

# Health Promotion Across the Lifespan

VICTORIA L. BAKER

*The editors acknowledge Kathryn Osborne and Mary Ann Faucher, who were author of and contributor to this chapter in previous editions.*

## Introduction

“Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”<sup>1</sup> This definition opens the Constitution of the World Health Organization (WHO), which was formed at the end of World War II, at a time when its founders might have been excused for some despondence and pessimism. They instead took a positive, holistic view of health—one that focuses on resilience and strengths, and one that shares a great deal with the midwifery view of pregnancy. Much as midwifery care assumes pregnancy is a healthy process, which midwives can support and promote, WHO defined health as a state of well-being, rather than as a series of diseases that need treatment.

This view of health opens the way for person-centered health promotion, rather than organization-centered disease treatment. Two decades later, the first international conference on the topic held by WHO defined health promotion as “the process of enabling people to increase control over, and to improve, their health.”<sup>2</sup> Health promotion can be done with individuals and with populations, and this chapter addresses both approaches.

The levels of prevention are sometimes used to define where health promotion interventions operate. With this perspective, all care is preventive; even treatment aims to prevent further progression of existing disease. Where an intervention takes place in the timeline of disease progression defines whether the prevention is primary, secondary, or tertiary. Health promotion interventions fall earlier in that timeline and, therefore, are considered part of primary and secondary prevention (**Table 4-1**).<sup>3</sup>

## Clinical Health Promotion

### Components of Clinical Health Promotion

These definitions of the levels of prevention imply promoting health with individuals has related preventive clinical interventions:

- Counseling
- Screening
- Preventive medications
- Immunizations<sup>4</sup>

These interventions can provide the focus of a clinical encounter, such as in a screening physical examination or a pregnancy visit. Alternatively, health promotion interventions can be integrated into a problem-focused exam, such as a hypertension assessment, an asthma-related visit, or a dysuria concern.

### Counseling

#### *Health Behavior Theories*

Changing behavior is complex, and takes more than just knowing what must be done. Clinical health promotion includes counseling, which requires not only understanding the clinical content of healthy behaviors, but also having skills in using health behavior theory and cultural humility in helping persons to change behavior when they are ready to do so.

Health behavior models guide health promotion counseling.<sup>5</sup> One of the most useful is the Trans-theoretical Model’s Stages of Change (**Table 4-2**), which was developed and thoroughly studied in the 1990s, particularly in terms of addressing

addictions.<sup>6,7</sup> The Stages of Change help clinicians intervene effectively, by addressing the needs of a person based on their stage. This theory is closely aligned with motivational interviewing techniques.<sup>8</sup> The theory and the techniques focus on meeting individuals where they are in their behavioral change journey and finding the right approach for their stage to help them meet healthy goals.

Other behavior theories also shed light on the process of behavior change and can guide the clinician

in advising individuals about health decisions. When considering how to promote healthier behaviors, it can be easy to focus exclusively on the strengths and weaknesses of the *individual*. Social cognitive theory is salient in this setting because it includes the concept of reciprocal determinism, which highlights the *interaction* between the individual characteristics, the behavior, and the environment. Each of these factors contributes to the success or failure of an attempt to make a behavior change, and all must be accounted for in such attempts. Interventions should be considered in light of that interaction, as well as using the other useful concepts in the theory, shown in **Table 4-3**.<sup>7</sup>

Ecological models like Dahlgren and White's social determinants of health (SDoH)<sup>9</sup> bring out the many factors that can affect health behavior and outcomes that are not obvious in the clinical examination room (**Figure 4-1**). The characteristics at the center of the SDoH model are not modifiable, such as age and biologic sex. As you move into the outer shells, characteristics are modifiable, but less and less by the individual and more by larger and larger groups. Individual lifestyle factors include diet, sexual behaviors, addictions, physical activity, and coping skills. These behaviors are somewhat controlled by the individual, but are also very much affected by the outer shells. Social and community networks include churches, sports clubs, and the like. These resources are taken up (or not) by the individual, but offered by others. The outer shell, which comprises general socioeconomic, cultural, and environmental conditions, also has substantial

Primary prevention	Intervening before health effects occur, through measures such as vaccinations, altering risky behaviors (poor eating habits, tobacco use), and banning substances known to be associated with a disease or health condition
Secondary prevention	Screening to identify diseases in the earliest stages, before the onset of signs and symptoms, through measures such as mammography and regular blood pressure testing
Tertiary prevention	Managing disease after diagnosis to slow or stop disease progression through measures such as chemotherapy, rehabilitation, and screening for complications. <sup>3</sup>

