd/tpc/">http://www.health.state.mn.us/divs/hpcd/tpc/</a>
Public Health Law Center at William Mitchell Law Center	Offers information on public health topics including tobacco control.	Health Care Professionals	<a href="http://www.publichealthlawcenter.org/topics/tobacco-control/smoke-free-tobacco-free-places/resources">http://www.publichealthlawcenter.org/topics/tobacco-control/smoke-free-tobacco-free-places/resources</a>

*Return to Table of Contents*

**Implementation Tools and Resources Table**

<b>Author/Organization</b>	<b>Title/Description</b>	<b>Audience</b>	<b>Web Sites/Order Information</b>
<b>Harmful/Hazardous Drinking</b>			
Alcoholics Anonymous	<b>Alcoholics Anonymous:</b> Offers information about this fellowship of men and women who share their experience, strength and hope with each other to stay sober and help other alcoholics to achieve sobriety.	Health Care Professionals; Patients and Families	<a href="http://www.aa.org">http://www.aa.org</a>
National Institute on Alcohol Abuse and Alcoholism	Helping Patients Who Drink Too Much – A Clinician's Guide	Health Care Professionals	<a href="http://pubs.niaaa.nih.gov/publications/Practitioner/Clinicians-Guide2005/clinicians_guide.htm">http://pubs.niaaa.nih.gov/publications/Practitioner/Clinicians-Guide2005/clinicians_guide.htm</a>
<b>Nutrition</b>			
American Association of Diabetes Educators	WAVE Assessment: The WAVE nutrition pocket guide.	Health Care Professionals	<a href="http://tde.sagepub.com/cgi/content/citation/27/3/352">http://tde.sagepub.com/cgi/content/citation/27/3/352</a>
Centers for Disease Control and Prevention	<b>Fruits and Veggies Matter:</b> Web site offers many things that will help you learn more about the National Fruit & Vegetable Program and help you encourage others to eat a colorful variety of fruits and vegetables.	Health Care Professionals; Patients and Families	<a href="http://www.choosemyplate.gov/MyPlate">http://www.choosemyplate.gov/MyPlate</a>
Institute of Medicine of the National Academies	<b>Institute of Medicine:</b> Features links to current projects, events and reports concerning food, nutrition and diet. Food safety, dietary supplements, adequate nutrition and guidelines for nutrient intake are among issues addressed.	Health Care Professionals	<a href="http://iom.nationalacademies.org/global/topics/food-nutrition.aspx">http://iom.nationalacademies.org/global/topics/food-nutrition.aspx</a>
U.S. Dept. of Agriculture	<b>Daily Food Plan:</b> The Web site offers a personal eating plan with the foods and amounts that are right for you. <b>Supertracker:</b> Offers a detailed assessment of your food intake and physical activity level.	Health Care Professionals; Patients and Families	<a href="http://www.choosemyplate.gov/">http://www.choosemyplate.gov/</a>
<b>ICSI Section</b>			
Global Health Measures Discussion Group	<b>Measuring Health in Minnesota:</b> Importance, challenges and future directions.	Health Care Professionals	<a href="https://www.icsi.org/_asset/cwd6c8/measuringpophealth.pdf">https://www.icsi.org/_asset/cwd6c8/measuringpophealth.pdf</a>
ICSI	<b>Going Beyond Clinical Walls</b>	Health Care Professionals	<a href="https://www.icsi.org/health_initiatives/accountable_health/going_beyond_clinical_walls/">https://www.icsi.org/health_initiatives/accountable_health/going_beyond_clinical_walls/</a>

[Return to Table of Contents](#)

The subdivisions of this section are:

- References
- Appendices

## References

Links are provided for those new references added to this edition (author name is highlighted in blue).

Acharya SD, Elci OU, Sereika SM, et al. Using a personal digital assistant for self-monitoring influences diet Sixth Edition/January 2016 in comparison to a standard paper record among overweight/obese adults. *J Am Diet Assoc* 2011;111:583-88.

Allen JG, Flanigan SS, LeBlanc M, et al. Flavoring chemicals in e-cigarettes: diacetyl, 2,3-pentanedione, and acetoin in a sample of 51 products, including fruit-, candy-, and cocktail-flavored e-cigarettes. *Environ Health Perspect* 2015.

Altman NG, Schopfer E, Jackson N, et al. Sleep duration versus sleep insufficiency as predictors of cardiometabolic health outcomes. *Sleep Med* 2012;13:1261-70.

Alvarez-Bueno C, Rodriguez-Martin B, Garcia-Ortiz L, et al. Effectiveness of brief interventions in primary health care settings to decrease alcohol consumption by adult non-dependent drinkers: a systematic review of systematic reviews. *Prev Med* 2015;76 Suppl:S33-38.

American Psychiatric Association. *In Diagnostic and Statistical Manual of Mental Disorders DSM-5*. Fifth Edition. Washington, DC/London, England. 2013.

Ammerman AS, Lindquist CH, Lohr KN, Hersey J. The efficacy of behavioral interventions to modify dietary fat and fruit and vegetable intake: a review of the evidence. *Prev Med* 2002;35:25-41.

Armitage CJ. Evidence that implementation intentions reduce dietary fat intake: a randomized trial. *Health Psychol* 2004;23:319-23.

Ashford S, Edmunds J, French DP. What is the best way to change self-efficacy to promote lifestyle and recreational physical activity? A systematic review with meta-analysis. *Br J Health Psychol* 2010;15:265-88.

Babor TF, Higgins-Biddle JC. *In Brief Intervention for Hazardous and Harmful Drinking: A Manual for Use in Primary Care*. World Health Organization: The Department of Mental Health and Substance Dependence. 2001a.

Babor TF, Higgins-Biddle JC, Saunders JB, Monteiro MG. AUDIT, the alcohol use disorders test: guidelines for use in primary care. World Health Organization: The Department of Mental Health and Substance Dependence. 2001b.

Babor TF, McRee BG, Kassebaum PA, et al. Screening, brief intervention, and referral to treatment (SBIRT): toward a public health approach to the management of substance abuse. *Subst Abuse* 2007;28:7-30.

Bellavia A, Larsson SC, Bottai M, et al. Fruit and vegetable consumption and all-cause mortality: a dose-response analysis. *Am J Clin Nutr* 2013;98:454-59.

Bertholet N, Daepfen JB, Wietlisbach V, et al. Reduction by alcohol consumption by brief alcohol intervention in primary care: systematic review and meta-analysis. *Arch Intern Med* 2005;165:986-95.

Bhattarai N, Prevost AT, Wright AJ, et al. Effectiveness of interventions to promote healthy diet in primary care: a systematic review and meta-analysis of randomized controlled trials. *BMC Public Health* 2013;13:1203.

Bolier L, Haverman M, Westerhof GJ, et al. Positive psychology interventions: a meta-analysis of randomized controlled studies. *BMC Public Health* 2013;13:119.

Boutelle KN, Kirschenbaum DS. Further support for consistent self-monitoring as a vital component of successful weight control. *Obes Res* 1998;6:219-24.