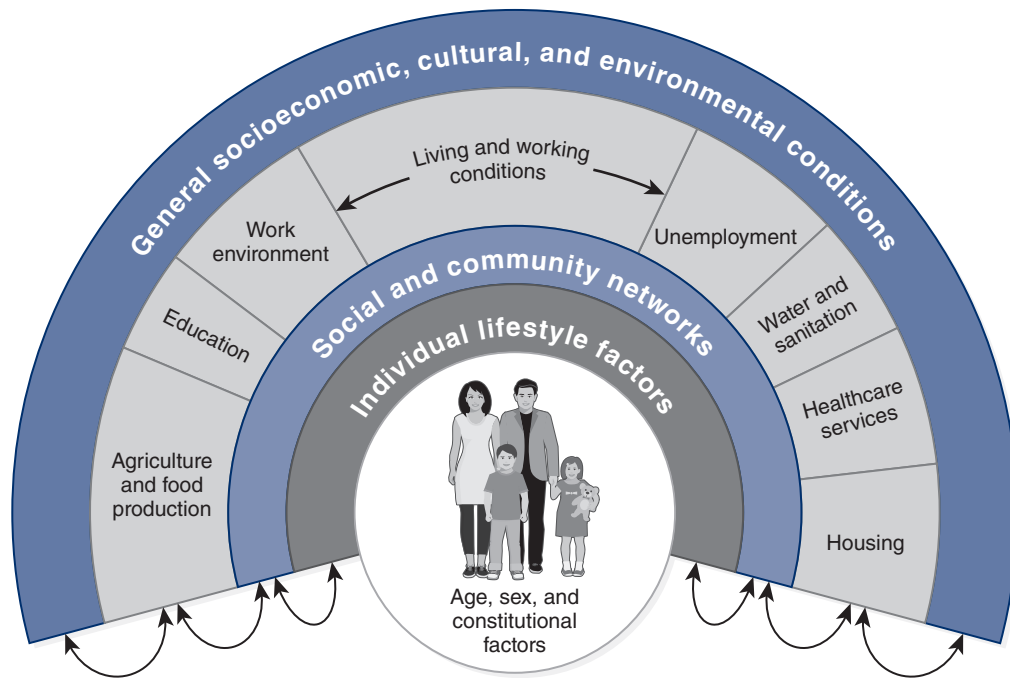
Centers for Disease Control and Prevention. *Prevention*. [https://www.cdc.gov/pictureofamerica/pdfs/picture\\_of\\_america\\_prevention.pdf](https://www.cdc.gov/pictureofamerica/pdfs/picture_of_america_prevention.pdf). Accessed December 10, 2022.

Stage	Definition	Potential Change Strategy
Precontemplation	Has no intention of taking action in the next 6 months	Increase awareness of need for change; personalize information about risks and benefits
Contemplation	Intends to take action in the next 6 months	Motivate; encourage making specific plans
Preparation	Intends to take action in the next 30 days and has taken some behavioral actions in this direction	Assist with developing and implementing concrete action plans; help set gradual goals
Action	Has changed behavior for less than 6 months	Assist with feedback, problem solving, social support, and reinforcement
Maintenance	Has changed behavior for more than 6 months	Assist with coping, reminders, finding alternative, avoiding slips/relapses (as applicable)

National Cancer Institute. *Theory at a Glance: A Guide for Health Promotion Practice*. 2nd ed. <https://cancercontrol.cancer.gov/sites/default/files/2020-06/theory.pdf>. Published 2005. Accessed December 10, 2022.

Table 4-3 Behavior Change Interventions Based on the Social Cognitive Theory		
Concept	Definition	Potential Change Strategies
Reciprocal determinism	The dynamic interaction of the person, the behavior, and the environment in which the behavior is performed	Consider multiple ways to promote behavior change, including making adjustments to the environment or influencing personal attitudes
Behavioral capability	Knowledge and skill to perform a given behavior	Promote mastery learning through skills training
Expectations	Anticipated outcomes of a behavior	Model positive outcomes of healthful behavior
Self-efficacy	Confidence in one's ability to take action and overcome barriers	Approach behavior change in small steps to ensure success; be specific about the desired change
Observational learning (modeling)	Behavioral acquisition that occurs by watching the actions and outcomes of others' behavior	Offer credible role models who perform the targeted behavior
Reinforcements	Responses to a person's behavior that increase or decrease the likelihood of reoccurrence	Promote self-initiated rewards and incentives

Reproduced from National Cancer Institute. *Theory at a Glance: A Guide for Health Promotion Practice*. 2nd ed. <https://cancercontrol.cancer.gov/sites/default/files/2020-06/theory.pdf>. Published 2005. Accessed December 10, 2022.



**Figure 4-1** The main determinants of health. Reproduced with permission from Dahlgren G, Whitehead M. *European Strategies for Tackling Social Inequities in Health: Levelling Up (Part 2)*. [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0018/103824/E89384.pdf](http://www.euro.who.int/__data/assets/pdf_file/0018/103824/E89384.pdf). Published 2006. Accessed December 10, 2022.

effects on health behavior and health outcomes. It includes conditions such as corn subsidies or taxes on sugary drinks, municipally subsidized recreation centers and walking trails, employer-sponsored

health centers, school lunches, and the like. These environmental characteristics change behavior in subtle ways. Clinicians can look beyond the examination room to help individuals become aware of

the effects of SDoH and take advantage of the resources available to them. Using the SDoH framework helps a clinician remember to address factors that can either promote or detract from health, but that are not immediately apparent during a clinical examination. The Institute of Medicine urges all clinicians to take SDoH into account in delivering health care.<sup>10</sup>

### The 5 A's

Although this model was developed specifically for tobacco cessation counseling, the U.S. Preventive Services Task Force (USPSTF) recommends using the “5 A's” in any health behavior counseling.<sup>11</sup>

- **Assess:** Ask about and assess behavioral health risk(s) and factors affecting choice of behavior change goals and methods.
- **Advise:** Give clear, specific, and personalized behavior change advice, including information about personal health harms/benefits.
- **Agree:** Collaboratively select appropriate treatment goals and methods based on the patient's interest in and willingness to change the behavior.
- **Assist:** Using behavior change techniques (self-help and/or counseling), aid the patient in achieving agreed-upon goals by acquiring the skills, confidence, and social/environmental supports for behavior change, supplemented with adjunctive medical treatments when appropriate (e.g., pharmacotherapy for tobacco dependence, contraceptive drugs/devices).
- **Arrange:** Schedule follow-up contacts (in person or by telephone) to provide ongoing assistance/support and to adjust the treatment plan as needed, including referral to more intensive or specialized treatment.

### Cultural Humility

Cultural humility is the process of communication that supports “commitment and active engagement in a lifelong process that individuals enter into on an ongoing basis with patients, communities, colleagues, and with themselves.”<sup>12</sup> This approach provides for more dynamic communication, focusing on interactions between individuals, rather than lists of the characteristics of groups. In addition, it incorporates the community context, allowing for a consideration of SDoH.

When primary care providers counsel patients about changing health behaviors, as in all health care, cultural humility plays an important role. For example, researchers have found that culturally tailored programs can improve outcomes in a wide range of behaviors, such as alcohol and other substance use,<sup>13</sup> mental health therapy,<sup>14</sup> counseling to increase physical activity,<sup>15,16</sup> and tobacco cessation.<sup>17</sup>

Cultural humility can be applied to individualized counseling using concrete action. The American Psychological Association has identified the following competencies for primary care psychologists, which are also applicable to midwives who provide counseling:<sup>18</sup>

- Asks about cultural identities, health beliefs, and illness history that impact health behaviors, and integrates and tailors diversity factors into treatment planning
- Demonstrates sensitivity to a variety of factors that influence health care (e.g., developmental, cultural, socioeconomic, gender, race, religious, sexual orientation and expression, gender identity and expression, disability, veteran status) as well as the intersections of these variables
- Reflects on own cultural identity and its impact on treatment of patients
- Modifies interventions for behavioral health change in response to a variety of social and cultural factors

### Screening

The long-standing, classic definition of screening for the prevention of chronic disease comes from a conference document from the 1950s:

*Screening is the presumptive identification of unrecognized disease or defect by the application of tests, examinations, or other procedures which can be applied rapidly. Screening tests sort out apparently well [emphasis added] persons who probably have a disease from those who probably do not. A screening test is not intended to be diagnostic. Persons with positive or suspicious findings must be referred to their physicians [sic] for diagnosis and necessary treatment.*<sup>19(p11)</sup>

Screening tests can take the form of lab tests, physical exams, or interviews. What they have in common is that they are indicated by the characteristics of the person, not symptoms; that is, screening

is indicated by the population to which a person belongs, rather than by the concerns with which the person presents. Confusingly, sometimes the same tests are used for both screening and diagnosis. For example, an assessment for chlamydia is indicated when a person assigned female at birth has a vaginal discharge, but is also indicated for a 22-year-old person assigned female at birth at a routine visit. In the first case, the exam is diagnostic to determine the cause of vaginal discharge. In the second case, the chlamydia test is for screening as recommended for all sexually active persons assigned female at birth younger than 25 years. The same lab test is used in both cases—that is, for both screening and diagnosis.<sup>20</sup> For chlamydia, only the indication changes. Conversely, for tuberculosis, screening with the tuberculin skin test does not diagnose active tuberculosis. A positive result on the skin test requires further testing for diagnosis.<sup>21</sup>

Like the definition for screening, a common set of principles for when to screen a population has been universally accepted since the 1950s, and continues to underlie appropriate screening programs and clinical recommendations for screening.<sup>22</sup>

1. Screening should be for an important health problem with serious consequences. There is no point in screening for a problem with mild, short-term consequences for health.
2. Treatment for the condition screened should be effective or knowledge about the condition may be of use to a person. For example, genetic screening may offer valuable information for life planning even though no gene therapy is available.
3. Treatment for the condition screened should be available. There is no point in screening for a condition and then giving the person no options.
4. There should be a reasonable period of latency between when a screening test detects a condition and when signs or symptoms would appear. There is no point in screening if persons will be coming in shortly with concerns and asking for a diagnosis. Screening allows for an early start of treatment. Moreover, that early start should offer a chance for improved outcomes.
5. There should be a suitable test or examination. The test needs to be reliable and valid with acceptable sensitivity and specificity.
6. The screening test should be acceptable. There is no point in offering a test that no one will undergo.
7. The natural history of the condition, including its development from latent to actual disease, should be well understood.
8. What constitutes a diagnosis and who needs treatment should be clearly understood. When is a person considered to have diabetes? When should prostate cancer be treated? These are the kinds of questions that arise after positive screening test findings. Answers need to be clear before screening programs are undertaken.
9. Large population screening for chronic conditions such as hypertension and diabetes should be done at regular intervals—not just once, as in a single drive or fair. Most conditions will continue to come up, so a one-time screening program will not serve a population well.
10. The prevalence of the condition in a population needs to be high enough to warrant testing everyone in the group. Screening everyone for a rare condition will result in a larger proportion of false positives (discussed later in this section).

Screening has both risks and benefits, especially large public health screenings. Undertaking a screening program is a serious proposition, one that is expensive in terms of both money and the emotional burden imposed on those persons who are tested. It should not be undertaken without sufficient understanding of the likely outcomes and expected findings when a test is used on a large scale.