[Return to Table of Contents](#)

## References

- Bovend'Eerdt TJ, Botell RE, Wade DT. Writing SMART rehabilitation goals and achieving goal attainment scaling: a practical guide. *Clin Rehabil* 2009;23:352-61.
- Boyle R, Solberg L, Fiore M. Use of electronic health records to support smoking cessation. *Cochrane Database Syst Rev* 2014;(12):CD008743.
- Bradley KA, Bush KR, Epler AJ, et al. Two brief alcohol-screening tests From the Alcohol Use Disorders Identification Test (AUDIT): validation in a female Veterans Affairs patient population. *Arch Intern Med* 2003;163:821-29.
- Bravata DM, Smith-Spangler C, Sundaram V, et al. Using pedometers to increase physical activity and improve health: a systematic review. *JAMA* 2007;298:2296-2304.
- Brownell KD, Farley T, Willett WC, et al. The public health and economic benefits of taxing sugar-sweetened beverages. *N Engl J Med* 2009;361:1599-1605.
- Bully P, Sanchez A, Zabaleta-del-Olmo E, et al. Evidence from interventions based on theoretical models for lifestyle modification (physical activity, diet, alcohol and tobacco use) in primary care settings: a systematic review. *Prev Med* 2015;76:S76-S93.
- Burke LE, Conroy MB, Sereika SM, et al. The effect of electronic self-monitoring on weight loss and dietary intake: a randomized behavioral weight loss trial. *Obesity* 2011;19:338-44.
- Bush K, Kivlahan DR, McDonell MB, et al. The AUDIT alcohol consumption questions (AUDIT-C). *Arch Intern Med* 1998;158:1789-95.
- Butler CC, Rollnick S, Cohen D, et al. Motivational advice vs brief consulting for smokers in general practice: a randomised trial. *Brit J Gen Pract* 1999;49:611-16.
- Canagasaby A, Vinson DC. Screening for hazardous or harmful drinking using one or two quantity-frequency questions. *Alcohol Alcohol* 2005;40:208-13.
- Centers for Disease Control and Prevention. Effects of short sleep duration on daily activities – United States, 2005-2008. *Morbidity and Mortality Weekly Report* 2011a;60:239-42.
- Centers for Disease Control and Prevention. Smoking and Overall Health. From the Surgeon General's Report. Fact Sheet for Public Health Officials. Available at: [http://www.cdc.gov/tobacco/data\\_statistics/sgr/50th-anniversary/pdfs/fs\\_smoking\\_overall\\_health\\_508.pdf](http://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/pdfs/fs_smoking_overall_health_508.pdf). 2014.
- Centers for Disease Control and Prevention. Unhealthy sleep-related behaviors – 12 states 2009. *Morbidity and Mortality Weekly Report* 2011b;60:234-38.
- Chapman CD, Benedict C, Brooks SJ, Schioth HB. Lifestyle determinants of the drive to eat: a meta-analysis. *Am J Clin Nutr* 2012;96:492-97.
- Chen L, Appel LJ, Loria C, et al. Reduction in consumption of sugar-sweetened beverages is associated with weight loss: the PREMIER trial. *Am J Clin Nutr* 2009;89:1299-306.
- Chen L, Caballero B, Mitchell DC, et al. Reducing consumption of sugar-sweetened beverages is associated with reduced blood pressure: a prospective study among United States adults. *Circulation* 2010;121:2398-2406.
- Chung F, Yegneswaran B, Liao P, et al. STOP questionnaire: a tool to screen patients for obstructive sleep apnea. *Anesthesiology* 2008;108:812-21.
- Daviglus ML, Stamler J, Pirzada A, et al. Favorable cardiovascular risk profile in young women and long-term risk of cardiovascular and all-cause mortality. *JAMA* 2004;292:1588-92.
- Dietary Guidelines Advisory Committee. Scientific report of the 2015 dietary guidelines advisory committee. Available at: <http://health.gov/dietaryguidelines/2015-scientific-report/PDFs/Scientific-Report-of-the-2015-Dietary-Guidelines-Advisory-Committee.pdf>. 2015.

## References

- Donoghue K, Patton R, Phillips T, et al. The effectiveness of electronic screening and brief intervention for reducing levels of alcohol consumption: a systematic review and meta-analysis. *J Med Internet Res* 2014;16:e142.
- Dunn C, Deroo L, Rivara F. The use of brief interventions adapted from motivational interviewing across behavioral domains: a systematic review. *Addiction* 2001;96:1725-42.
- Eakin EG, Lawler SP, Vandelanotte C, Owen N. Telephone interventions for physical activity and dietary behavior change: a systematic review. *Am J Prev Med* 2007;32:419-34.
- Ebbert JO, Agunwamba AA, Rutten LJ. Counseling patients on the use of electronic cigarettes. *Mayo Clin Proc* 2015;90:128-34.
- Emmons RA, McCullough ME. Counting blessings versus burdens: an experimental investigation of gratitude and subjective well-being in daily life. *J Pers Soc Psychol* 2003;84:377-89.
- Estruch R, Ros E, Salas-Salvadó J, et al. Primary prevention of cardiovascular disease with a Mediterranean diet. *N Engl J Med* 2013;368:1279-89.
- Feart C, Samieri C, Rondeau V, et al. Adherence to a Mediterranean diet, cognitive decline, and risk of dementia. *JAMA* 2009;302:638-48.
- Frank D, DeBenedetti AF, Volk RJ, et al. Effectiveness of the AUDIT-C as a screening tool for alcohol misuse in three race/ethnic groups. *J Gen Intern Med* 2008;23:781-87.
- Fredrickson BL. The role of positive emotions in positive psychology: the broaden-and-build theory of positive emotions. *Am Psychol* 2001;56:218-26.
- Fredrickson BL, Cohn MA, Coffey KA, et al. Open hearts build lives: positive emotions, induced through loving-kindness meditation, build consequential personal resources. *J Pers Soc Psychol* 2008;95:1045-62.
- Fries E, Edinboro P, McClish D, et al. Randomized trial of a low-intensity dietary intervention in rural residents: the rural clinician cancer prevention project. *Am J Prev Med* 2005;28:162-68.
- Fung TT, Chiuve SE, McCullough ML, et al. Adherence to a DASH-style diet and risk of coronary heart disease and stroke in women. *Arch Intern Med* 2008;168:713-20.
- Gable SL, Reis HT, Impett EA, Asher ER. What do you do when things go right? The intrapersonal and interpersonal benefits of sharing positive events. *J Pers Soc Psychol* 2004;87:228-45.
- Gander F, Proyer RT, Ruch W, Wyss T. Strength-based positive interventions: further evidence for their potential in enhancing well-being and alleviating depression. *J Happiness Stud* 2013;14:1241-59.
- Gans KM, Risica PM, Wylie-Rosett J, et al. Development and evaluation of the nutrition component of the rapid eating and activity assessment for patients (REAP): a new tool for primary care providers. *J Nutr Educ Behav* 2006;38:286-92.
- Gans KM, Ross E, Barner CW, et al. REAP and WAVE: new tools to rapidly assess/discuss nutrition with patients. *J Nutr* 2003;133:556S-62S.
- Glasgow RE, Davis CL, Funnell MM, Beck A. Implementing practical interventions to support chronic illness self-management in health care settings: lessons learned and recommendations. *Jt Comm J Qual Saf* 2003;29:563-74.
- Goetzel RZ, Ozminkowski RJ, Bruno JA, et al. The long-term impact of Johnson & Johnson's health & wellness program on employee health risks. *J Occup Environ Med* 2002;44:417-24.
- Gold D, Grossmeier J. Using an HRA as an evaluation tool. *Wellness Management* 2005;20:1-5.