Most of these principles make sense to most clinicians. However, point 10 often needs more explanation. How can screening a population for a condition of low prevalence result in a higher proportion of false-positive test results? To some, this outcome is counterintuitive. Calculation of screening test values such as positive predictive value and negative predictive values are shown in **Table 4-4**. Grimes and Schultz do a superb job of explaining some of the harms of over-testing and the math behind population prevalence and false positives.<sup>23</sup>

To illustrate how this problem arises, Grimes and Schultz give the example of chlamydia screening for asymptomatic persons.<sup>23</sup> The screening test for chlamydia, polymerase chain reaction (PCR), is highly sensitive, correctly identifying those with disease 98% of the time, and highly specific, correctly identifying those without disease 97% of the time. Using typical prevalence statistics from populations at high versus low risk for sexually transmitted infections illustrates why *routine* chlamydia screening

is not recommended universally. The examples here illustrate the risks of screening persons in a population with low prevalence for a disease compared to a higher prevalence. The chances of a true-positive result increase significantly with the higher prevalence population, from 13% to 57% (Table 4-5 and Table 4-6).<sup>23</sup> In populations where the prevalence is even higher, the chance of a true positive increases to 90% and greater. (The data used here differ somewhat from those used in the original article.)

There are potentially significant psychosocial implications of telling a person that they screened positive for chlamydia when they do not actually have this infection. What can a result like this mean to couples getting screened? It can mean one partner is certain that the other has had intercourse with someone else, when that has not been the case.

		True Disease State	
		Positive	Negative
Test Results	Positive	True positive a	False positive b
	Negative	c False negative	d True negative

This table sets up the standard epidemiologic approach to calculating screening test values.

Sensitivity =  $a / (a + c)$

Specificity =  $d / (b + d)$

Positive predictive value =  $a / (a + b)$

Negative predictive value =  $d / (c + d)$

Data from Grimes DA, Schulz KF. Uses and abuses of screening tests. *Lancet*. 2002;359(9309):881-884. doi:10.1016/S0140-6736(02)07948-5.

More is not always better. For other disease screenings, the follow-up diagnostic test may come with significant risks.

These examples make clear the importance of using evidence-based recommendations as the basis for recommending screening and of meeting the classic criteria for screening programs. Unfortunately, some screening tests become common practice even though they do not clearly meet these criteria. Grimes and Peipert give another example of how screening can be abused: Electronic fetal monitoring became a screening norm in labor even though it did not meet the standard criteria for a screening program.<sup>24</sup> Before performing a screening test, the clinician should ask, “Am I prepared to act on the information from this test?” If the answer is no, then the test probably does not meet the 10 principles of screening outlined earlier.

### Preventive Medications

When considering when to advise or prescribe preventive medications (i.e., chemoprophylaxis), just as with screening tests, an analysis of risks and benefits should be undertaken. Preventive medications can be used for primary prevention of disease—for example, prescribed medications such as statins, or vitamin and mineral supplements—or they can be used for secondary prevention—for example, chemoprophylactic drugs after breast cancer. Again, more is not always better. Just as not every screening test comes without risk, the same is true for potential preventive medications. For example, interactions with other therapeutic medications must be considered.

As with screening tests, risks and benefits of prescribing preventive medication change with the prevalence of disease in given populations. For example, the USPSTF recommendation for tamoxifen, raloxifene, or aromatase inhibitor for chemoprophylaxis in women older than 35 years supports use of these

Test Results	Calculating Screening Test Values in a High Prevalence Population		
	Person Has Chlamydia	Person Does Not Have Chlamydia	
Positive	78 (True positive)	38 (False positive)	$78/(78+38) = .67$ Positive predictive value
Negative	2 (False negative)	1882 (True negative)	$1882/(2+1882) = .99$ Negative predictive value
	$78/(78+2) = .98$ Sensitivity	$1882/(38+1882) = .98$ Specificity	

These are the screening test values for a PCR chlamydia test in a population of 2000 persons with an 4% prevalence of chlamydia.

Table 4-6		Calculating Screening Test Values in a Low-Prevalence Population	
		Presence of Chlamydia Population with 0.5% Prevalence <i>n</i> = 2000	
		Positive	Negative
Test Results	Positive	True positive 10 a	False positive 40 b
	Negative	c False negative 0	d True negative 1950

These are the screening test values for a PCR chlamydia test in a population of 2000 persons with a 0.5% prevalence of chlamydia. Sensitivity =  $a / (a + c) = 10 / (10 + 0) = 0.97$  (1.00 with rounding) Specificity =  $d / (b + d) = 1950 / (1950 + 40) = 0.98$  Positive predictive value =  $a / (a + b) = 10 / (10 + 40) = 0.20$  Negative predictive value =  $d / (c + d) = 1950 / (1950 + 0) = 1.00$  Data from Grimes DA, Schulz KF. Uses and abuses of screening tests. *Lancet*. 2002;359(9309):881-884. doi:10.1016/S0140-6736(02)07948-5.

medications in those women with increased risk for breast cancer and recommends against them for those women not at increased risk.<sup>25</sup> Because of “convincing evidence” of risk for venous thrombotic events, endometrial cancer, and other harms from these medications in older women, the population needs to be at higher risk for breast cancer for the supplements to offer enough benefit to warrant their use. Obviously, risks and benefits need to be discussed carefully with individuals before prescribing any medication or supplement for preventive purposes.

In other cases, midwives may recommend preventive medications without lengthy cost–benefit analysis discussions. For example, in the case of folic acid,<sup>26</sup> the adverse outcomes associated with taking this supplement appear to be minimal. Indeed, folic acid is a recommended daily nutrient. In addition, the benefits of folic acid supplementation for people who may become pregnant to protect against fetal neural tube defects are well established.

### Immunization

**Table 4-7** defines important terms related to immunity. The definitions in Table 4-7 make it clear that vaccines are simply a preventive medication. However, community immunity concerns make the benefit–risk

Table 4-7		Definitions Related to Immunity
Vaccination		The act of introducing a vaccine into the body to produce protection from a specific disease.
Immunization		A process by which a person becomes protected against a disease through vaccination. This term is often used interchangeably with vaccination or inoculation.
Community immunity		A situation in which a sufficient proportion of a population is immune to an infectious disease (through vaccination and/or prior illness), making the spread of that disease from person to person unlikely. Even individuals not vaccinated (such as newborns and those with chronic illnesses) are offered some protection because the disease has little opportunity to spread within the community. Also known as herd immunity. <sup>27</sup>

Adapted from Centers for Disease Control and Prevention (CDC). Immunization: The basics. Published 2021. Accessed December 10, 2022. <https://www.cdc.gov/vaccines/vac-gen/imz-basics.htm> and Centers for Disease Control and Prevention. (2020, July 30). Vaccine glossary of terms. Retrieved December 10, 2022, from <https://www.cdc.gov/vaccines/terms/glossary.html>.

analysis for a vaccination different than the analysis undertaken when an individual will be taking a medication. An individual can accrue the benefit of protection from infection via community immunity without assuming any risk associated with vaccination if the rest of the community gets vaccinated. Conversely, when an individual decides not to become vaccinated, that decision poses risks to more than their own health—that is, it creates the risk of infecting others.

In addition, because vaccinations prevent infectious disease, they often bring up public health and legal issues that spark controversy. They are treated separately from other preventive medication, both in clinical encounters and in public perceptions. By comparison, folic acid supplementation is not required in any workplace or school setting, so its use is less controversial. Recommendations for vaccinations are fairly complex and are made by the Centers for Disease Control and Prevention’s (CDC’s) Advisory Committee on Immunization Practices (ACIP).<sup>28</sup>

Since vaccine coverage affects population health, recommendations for their use can generate health policies and legal issues. All states require some vaccinations for children to attend school or daycare facilities, although all states do allow for some exemptions.<sup>29</sup> Some vaccinations are required

for immigration into the United States,<sup>30</sup> or even to visit the United States.<sup>31</sup> These policies have been partly responsible for the very high rates of vaccination and very low rates of vaccine-preventable infectious diseases in the United States. Perhaps in part because of these conditions, impositions of vaccinations upon generations who have not experienced the targeted infections' morbidity and mortality often generate resistance. This resistance is called *vaccine hesitancy*, the "delay in acceptance or refusal of vaccines despite availability of vaccine services."<sup>32</sup>

Counseling for vaccine-hesitant individuals can be complicated. Fortunately, in view of the public health concerns raised by it, the issue of vaccine hesitancy has been intensely studied, with a wealth of information on the effectiveness of interventions being available to clinicians who seek to increase vaccine coverage among their patients.<sup>32–35</sup> In general, multipronged strategies work better than single-component approaches. So, the combination of dialogue in the clinical setting and community-based engagement (particularly religious or other community leaders) works better than either does alone. Passive interventions (reminders, posters) help mostly when the problem is not hesitancy but rather lack of information. Providing information routinely during encounters and providing information targeted to each person's concerns seems to work better than more general educational approaches. Community health workers may be able to decrease hesitancy. In summary, person-centered approaches and trust are key to addressing vaccine hesitancy.

## Evidence for Health Promotion Interventions

### U.S. Preventive Services Task Force

The USPSTF consists of a volunteer panel of experts in prevention and evidence-based health who conduct systematic reviews and produce recommendations graded on the basis of the evidence. The USPSTF is the most comprehensive and easily accessible source of systematic reviews evaluating health promotion interventions. It has published its reviews as more than 100 recommendations for counseling, screening, and preventive health care.<sup>36</sup> These recommendations influence whether the prevention interventions are reimbursed by Medicare and Medicaid, and other health insurers.<sup>36</sup> It should be noted that USPSTF is currently grappling with its use of sex and gender terms; going forward, specificity of the population will be discussed and the terms used to describe it will be decided on at the beginning of the guideline review or development process.<sup>37</sup>

Currently, guidelines use the term "woman," which in most instances is based on biologic effects of being born female.

Recommendations follow a specific format. They grade the strength of the evidence and whether it supports use of the intervention (**Table 4-8**).<sup>38</sup> All recommendations appear both online and in journals (previously the *Annals of Internal Medicine*, currently the *Journal of the American Medical Association*). Recommendations that relate to one another typically are published together, although the recommendations can earn different grades or address different interventions. Validated tools that help carry out interventions are also provided.

The USPSTF considers two questions in making health promotion counseling recommendations: "Do interventions in the clinical setting influence persons to change their behavior?" and "Does changing health behavior improve health outcomes with minimal harms?"<sup>39</sup> Many recommendations seem very reasonable to clinicians, fitting well with previous training. Others surprise clinicians. All merit careful review of the rationale, which is clearly and completely presented.

Midwives should know all the recommendations made by the USPSTF addressing the clinical population served in their practice and should use them in health promotion encounters. The USPSTF provides a free mobile application for use in clinical agencies, which is very helpful in the clinical setting<sup>40</sup> (see the Resources section at the end of this chapter).