[Return to Table of Contents](#)

## References

- Gomel M, Oldenburg B, Simpson JM, Owen N. Work-site cardiovascular risk reduction: a randomized trial of health risk assessment, education, counseling, and incentives. *Am J Public Health* 1993;83:1231-38.
- Grigsby-Toussaint DS, Turi KN, Krupa M, et al. Sleep insufficiency and the natural environment: results from the US behavioral risk factor surveillance system survey. *Prev Med* 2015;78:78-84.
- Harmon BE, Boushey CJ, Shvetsov YB, et al. Associations of key diet-quality indexes with mortality in multiethnic cohort: the dietary patterns methods project. *Am J Clin Nutr* 2015;101:587-97.
- Hedrick VE, Savla J, Comber DL, et al. Development of a brief questionnaire to assess habitual beverage intake (BEVQ-15): sugar sweetened beverages and total beverage energy intake. *J Acad Nutr Diet* 2012;112:840-49.
- Hirshkowitz M, Whiton K, Albert S, et al. The national sleep foundation's sleep time duration recommendations: methodology and results summary. *Sleep Health* 2015;1:40-43.
- Institute of Medicine (US) Committee on Sleep Medicine and Research. Sleep disorders and sleep deprivation: an unmet public health problem. Washington, DC: National Academies Press (US). 2006.
- Jenkins DJA, Kendall CWC, Faulkner DA, et al. Assessment of the longer-term effects of a dietary portfolio of cholesterol-lowering foods in hypercholesterolemia. *Am J Clin Nutr* 2006;83:582-91.
- Johns MW. A new method for measuring daytime sleepiness: the Epworth sleepiness scale. *Sleep* 1991;14:540-45.
- Johnson M, Jackson R, Guillaume L, et al. Barriers and facilitators to implementing screening and brief intervention for alcohol misuse: a systematic review of qualitative evidence. *J Public Health* 2010;33:412-21.
- Jonas DE, Garbutt JC, Brown JM, et al. Screening, behavioral counseling, and referral in primary care to reduce alcohol misuse. Rockville (MD): Agency for Health care Research and Quality (US). 2012.
- Kang M, Marshall SJ, Barreira TV, Lee JO. Effect of pedometer-based physical activity interventions: a meta-analysis. *Res Q Exerc Sport* 2009;80: 648-55.
- Kaner EF, Dickinson HO, Beyer F, et al. The effectiveness of brief alcohol interventions in primary care settings: a systematic review. *Drug Alcohol Rev* 2009;28:301-23.
- Kant AK, Schatzkin A, Graubard BI, Schairer C. A prospective study of diet quality and mortality in women. *JAMA* 2000;283:2109-15.
- Kastorini CM, Milionis HJ, Esposito K, et al. The effect of Mediterranean diet on metabolic syndrome and its components: a meta-analysis of 50 studies and 534,906 individuals. *J Am Coll Cardiol* 2011;57:1299-313.
- Keyes CL, Simoes EJ. To flourish or not: positive mental health and all-cause mortality. *Am J Public Health* 2012;102:2164-72.
- Kim JJ, Yadav D, Ahn SV, et al. A prospective study of total sleep duration and incident metabolic syndrome: the ARIRANG study. *Sleep Med* 2015;16:1511-15.
- Knutson KL. Sleep duration and cardiometabolic risk: a review of the epidemiologic evidence. *Best Pract Res Clin Endocrinol Metab* 2010; 24:731-43.
- Koloverou E, Panagiotakos DB, Pitsavos C, et al. Adherence to Mediterranean diet and 10-year incidence (2002-2012) of diabetes: correlations with inflammatory and oxidative stress biomarkers in the ATTICA cohort study. *Diabetes Metab Res Rev* 2016;32:73-81.
- Kottke TE, Solberg LI, Brekke ML, et al. Will patient satisfaction set the preventive services implementation agenda? *Am J Prev Med* 1997;13:309-16.

## References

- Krueger PM, Friedman EM. Sleep duration in the United States: a cross-sectional population-based study. *Am J Epidemiol* 2009;169:1052-63.
- Lauer MS. Primary prevention of atherosclerotic cardiovascular disease: the high public burden of low individual risk. *JAMA* 2007;297:1376-78.
- Lavizzo-Mourey R. Childhood obesity: what it means for clinicians. *JAMA* 2007;298:920-22.
- LeFevre ML. Behavioral counseling to promote a healthful diet and physical activity for cardiovascular disease prevention in adults with cardiovascular risk factors: U.S. preventive services task force recommendation statement. *Ann Intern Med* 2014;161:587-93.
- Leventhal AM, Strong DR, Kirkpatrick MG, et al. Association of electronic cigarette use with initiation of combustible tobacco product smoking in early adolescence. *JAMA* 2015;314:700-07.
- Libotte E, Siegrist M, Bucher T. The influence of plate size on meal consumption.: literature review and experiment. *Appetite* 2014;82:91-96.
- Lieffers JR, Hanning RM. Dietary assessment and self-monitoring with nutrition applications for mobile devices. *Can J Diet Pract Res* 2012;73:e253-60.
- Lindson-Hawley N, Thompson TP, Begh R. Motivational interviewing for smoking cessation. *Cochrane Database Syst Rev* 2015;(3):CD006936.
- Lindström J, Louheranta A, Mannelin M, et al. The Finnish diabetes prevention study (DPS): lifestyle intervention and 3-year results on diet and physical activity. *Diabetes Care* 2003;26:3230-36. (High Quality Evidence)
- Lyubomirsky S, Layous K. How do simple positive activities increase well-being? *Current Directions in Psychological Science* 2013;22:57-62.
- Lyzwinski LN. A systematic review and meta-analysis of mobile devices and weight loss with an intervention content analysis. *J Pers Med* 2014;4:311-85.
- Maderuelo-Fernandez JA, Recio-Rodriguez JI, Patino-Alonso MC, et al. Effectiveness of interventions applicable to primary health care settings to promote Mediterranean diet or healthy eating adherence in adults: a systematic review. *Prev Med* 2015;76:S39-55.
- Madras BK, Compton WM, Avula D, et al. Screening, brief interventions, referral to treatment (SBIRT) for illicit drug and alcohol use at multiple health care sites: comparison at intake and 6 months later. *Drug Alcohol Depend* 2009;99:280-95.
- Maes S, Verhoeven C, Kittel F, Scholten H. Effects of a Dutch work-site wellness-health program: the Brabantia project. *Am J Public Health* 1998;88:1037-41.
- Maisto SA, Saitz R. Alcohol use disorders: screening and diagnosis. *Am J Addict* 2003;12:S12-S25.
- Malik VS, Popkin BM, Bray GA, et al. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis. *Diabetes Care* 2010;33:2477-83.
- Malik VS, Schulze MB, Hu FB. Intake of sugar-sweetened beverages and weight gain: a systematic review. *Am J Clin Nutr* 2006;84:274-88.
- March S, Torres E, Ramos M, et al. Adult community health-promoting interventions in primary health care: a systematic review. *Prev Med* 2015;76:S94-S104.
- McGinnis JM, Foege WH. Actual causes of death in the United States. *JAMA* 1993;270:2207-12.
- McRobbie H, Bullen C, Hartmann-Boyce J, Hajek P. Electronic cigarettes for smoking and reduction. *Cochrane Database Syst Rev* 2014;(12):CD010216.

[Return to Table of Contents](#)

## References

- Moyer VA. Behavioral counseling interventions to promote a healthful diet and physical activity for cardiovascular disease prevention in adults: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med* 2012;157:367-72.
- Moyer VA. Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med* 2013;159:210-18.
- National Institute for Health and Care Excellence (NICE). Physical activity: brief advice for adults in primary care. 2013.
- National Institute on Alcohol Abuse and Alcoholism. Helping patients who drink too much: a clinician's guide. 2005.
- National Prevention Council. National preventive strategy: active living. Available at: <http://www.surgeongeneral.gov/priorities/prevention/strategy/active-living.pdf>. 2014.
- Netzer NC, Stoohs RA, Netzer CM, et al. Using the Berlin questionnaire to identify patients at risk for the sleep apnea syndrome. *Ann Intern Med* 1999;131:485-91.
- Nothwehr F, Snetselaar L, Yang J, Wu H. Stage of change for healthful eating and use of behavioral strategies. *J Am Diet Assoc* 2006;106:1035-41.
- Obarzanek E, Sacks FM, Vollmer WM, et al. Effects on blood lipids of a blood pressure-lowering diet: the dietary approaches to stop hypertension (DASH) trial. *Am J Clin Nutr* 2001;74:80-89.
- O'Connor AM, Stacey D, Barry MJ, et al. Do patient decision aids meet effectiveness criteria of the international patient decision aid standards collaboration? A systematic review and meta-analysis. *Med Decis Making* 2007;27:554-74.
- Orr KK, Asal NJ. Efficacy of electronic cigarettes for smoking cessation. *Ann Pharmacother* 2014;48:1502-06.
- Ouweneel E, Le Blanc PM, Schaufeli WB. On being grateful and kind: results of two randomized controlled trials on study-related emotions and academic engagement. *J Psychol* 2014;148:37-60.
- Oyebode O, Gordon-Dseagu V, Walker A, Mindell JS. Fruit and vegetable consumption and all-cause cancer and CVD mortality: analysis of health survey for England data. *J Epidemiol Community Health* 2014;68:856-62.
- Panagiotakos DB, Pitsavos C, Skoumas Y, Stefanadis C. The association between food patterns and the metabolic syndrome using principal components analysis: the ATTICA Study. *J Am Diet Assoc* 2007;107:979-87.
- Patnode CD, Henderson JT, Thompson JH, et al. Behavioral counseling and pharmacotherapy interventions for tobacco cessation in adults, including pregnant women: a review for the U.S. Preventive Services Task Force. Rockville, MD: Agency for Health care Research and Quality. 2015.
- Paxton AE, Strycker LA, Toobert DJ, et al. Starting the conversation: performance of a brief dietary assessment and intervention tool for health professionals. *Am J Prev Med* 2011;40:67-71.
- Pignone MP, Ammerman A, Fernandez L, et al. Counseling to promote a healthy diet in adults: a summary of the evidence for the U.S. preventive services task force. *Am J Prev Med* 2003;24:75-92.
- Pollak KI, Alexander SC, Coffman CJ, et al. Physician communication techniques and weight loss in adults: project CHAT. *Am J Prev Med* 2010;39:321-28.
- Pomerleau J, Lock K, Knai C, McKee M. Interventions designed to increase adult fruit and vegetable intake can be effective: a systematic review of the literature. *J Nutr* 2005;135:2486-95.

[Return to Table of Contents](#)

## References

- Prochaska JO, Velicer WF, Redding C, et al. Stage-based expert systems to guide a population of primary care patients to quit smoking, eat healthier, prevent skin cancer, and receive regular mammograms. *Prev Med* 2005;41:406-16.
- Resnicow K, Dilorio C, Soet JE, et al. Motivational interviewing in health promotion: it sounds like something is changing. *Health Psych* 2002;21:444-51.
- Resnicow K, McCarty F, Baranowski T. Are precontemplators less likely to change their dietary behavior? A prospective analysis. *Health Educ Res* 2003;18:693-705.
- Richmond RL, Kehoe L, Hailstone S, et al. Quantitative and qualitative evaluations of brief interventions to change excessive drinking, smoking and stress in the police force. *Addiction* 1999;94:1509-21.
- Riemsma RP, Pattenden J, Bridle C, et al. Systematic review of the effectiveness of stage based interventions to promote smoking cessation. *BMJ* 2003;326:1175.
- [Robinson E, Nolan S, Tudur-Smith C, et al.](#) Will smaller plates lead to smaller waists? A systematic review and meta-analysis of the effect that experimental manipulation of dishware size has on energy consumption. *Obes Rev* 2014;15:812-21.
- Rubak S, Sandboek A, Lauritzen T, Christensen B. Motivational interviewing: a systematic review and meta-analysis. *Brit J Gen Pract* 2005;55:513:305-12.
- [Sanchez A, Bully P, Martinez C, Grandes G.](#) Effectiveness of physical activity promotion interventions in primary care: a review of reviews. *Prev Med* 2014;76:S56-S67.
- [Schulte B, O'Donnell AJ, Kastner S, et al.](#) Alcohol screening and brief intervention in workplace settings and social services: a comparison of literature. *Front Psychiatry* 2014;5:1-9.
- [Senthilvel E, Auckley D, Dasarathy J.](#) Evaluation of sleep disorder in primary care setting: history taking compared to questionnaires. *J Clin Sleep Med* 2011;7:41-48.
- [Shankar A, Syamala S, Kalidindi S.](#) Insufficient rest or sleep and its relation to cardiovascular disease, diabetes and obesity in a national, multiethnic sample. *PLoS ONE* 2010;5:e14189.
- [Shrestha N, Ijaz S, Kukkonen-Harjula KT, et al.](#) Workplace interventions for reducing sitting at work. *Cochrane Database Syst Rev* 2015;1:CD010912.
- [Sin NL, Lyubomirsky S.](#) Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: a practice-friendly meta-analysis. *J Clin Psychol* 2009;65:467-87.
- [Smoking, nutrition, alcohol, physical activity \(SNAP\): a population health guide to behavioural risk factors in general practice.](#) 2nd Edition. Melbourne: The Royal Australian College of General Practitioners. 2015.
- [Siu AL.](#) Behavioral and pharmacotherapy interventions for tobacco smoking cessation in adults, including pregnant women: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med* 2015;163:622-34.
- [Smith PC, Schmidt SM, Allensworth-Davides D, Saitz R.](#) Primary care validation of a single-question alcohol screening test. *J Gen Intern Med* 2009;24:783-88.
- [Sofi F, Abbate R, Gensini GF, Casini A.](#) Accruing evidence on benefits of adherence to the Mediterranean diet on health: an updated systematic review and meta-analysis. *Am J Clin Nutr* 2010;92:1189-96.
- Sorensen G, Stoddard A, Hunt MK, et al. The effects of a health promotion – health protection intervention on behavior change: the WellWorks study. *Am J Public Health* 1998;88:1685-90.
- Sorensen G, Thompson B, Glanz K, et al. Work site-based cancer prevention: primary results from the Working Well trial. *Am J Public Health* 1996;86:939-47.

[Return to Table of Contents](#)