### Centers for Disease Control and Prevention

The CDC also provides relevant screening guidelines and recommendations for the populations cared for by midwives. Specifically, it offers guidelines related to screening and treating sexually transmitted infections (discussed in the *Reproductive Tract and Sexually Transmitted Infections* chapter) as well as those related to vaccinations.

### Advisory Committee on Immunization Practices

National recommendations for immunization recommendations come from a panel of medical and public health professionals, ACIP, which advises the CDC on immunization recommendations.<sup>28</sup> The CDC reviews and publishes the recommendations. ACIP makes recommendations across the lifespan, including for adults, pregnant persons, and neonates.

The ACIP publishes childhood, adolescent, adult, and catch-up vaccination recommendations and schedules, which it updates annually and as needed. It also publishes numerous other resources



<b>Grade</b>	<b>Definition</b>	<b>Suggestions for Practice</b>
<b>A</b>	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
<b>B</b>	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
<b>C</b>	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
<b>D</b>	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
<b>I</b>	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the clinical considerations section of the USPSTF recommendation statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

Abbreviation: USPSTF, U.S. Preventive Services Task Force.

U.S. Preventive Services Task Force. Grade definitions. <https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf/methods-and-processes/grade-definitions>. Accessed December 11, 2022.

for consumers and clinicians, and updates on vaccines shortages.<sup>41</sup>

Midwives in the United States should know all the recommendations for neonates, adolescents, and adults made by the ACIP. Vaccine-related counseling and recommendations are within the scope of midwifery practice. The ACIP provides a free mobile application that is very helpful.<sup>42</sup>

### Other Sources of Evidence

The American Academy of Family Practice's (AAFP's) Commission on Health of the Public and Science develops clinical preventive services recommendations.<sup>43</sup> This volunteer group of family physicians reviews the USPSTF recommendations and determines whether they agree with the conclusions reached based on the evidence presented. If they do not, they write separate conclusions and publish them on the AAFP website. In light of the occasionally controversial conclusions reached by the USPSTF, the AAFP Commission provides an interesting counterpoint.

The Women's Preventive Services Initiative (WSPI) publishes and updates guidelines every 5 years with support from the federal Health Resources and Services Administration.<sup>44</sup> At the time of writing, the WSPI had published 13 recommendations based

on systematic reviews of evidence, including the USPSTF recommendations.<sup>45</sup> The WSPI also reaches out to clinicians, including providing the Well-Woman Chart with a summary of its recommendations<sup>46</sup> (see the Resources section at the end of the chapter).

Naturally, maintaining current knowledge in the clinical practice of midwifery will include knowledge of health promotion interventions. This includes clinical bulletins from the American College of Nurse-Midwives and a subscription to the *Journal of Midwifery and Women's Health*. In addition, the American Academy of Pediatrics (AAP) makes its recommendations available through its website and also publishes them in *Pediatrics*. The American College of Obstetricians and Gynecologists (ACOG) provides clinical updates in the form of practice bulletins, practice advisories, and committee opinions in its journal *Obstetrics and Gynecology*. While not systematic reviews, ACOG provides uniformly well-researched clinical information that often address health promotion concerns. All three organizations work together on some screening recommendations, such as those related to group B streptococcal screening, which were published as an ACOG Committee Opinion.<sup>47</sup> The Midwives Alliance for North America publishes data on the safety of home births.

## Decision Making in the Face of Ambiguity

### General Approach to Decision Making in Health Promotion

*Stay person-centered.* Remember that the client makes the decision, usually with professional guidance. Use skills in cultural humility and behavioral change theories. Remember who makes the decisions about their own lives. Shared decision making includes both informed consent and informed refusal.<sup>48</sup>

*Practice consistently.* Practice partners should decide as a group which interventions they want to recommend to their clients—that is, which screening tests, preventive medications, and immunizations and the general content of counseling they will provide. If one partner is recommending one intervention at one visit and another makes different recommendations at the next, it creates unnecessary confusion for the patient and frustrating revisitation of decisions. When establishing a consistent approach, practices should consider evidence, the practice partners' concerns, and the populations commonly served, in terms of both cultural and common health concerns. Professional standards, such as the *Standards for the Practice of Midwifery*, call for this approach, requiring that “midwifery care is based upon knowledge, skills, and judgments which are reflected in written practice guidelines and are used to guide the scope of midwifery care and services provided to clients.”<sup>49</sup>

*Use evidence.* Be ready to tell clients why a given intervention is recommended and on what evidence it is based. Be ready to share the details with those who want it, while keeping in mind the health literacy of the individual. An ACOG Bulletin written in technical language may not be understandable to lay persons.<sup>50</sup> Another excellent source of information for consumers is the *Share with Women* (now called *Ask the Midwife*) handouts produced by the *Journal of Midwifery and Women's Health*, which are regularly reviewed and updated. The CDC provides excellent consumer handouts for many health promotion topics on its website. In terms of time spent counseling, it is important to know whether evidence supports devoting time to counseling for this content in an ambulatory visit.

*Be ready for the individual patient.* Even when a practice has done all its homework and planned ahead, every encounter provides a new challenge. Be ready to apply evidence and clinical information to the person in front of you, whose needs may not fit the evidence or recommendations available.