## References

- Soria R, Legido A, Escolano C. A randomised controlled trial of motivational interviewing for smoking cessation. *Br J Gen Pract* 2006;56:768-74.
- Stahre M, Roeber J, Kanny D, et al. Contribution of excessive alcohol consumption to deaths and years of potential life lost in the United States. *Prev Chronic Dis* 2014 Jun 26;11:E109.
- Stevens VJ, Glasgow RE, Toobert DJ, et al. One-year results from a brief, computer assisted intervention to decrease consumption of fat and increase consumption of fruit and vegetables. *Prev Med* 2003;36:594-600.
- Tait RJ, Christensen H. Internet-based interventions for young people with problematic substance use: a systematic review. *Med J Aust* 2010;192:S15-21.
- Task Force on Community Preventive Services. Preventive services: what works to promote health? Oxford University Press. 2005.
- Tessaro I, Rye S, Parker L, et al. Effectiveness of a nutrition intervention with rural low-income women. *Am J Health Behav* 2007;31:35-43.
- Tinker LF, Rosal MC, Young AF, et al. Predictors of dietary change and maintenance in the women's health initiative dietary modification trial. *J Am Diet Assoc* 2007;107:1155-65.
- U.S. Department of Agriculture. Scientific report of the 2015 dietary guidelines advisory committee: advisory report to the secretary of health and human services and the secretary of agriculture. Available at: <http://health.gov/dietaryguidelines/2015-scientific-report/PDFs/Scientific-Report-of-the-2015-Dietary-Guidelines-Advisory-Committee.pdf>. February 2015.
- U.S. Department of Health and Human Services. 2008 physical activity guidelines for Americans. 2008a. (Guideline)
- U.S. Department of Health and Human Services. Dietary guidelines for Americans 2010. Available at: <http://www.dietaryguidelines.gov>. 2010. (Guideline)
- U.S. Department of Health and Human Services. Treating tobacco use and dependence: 2008 update. Available at: <http://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/tobacco/index.html>. 2008b.
- U.S. Department of Health and Human Services – National Institutes of Health. *In Your Healthy Guide to Sleep*. NIH Publication No. 11-5271. August 2011.
- van Sluijs EMF, van Poppel MNM, van Mechelen W. Stage-based lifestyle interventions in primary care: are they effective? *Am J Prev Med* 2004;26:330-43.
- Vanwormer JJ, Boucher JL, Pronk NP. Telephone-based counseling improves dietary fat, fruit, and vegetable consumption: a best-evidence synthesis. *J Am Diet Assoc* 2006;106:1434-44.
- Vartanian LR, Schwartz MB, Brownell KD. Effects of soft drink consumption on nutrition and health: a systematic review and meta-analysis. *Am J Public Health* 2007;97:667-75.
- Verheijden MW, Van der Veen JE, Bakx JC, et al. Stage-matched nutrition guidance: stages of change and fat consumption in Dutch patients at elevated cardiovascular risk. *J Nutr Educ Behav* 2004;36:228-37.
- Wang CJ, Fetzer SJ, Yang YC, Wang WL. The efficacy of using self-monitoring diaries in a weight loss program for chronically ill obese adults in a rural area. *J Nurs Res* 2012;20:181-88.
- Wang X, Ouyang Y, Liu J, et al. Fruit and vegetable consumption and mortality from all causes, cardiovascular disease, and cancer: systematic review and dose-response meta-analysis of prospective cohort studies. *BMJ* 2014;349:g4490.

*Return to Table of Contents*

**References**

---

[Watson NF, Badr MS, Belenky G, et al.](#) Recommended amount of sleep for a healthy adult: a joint consensus statement of the American academy of sleep medicine and sleep research society. *Sleep* 2015;38:843-44.

[White A, Kavanagh D, Stallman H, et al.](#) Online alcohol interventions: a systematic review. *J Med Internet Res* 2010;12:e62.

Whitlock EP, Orleans CT, Pender N, Allan J. Evaluating primary care behavioral counseling interventions: an evidence-based approach. *J Prev Med* 2002;22:267-84.

[World Health Organization \(WHO\).](#) *In Global Recommendations on Physical Activity for Health.* 2010.

*[Return to Table of Contents](#)*

## Appendix A – Healthy Lifestyle Behaviors Survey

Name: \_\_\_\_\_ Birthdate: \_\_\_\_\_

Today's Date: \_\_\_\_\_

1. I routinely eat fruits, vegetables, whole grains and low-fat dairy products.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

2. I routinely choose fats from plants such as olive oils, nuts/seeds and avocado.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

3. I limit foods with added sugars and caloric carbonated beverages.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

4. I participate in moderate-intensity aerobic exercise 30 minutes per day/five days a week or vigorous intensity 20 minutes per day/three days a week.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

5. I am a smoker.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

6. I consume alcohol.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

If you answered "YES" (to #6), please answer the following:

I consume \_\_\_\_\_ drinks per week.  
(# of drinks here)

7. I sleep 7-9 hours a night.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

8. I take time each day to note good things.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

9. I am kind to people.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

10. I thank people.

\_\_\_\_\_ YES      \_\_\_\_\_ NO

I would like to talk more with my clinician/care team member **and** receive education materials:

\_\_\_\_\_ **Today**

\_\_\_\_\_ **I would like to wait until my next clinic visit**

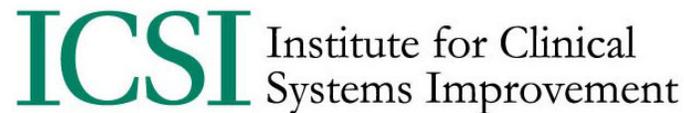
\_\_\_\_\_ **I would like education materials only, today**

[Return to Table of Contents](#)

**BACK**

[www.icsi.org](http://www.icsi.org)

## Appendix B – ICSI Shared Decision-Making Model



### **The Collaborative Conversation™ Shared Decision-Making and the Translation of Evidence into Practice**

A consistent finding from clinical and health services research is the failure to translate research into practice. The translation of evidence into practice can be advanced through the use of shared decision-making since shared decision-making results in evidence being incorporated into patient and clinician consultations.

Shared decision-making (SDM) is a process in which patient and clinicians collaborate to clarify all acceptable options, ensure that the patient is well-informed and chose a course of care consistent with patient values and preferences and the best available medical evidence. (Minnesota Shared Decision-Making Collaborative [MSDMC], 2011).

Evidence-based guidelines may recommend the use of shared decision-making for decisions in instances where the evidence is equivocal, when patient action or inaction (such as medication adherence or lifestyle changes) can impact the potential outcome, or when the evidence does not indicate a single best recommendation.

SDM is a patient-centered approach that involves a conversation between the patient and the clinician. It is ideal to involve caregivers and family members in these conversations as well. Family members and caregivers can participate in discussions, ask questions, hear content the patient may miss and provide invaluable support in decision follow-through. Although only patients and clinicians are specifically mentioned throughout this document for brevity purposes, this does not diminish the importance of caregivers and families in patient-centered care.

Both the patient and the clinician bring expertise to the shared decision-making conversation. Clinicians' expertise includes disease etiology, prognosis, options for treatment including the burden and benefit to the patient, and outcome probabilities. Patients' expertise lies in their knowledge of their risk tolerance, body, priorities, family and financial issues, as well as their daily experience with the condition (adapted from Making Shared Decision-Making a Reality. No decision about me, without me. Coulter, A., Collins, A., The King's Fund 2011).

Treatment options vary in their burden on a patient. SDM offers an opportunity to help the patient select a treatment to which they can adhere. When conversations discussing options occurs, patients and clinicians are actively engaged while considering the attributes and issues of the available options. This empathic approach results in the clinician and patient co-creating a decision and a plan of care (adapted from Montori, V., the Mayo Clinic KER UNIT, April 2015). Decision aids can be supportive of this conversation when they communicate the best available evidence to inform the patient and clinician discussion.

Without a conversation, clinicians may make assumptions about what the patient prefers. This creates the potential for discrepancies between what clinicians assume and what patients want, resulting in a "preference misdiagnosis" (adapted from Health Policy Publishing, LLC, May 2013).

Difficulty in initiating a conversation is cited by patients and clinicians as one of the barriers to shared decision-making. To address this impediment, ICSI worked with patients, practicing clinicians, and other stakeholders to develop the Collaborative Conversation™ model for use across the care continuum.

*[Return to Table of Contents](#)*

## Collaborative Conversation™

A collaborative approach towards decision-making is a fundamental tenet of Shared Decision-Making (SDM). The Collaborative Conversation™ is an interprofessional approach that nurtures relationships; enhances patients' knowledge, skills and confidence as vital participants in their health; and encourages them to manage their health care. Within a Collaborative Conversation™, the perspective is that the patient, rather than the clinician, knows which course of action is most consistent with the patient's values and preferences.

Use of Collaborative Conversation™ elements and tools is even more necessary to support patient, care clinician and team relationships when patients and families are dealing with high stakes or highly charged issues. A diagnosis of a life-limiting illness is one example of such a circumstance.

The overall objective for the Collaborative Conversation™ approach is to create an environment in which the patient, family and care team work collaboratively to reach and carry out a decision that is consistent with the patient's values and preferences, along with the best available evidence. A rote script, completed form or checklist does not constitute this approach. Rather it is a set of skills employed appropriately for the specific situation. These skills need to be used artfully to address all aspects of the person involved in making a decision: cognitive, affective, social and spiritual.

**Key communication skills** help build the collaborative conversation approach. These skills include (Adapted from O'Connor, Jacobsen Decisional Conflict: Supporting People Experiencing Uncertainty about Options Affecting their Health [2007], and Bunn H, O'Connor AM, Jacobsen MJ Analyzing decision support and related communication [1998, 2003])

### 1. Listening skills

**Encourage** patient to talk by providing prompts to continue such as *go on, and then? and uh huh* or by repeating the last thing a person said, *It's confusing*.

**Paraphrase content of messages shared by patient** to promote exploration, clarify content and to communicate that the person's unique perspective has been heard. The clinician should use their own words rather than just parroting what they heard.

**Reflection of feelings** usually can be done effectively once trust has been established. Until the clinician feels that trust has been established, short reflections at the same level of intensity expressed by the patient without omitting any of the message's meaning are appropriate. Reflection in this manner communicates that the clinician understands the patient's feelings and may work as a catalyst for further problem solving. For example, the clinician identifies what the person is feeling and responds back in his or her own words like this: *"So, you're unsure which choice is the best for you."*

**Summarize the person's key comments** and reflect them back to the patient. The clinician should condense several key comments made by the patient and provide a summary of the situation. This assists the patient in gaining a broader understanding of the situation rather than getting mired down in the details. The most effective times to do this are midway through and at the end of the conversation. An example of this is *"You and your family have read the information together, discussed the pros and cons, but are having a hard time making a decision because of the risks."*

**Perception checks** ensure that the clinician accurately understands a patient or family member perspective, and may be used as a summary or reflection. They are used to verify that the clinician is interpreting the message correctly. The clinician can say, *"So you are saying that you're not ready to make a decision at this time. Am I understanding you correctly?"*

[Return to Table of Contents](#)

Appendix B – ICSI Shared Decision-Making Model

2. Questioning Skills

**Open and closed questions** are both used, with the emphasis on open questions. Open questions ask for clarification or elaboration and cannot have a yes or no answer. An example would be, *“What else would influence you to choose this?”* Closed questions are appropriate if specific information is required, such as *“Does your daughter support your decision?”*

Other skills such as summarizing, paraphrasing, and reflection of feeling can be used in the questioning process so that the patient doesn’t feel pressured by questions.

Verbal tracking, referring back to a topic the patient mentioned earlier, is an important foundational skill (Ivey & Bradford-Ivey). An example of this is the clinician saying, *“You mentioned earlier…”*

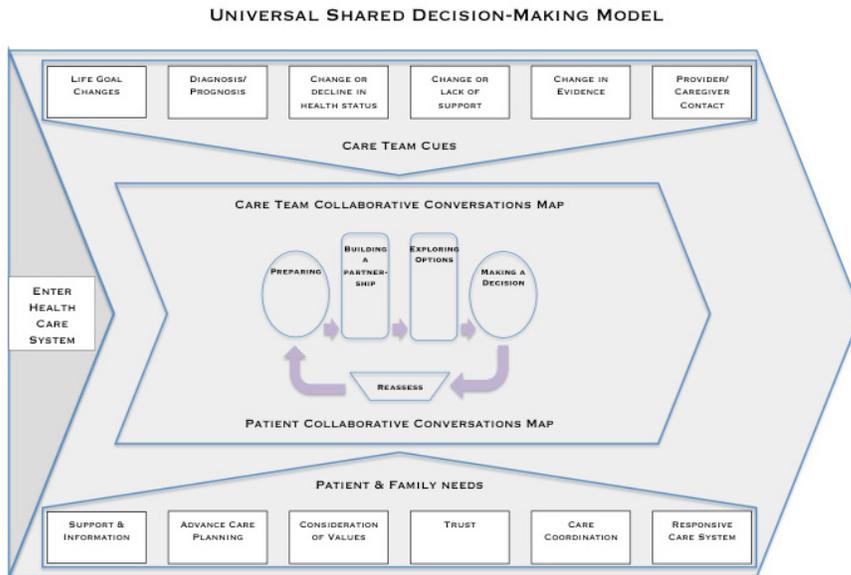
3. Information-Giving Skills

**Providing information** and **providing feedback** are two methods of information giving. The distinction between providing information and giving advice is important. Information giving allows a clinician to supplement his or her knowledge and helps to keep the conversation patient centered. Giving advice, on the other hand, takes the attention away from the patient’s unique goals and values, and places it on those of the clinician.

**Providing information** can be sharing facts or responding to questions. An example is *“If we look at the evidence, the risk is…”* **Providing feedback** gives the patient the clinician’s view of the patient’s reaction. For instance, the clinician can say, *“You seem to understand the facts and value your daughter’s advice.”*

When to Initiate a Collaborative Conversation™

Certain seminal events occur along the care continuum, creating especially opportune times for collaborative conversations. More than one of these opportunities may present at a time, and they will occur in no specific order.



Copyright © 2010 by ICSI All Rights Reserved

ICSI Institute for Clinical Systems Improvement

Table 1

[Return to Table of Contents](#)

### **Cues for the Care Team to Initiate a Collaborative Conversation™:**

- Life goal changes: *Patient's priorities change related to things the patient values such as activities, relationships, possessions, goals and hopes, or things that contribute to the patient's emotional and spiritual well-being.*
- Diagnosis/prognosis changes: *Additional diagnoses, improved or worsening prognosis.*
- Change or decline in health status: *Improving or worsening symptoms, change in performance status or psychological distress.*
- Change or lack of support: *Increase or decrease in caregiver support, change in caregiver, change in caregiver status, change in financial standing, difference between patient and family wishes.*
- Disease progression: *Change in physical or psychological status as a result of the disease progression.*
- Clinician/caregiver contact: *Each contact between the clinician/ caregiver presents an opportunity to reaffirm with the patient that the care plan and the care he or she is receiving are consistent with his or her values.*