### Official Disagreement in Recommendations

Clinicians do not always enjoy the luxury of clear guidance from recommendations made by reputable

sources. For example, reputable sources have provided both clinicians and consumers with conflicting recommendations and generated controversy over reimbursement for breast cancer screening. Breast self-examination (BSE) was a mainstay of nursing education for many years. Then in 2010, the USPSTF released a D recommendation against it, along with an increase in the recommended age to begin mammograms from 40 to 50 years and a decrease in the recommended frequency of mammograms from 1 to 2 years.<sup>51</sup> Details about the data used to make these recommendations are beyond the scope of this text, but they focused on the ability of screening to detect cancer earlier and to decrease mortality. The American Cancer Society, ACOG, the American College of Radiology, and the Susan G. Komen Foundation all disagreed with the USPSTF mammogram recommendations and the effects they could have on reimbursement. These agencies created a national controversy over recommendations that rarely catch the attention of consumers, and successfully lobbied Congress to keep screening mammograms free for women in their 40s.<sup>52,53</sup> In 2016, after analyzing new research, the USPSTF made a C recommendation for mammography in women ages 40 to 49 years; it also withdrew the D recommendation for BSE in favor of a vaguer statement that women should be aware of bodily changes, including breast self-awareness, and report changes to their clinician.<sup>54,55</sup> Teaching breast self-awareness can be part of the midwifery philosophy to help people learn about their bodies and become experts for their body. However, in an environment of shorter visits, the midwife needs to decide which screening and counseling has the priority for *this* visit with *this* person.

Conflicting recommendations, no recommendations, or recommendations reporting insufficient evidence provide the clinician with opportunities for guiding clients through health information and health promotion decision making. How do midwives decide what is the right approach for patient counseling when the recommendations vary and lawmakers say they are making policies so individuals “can get mammograms if they and their doctors [*sic*] decide it's the right thing to do”?<sup>53</sup> Use of screening tests is not always the best choice for the reasons discussed previously, such as the health and psychological costs related to false-positive results and the follow-up tests and procedures needed to confirm they are indeed false positives. A thorough review for clinicians on the choices and accompanying risks and benefits for breast cancer screening approaches was done by Khan and Chollet.<sup>56</sup>

Even when the evidence is clear and agencies agree, recommendations do not always fit every

individual person. Just as recommendations must be tailored to fit individual circumstances, so should clinicians tailor approaches to counseling about them. A person-centered approach means working as a partner with clients to help them make well-informed decisions about health promotion interventions. In addition, evidence from the Stages of Change model demonstrates that real behavior change happens when clinicians meet people where they are in their complicated, busy, and sometimes difficult lives.<sup>6,57</sup> Several shared decision-making models can help clinicians through the process<sup>48</sup> (see the Resources section for more information).

- When guidelines vary, some clients do not want to know about the controversy. The same is true when guidelines do not take the particular person's circumstances or characteristics in account. Some clients simply want to know the opinion of their own provider and to follow it. They trust their provider's expertise and want to use it. With those clients, it is fine to mention that not all agencies give the same recommendations, and to give the midwife's own choice along with a rationale.
- Other clients want to dive into the depths and decide for themselves. For these individuals, review the available choices in detail, including the pros and cons of each, preferably with a printed handout or an electronic link for home review.
- Many persons fall somewhere in between these extremes and want some help in making a decision of their own. Let each individual guide you on how much information they want.

It does not denote failure on the part of a clinician if their client chooses to follow a different recommendation than the clinician favors. Supporting clients in their decisions and helping them to see how they came to such choices supports them in their journey to health.<sup>48</sup>

### Insufficient Evidence for Official Recommendations

Many of the USPSTF recommendations earn a grade of "I" for insufficient evidence, denoting that either studies have not been done or the studies that have been done on the usefulness of the intervention have not yielded clear enough results to recommend its routine use. Many of these recommendations go even further, first giving an I grade to the general population and then offering epidemiologic information on which groups are at higher risk of the

health condition of concern. It can be hard to decide what to do with these recommendations.

The 2020 I grade recommendation about screening for drug use (with interview questions) among adolescents provides a good example. The recommendation says evidence for screening adolescents for unhealthy drug use is "insufficient to assess the balance of benefits and harms."<sup>58</sup> A little further on in the recommendation under "Practice Considerations," the recommendation adds that "some factors are associated with a higher prevalence of unhealthy drug use [including] having a mental health condition, personality or mood disorder, or nicotine or alcohol dependence; a history of physical or sexual abuse, parental neglect, or other adversity in childhood; or drug or alcohol addiction in a first-degree relative." No change in the grade of the recommendation is given for these populations. What should a clinician do? Should midwives recommend this screening to persons from those populations? The authors of the recommendation do not give any guidance on this front; they simply pass on the epidemiologic information they gathered in their review of the evidence.

This question provides a good starting point for discussion among partners in a practice. Given the uncertainty of benefits and harms, which opportunities for health promotion do the partners hope this screening test will offer for this population? Which harms might accrue? Does the practice serve a substantial number of teens at higher risk? If so, are those the only teens who should be screened? Some of those risk factors are easy to miss—so maybe all teens should be screened? As noted earlier, coming to a practice-wide agreement on whether to routinely screen for a specific concern will reduce confusion among clients and reduce the chances of any particular person feeling singled out or confused by conflicting information.