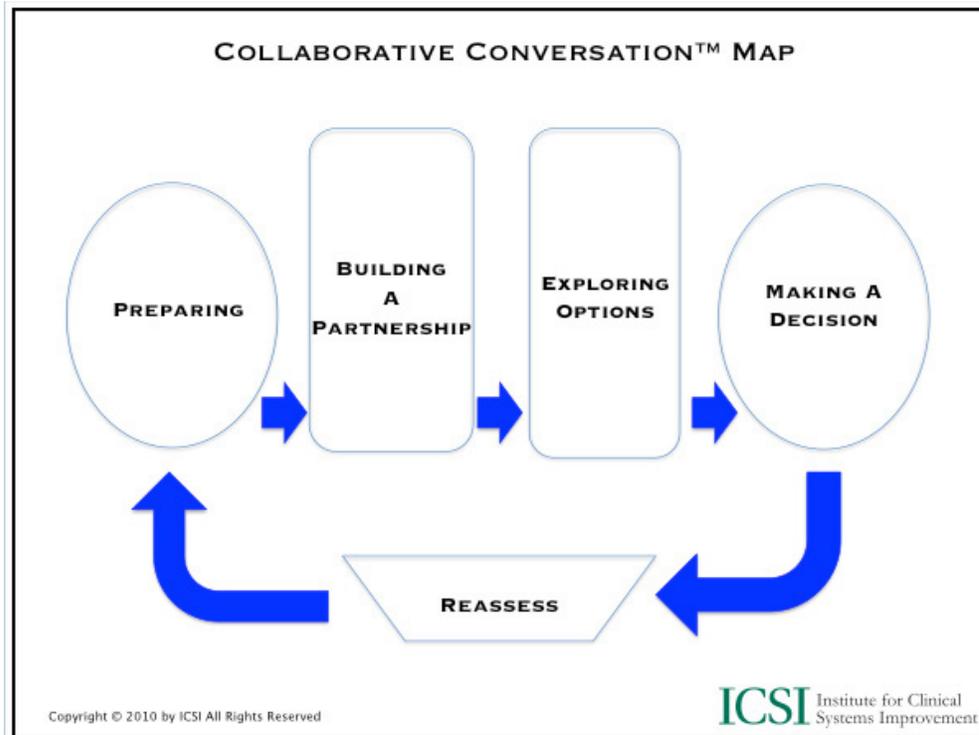
### **Patient and Family Needs within a Collaborative Conversation™**

- Request for support and information: *Decisional conflict is indicated by, among other things, the patient verbalizing uncertainty or concern about undesired outcomes, expressing concern about choice consistency with personal values, or exhibiting behavior such as wavering, delay, preoccupation, distress or tension. Support resources may include health care professionals, family, friends, support groups, clergy and social workers. When patient expresses a need for information regarding options and their potential outcomes, the patient should understand the key facts about the options, risks and benefits, and have realistic expectations. The method and pace with which this information is provided to the patient should be appropriate for the patient's capacity at that moment.*
- Advance Care Planning: *With the diagnosis of a life-limiting illness, conversations around advance care planning open up. This is an opportune time to expand the scope of the conversation to other types of decisions that will need to be made as a consequence of the diagnosis of a life-limiting illness.*
- Consideration of Values: *The personal importance a patient assigns potential outcomes must be respected. If the patient is unclear how to prioritize his or her preferences, value clarification can be achieved through the use of decision aids, detailing the benefits and harms of potential outcomes in terms of how they will directly affect the patient, and through collaborative conversations with the clinician.*
- Trust: *The patient must feel confident that his or her preferences will be communicated to and respected by all caregivers.*
- Care Coordination: *Should the patient require care coordination, this is an opportune time to discuss the other types of care-related decisions that need to be made. These decisions will most likely need to be revisited often. Further, the care delivery system must be capable of delivering coordinated care throughout the continuum of care.*
- Responsive Care System: *The care system needs to support the components of patient- and family-centered care so the patient's values and preferences are incorporated into the care he or she receives throughout the care continuum.*

[Return to Table of Contents](#)

**Appendix B – ICSI Shared Decision-Making Model**

The Collaborative Conversation™ Map is the heart of this process. The Collaborative Conversation Map™ can be used as a stand-alone tool that is equally applicable to clinicians and patients, as shown in Table 2. Clinicians use the map as a clinical workflow. It helps get the shared decision-making process initiated and provides navigation for the process. Care teams can use the Collaborative Conversation™ to document team best practices and to formalize a common lexicon. Organizations can build fields from the Collaborative Conversation™ Map in electronic medical records to encourage process normalization. Patients use the map to prepare for decision-making, to help guide them through the process and to share critical information with their loved ones.



**Table 2**

*Return to Table of Contents*

### **Evaluating Shared Decision-Making**

It has proven challenging to assess shared decision-making. Measuring shared decision-making remains important for continued adoption of shared decision-making as a mechanism for translating evidence into practice; promoting patient-centered care; and understanding the impact of shared decision-making on patient experience, outcomes and revenues. Many assessments exist, but they are often proxy measures.

Two suggested methods for measuring shared decision-making are the CollaboRATE tool and the SURE Test. These two tools measure different aspects of shared decision-making, as described below.

The [CollaboRATE tool](http://www.collaboratescore.org/) measures the level of shared decision-making in the clinical encounter from the patient's perspective. It is a brief patient-reported measure of shared decision-making. The tools and guidance on their use can be found at <http://www.collaboratescore.org/>.

The [SURE Test](#) is a brief screening questionnaire the patient uses to assess his or her readiness and capacity to make a decision or to determine whether he or she is comfortable with the choice that was made. In other words, it provides information on how likely a patient may be experiencing decisional conflict. If the SURE Test indicates decisional conflict may exist, the [Decisional Conflict Scale](#) should be completed in order to assess clinically significant decisional conflict.

Shared decision-making is a useful mechanism for translating evidence into practice. While research on the impacts of shared decision-making continues to grow, there is mounting evidence that both patients and clinicians benefit from SDM. Shared decision-making offers the opportunity to bring evidence and the patient's values into the patient/clinician discussion of health choices.

Copyright © 2012, 2016 by Institute for Clinical Systems Improvement. All rights reserved.

[Return to Table of Contents](#)

**BACK**

ICSI has long had a policy of transparency in declaring potential conflicting and competing interests of all individuals who participate in the development, revision and approval of ICSI guidelines and protocols.

In 2010, the ICSI Conflict of Interest Review Committee was established by the Board of Directors to review all disclosures and make recommendations to the board when steps should be taken to mitigate potential conflicts of interest, including recommendations regarding removal of work group members. This committee has adopted the Institute of Medicine Conflict of Interest standards as outlined in the report, *Clinical Practice Guidelines We Can Trust* (2011).

Where there are work group members with identified potential conflicts, these are disclosed and discussed at the initial work group meeting. These members are expected to recuse themselves from related discussions or authorship of related recommendations, as directed by the Conflict of Interest committee or requested by the work group.

The complete ICSI policy regarding Conflicts of Interest is available at <http://bit.ly/ICSICOI>.

### **Funding Source**

The Institute for Clinical Systems Improvement provided the funding for this guideline revision. ICSI is a not-for-profit quality improvement organization based in Bloomington, Minnesota. ICSI's work is funded by the annual dues of the member medical groups and three sponsoring health plans in Minnesota. Individuals on the work group are not paid by ICSI but are supported by their medical group for this work.

The only exception to this, patient and public members of a work group, are provided with a small stipend to cover meeting attendance.

ICSI facilitates and coordinates the guideline development and revision process. ICSI, member medical groups and sponsoring health plans review and provide feedback but do not have editorial control over the work group. All recommendations are based on the work group's independent evaluation of the evidence.

*[Return to Table of Contents](#)*

---

## Disclosure of Potential Conflicts of Interest

**Courtney Jordan Baechler, MD, MS (Work Group Member)**

Vice-President of Penny George Institute for Health and Healing  
Medical Director of Healthy Communities Partnership  
Medical Director of Cardiac Preventive Services, United Heart and Vascular Center Allina Health  
National, Regional, Local Committee Affiliations: None  
Guideline-Related Activities: None  
Research Grants: None  
Financial/Non-Financial Conflicts of Interest: None

**Christine Danner, PhD, LP (Work Group Member)**

Behavioral Health Coordinator, University of Minnesota Physicians  
National, Regional, Local Committee Affiliations: UMP CSU Board of Governors  
Guideline-Related Activities: None  
Research Grants: None  
Financial/Non-Financial Conflicts of Interest: None

**Kristin Erickson, MS, APHN-BC, RN (Work Group Member)**

Health care Intervention Coordinator, PartnerSHIP 4 Health and Otter Tail County Public Health  
National, Regional, Local Committee Affiliations: MN Omaha System Users Group Steering Committee Member, SOPHE, ANA, MDH committees, Minnesota Community Measurement Adult Healthy Lifestyles work group member  
Guideline-Related Activities: PartnerSHIP 4 Health and the Statewide Health Improvement Program  
Research Grants: Clinical Translation Science Institute (CTSI) Award through the University of MN  
Financial/Non-Financial Conflicts of Interest: None

**Thomas Kottke, MD, MSPH (Work Group Leader)**

Medical Director, Population Health; Cardiologist, HealthPartners Medical Group and Regions Hospital  
National, Regional, Local Committee Affiliations: None  
Guideline-Related Activities: ICSI Lipid Management Guideline  
Research Grants: None  
Other: Consultant to the Veteran Affairs Evidence-Based Synthesis Program, evaluating benefits and harms of the Mediterranean diet

**Patrick O'Connor, MD, MPH (Work Group Member)**

Senior Clinical Investigator; family medicine and geriatrics, HealthPartners Medical Group and Regions Hospital  
National, Regional, Local Committee Affiliations: None  
Guideline-Related Activities: ICSI Diagnosis and Treatment of Hypertension, ICSI Lipid Management Guideline, ICSI Prevention and Diagnosis of Obesity Guideline, ICSI Childhood Obesity Guideline, American Diabetes Association Guidelines  
Research Grants: NIH grants related to cardiovascular disease and diabetes as well as decisions for pediatric acute abdominal pain  
Patent: Software on disease simulation algorithms

**Rebecca Straub, RD, LD (Work Group Member)**

Clinical Dietician, HealthPartners Medical Group and Regions Hospital  
National, Regional, Local Committee Affiliations: None  
Guideline-Related Activities: None  
Research Grants: None  
Financial/Non-Financial Conflicts of Interest: None

[Return to Table of Contents](#)

**Disclosure of Potential Conflicts of Interest**

---

**Martha Sanford, MD (Work Group Member)**

Medical Director of Quality, Stillwater Medical Group

National, Regional, Local Committee Affiliations: Board membership for Lakeview System and Health

Partners Quality Board

Guideline-Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

**John Wilkinson, MD (Work Group Leader)**

Consultant Department of Family Medicine, Mayo Health System

National, Regional, Local Committee Affiliations: None

Guideline-Related Activities: ICSI Preventive Services Guideline

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

*[Return to Table of Contents](#)*

**Document Drafted**  
May – Oct 2007

**Critical Review**  
Nov – Dec 2007

**First Edition**  
Apr 2008

**Second Edition**  
Jun 2009

**Third Edition**  
Jun 2010

**Fourth Edition**  
Jun 2011

**Fifth Edition**  
Jun 2013

**Sixth Edition**  
Begins Jan 2016

◀ The next revision will be no later than January 2021.

### Original Work Group Members

Penny Fredrickson  
*Implementation/Measurement Advisor*  
**ICSI**

Trina Ford, RD, MSN  
*Health Education*  
**Marshfield Clinic**

Courtney Jordan, MD  
*PhD Candidate in Public Health*  
**University of Minnesota**

Aaron Kelly, PhD  
*Cardiology*  
**St. Paul Heart Clinic**

Stephen L. Kopecky, MD  
*Cardiology*  
**Mayo Clinic**

Thomas E. Kottke, MD  
*Cardiology, Work Group Leader*  
**HealthPartners Medical Group**

Ann-Marie Landin, BS, RHIT  
*Facilitator*  
**ICSI**

Melissa Magstadt, MS, CNP  
*Nursing*  
**Sanford Health**

Charles Montreuil  
*Employer*  
**Carlson Companies**

Patrick O'Connor, MD  
*Family Medicine*  
**HealthPartners Medical Group**

Martha Sanford, MD  
*General Internist*  
**Stillwater Medical Group**

Michael Schoenleber, MD  
*Family Medicine*  
**HealthPartners Medical Group**

Kim Seibert, CES, RCEP  
*Exercise Physiology*  
**St. Paul Heart Clinic**

Megan Slater  
*MS Candidate in Public Health*  
**University of Minnesota**

Molly Soeby, MPA, MT  
*Health Education*  
**Altru Health System**

Cally Vinz, RN  
*Facilitator*  
**ICSI**

John Wilkinson, MD  
*Family Medicine*  
**Mayo Clinic**

Mary Winnett, MD, MPH  
*Family Medicine*  
**Minnesota Department of Health  
Epidemiology**

### Document History

In 2009, the Minnesota Department of Health selected the ICSI guideline on Healthy Lifestyles as an intervention for organizations to implement as part of the Statewide Health Improvement Program (SHIP).

*[Return to Table of Contents](#)*

#### Contact ICSI at:

8009 34th Avenue South, Suite 1200; Bloomington, MN 55425; (952) 814-7060; (952) 858-9675 (fax)  
Online at <http://www.ICSI.org>

# ICSI Document Development and Revision Process

## Overview

Since 1993, the Institute for Clinical Systems Improvement (ICSI) has developed more than 60 evidence-based health care documents that support best practices for the prevention, diagnosis, treatment or management of a given symptom, disease or condition for patients.

## Audience and Intended Use

The information contained in this ICSI Health Care Guideline is intended primarily for health professionals and other expert audiences.

This ICSI Health Care Guideline should not be construed as medical advice or medical opinion related to any specific facts or circumstances. Patients and families are urged to consult a health care professional regarding their own situation and any specific medical questions they may have. In addition, they should seek assistance from a health care professional in interpreting this ICSI Health Care Guideline and applying it in their individual case.

This ICSI Health Care Guideline is designed to assist clinicians by providing an analytical framework for the evaluation and treatment of patients, and is not intended either to replace a clinician's judgment or to establish a protocol for all patients with a particular condition.

## Document Development and Revision Process

The development process is based on a number of long-proven approaches and is continually being revised based on changing community standards. The ICSI staff, in consultation with the work group and a medical librarian, conduct a literature search to identify systematic reviews, randomized clinical trials, meta-analysis, other guidelines, regulatory statements and other pertinent literature. This literature is evaluated based on the GRADE methodology by work group members. When needed, an outside methodologist is consulted.

The work group uses this information to develop or revise clinical flows and algorithms, write recommendations, and identify gaps in the literature. The work group gives consideration to the importance of many issues as they develop the guideline. These considerations include the systems of care in our community and how resources vary, the balance between benefits and harms of interventions, patient and community values, the autonomy of clinicians and patients and more. All decisions made by the work group are done using a consensus process.

ICSI's medical group members and sponsors review each guideline as part of the revision process. They provide comment on the scientific content, recommendations and implementation strategies. This feedback is used by and responded to by the work group as part of their revision work. Final review and approval of the guideline is done by ICSI's Committee on Evidence-Based Practice. This committee is made up of practicing clinicians and nurses, drawn from ICSI member medical groups.

## Implementation Recommendations and Measures

These are provided to assist medical groups and others to implement the recommendations in the guidelines. Where possible, implementation strategies are included that have been formally evaluated and tested. Measures are included that may be used for quality improvement as well as for outcome reporting. When available, regulatory or publicly reported measures are included.

## Document Revision Cycle

Scientific documents are revised as indicated by changes in clinical practice and literature. ICSI staff monitors major peer-reviewed journals for any pertinent evidence that would affect a particular guideline and recommendation.

*[Return to Table of Contents](#)*