### Official Recommendations That Are Counterintuitive

Some USPSTF recommendations repudiate previous training, and some clinicians find them difficult to implement. For example, the 2022 C grade recommendation for counseling related to diet and activity in primary care settings<sup>59</sup> recommends that clinicians individualize the decision to counsel on these topics to adults without a chronic disease in primary care settings. This includes during a screening examination, when this counseling was previously a staple component of the encounter. According to the USPSTF recommendation, studies have found that counseling in these encounters results in only a small amount of behavior change and any such change is short-lived. Time would be better spent, the authors report, on other activities.

When put in those plain terms, the recommendation does not seem quite so revolutionary. In fact, most people already know they should eat healthful food and get exercise. They hear it on the news, on talk shows, and at school. It does make some sense that if individuals do not have a chronic disease, a clinical provider might not be giving them any new information, or that in the absence of a chronic disease, they might not feel sufficient motivation to change their behavior due to clinical advice about diet and exercise. When considered in those terms, the study results fit well with what we know about the Stages of Change model and person-centered counseling. What is required of clinicians is to read each recommendation carefully to see what message it really brings, what evidence it compiles, and how that fits into a particular practice. Naturally, if an individual asks about healthy diet and exercise, clinical advice is definitely in order.

### No Official Recommendations Made

Many worthy topics related to health promotion have not been studied or had reviews on them published, particularly in terms of counseling and preventive medication. For example, for many health promotion topics, evidence has accrued that a behavior promotes health, but no evidence has surfaced that primary care counseling will promote increases in that healthy behavior. Many possible preventive medications have not been well studied for their effects or side effects. Moreover, the USPSTF and other agencies have not carried out systematic reviews on these topics. For example, USPSTF gives an I rating to seat belt use, but ACOG, AAP, and AAFP all have statements recommending population-specific counseling on seat belt and car seat safety.

Counseling on sleep habits provides another good example. Poor sleep, defined as either short duration or poor quality, is a highly prevalent and serious problem. Sleep deprivation and sleep disorders are associated with greater risk of heart attack, stroke, hypertension, diabetes, metabolic syndrome, obesity, depression, and mortality.<sup>60</sup> The American Academy of Sleep Medicine has summarized data showing the importance of sleep to cognition, safety-related performance, memory, mood, nociception, and brain metabolism. It recommends that adults get at least 7 hours of sleep for optimal health.<sup>61</sup> One-third of adults in the United States sleep less than this recommendation.<sup>62</sup> Sleep apnea may affect 10% of the population and has similar health associations.<sup>63</sup> Poor sleep in pregnancy is associated with increased rates of gestational diabetes, preeclampsia, preterm birth, and stillbirth.<sup>64</sup>

While recommendations for interventions to improve sleep exist, studies of their effectiveness vary in their results. Studies of brief counseling about these interventions demonstrate little or no effect on behavior change. One review identified interventions found useful in specific populations, such as hospitalized patients, children, and elderly persons.<sup>65</sup> This report found that reducing stimuli before retiring, cognitive-behavioral therapy, aromatherapy, relaxation techniques, and controlling the sleep environment all have some evidence to support their usefulness. The same report stated that sleep education had a modest effect on knowledge about healthy sleep, but no evidence for behavior change at follow-up. Pharmacologic treatments,<sup>66</sup> cognitive-behavioral therapy,<sup>67</sup> exercise,<sup>67</sup> and (perhaps) music<sup>68</sup> have all been found effective to treat insomnia. The CDC recommends some simple habits to improve sleep quality, known as sleep hygiene. These habits include going to bed and getting up at the same time consistently, being in bed at least 7 hours, keeping sleeping areas completely dark, and removing electronic devices from sleeping areas.<sup>69</sup> Providing this kind of sleep education for those clients who report poor sleep seems most feasible in an ambulatory patient encounter.

Sleep hygiene counseling and screening for most sleep disorders are topics that have not yet been addressed by the USPSTF. No recommendation gives a grade on whether counseling on sleep habits is likely to result in a change in behavior, or, more to the point, better health outcomes. The USPSTF provides an I grade recommendation for screening for sleep apnea and does not make recommendations for screening for other sleep disorders.<sup>63</sup> This does not mean that neither screening nor counseling helps patients with sleep-related issues. Rather, it means that the clinician who wishes to screen for sleep duration, sleep quality, sleep apnea, or other sleep disorders, or who wishes to counsel about this topic routinely, does so without the support of a recommendation based on strong evidence. If better evidence were available, would it show that counseling on this topic is, like counseling on diet and physical activity, a grade C recommendation, apparently addressing something most people already know? Or, would sleep counseling turn out more like tobacco cessation, a grade A recommendation, where talking about it at an encounter has been found to help? Does screening constitute a good use of clinical time? There is not yet enough evidence to guide healthcare providers. It is up to clinicians to decide whether to discuss these interventions, perhaps based on the individuals or populations they serve and the amount of time they have in an encounter.

### Rapidly Changing Situations

Occasionally, evidence does not keep up with a changing situation. In those cases, clients depend on the expertise of their clinical providers more than ever to help interpret the data from myriad sources, not all of them trustworthy. COVID-19 provides a recent example of this situation.

The SARS-CoV-2 virus was novel enough that treatment for infection with it was difficult to design,<sup>70</sup> and both community-based and hospital-based infection reduction measures were hard to establish.<sup>71,72</sup> Initial death rates were astonishing and terrifying, both in the United States<sup>73</sup> and globally.<sup>74</sup> The speed with which several versions of a vaccine against the virus were designed and produced was unprecedented.<sup>70</sup> This very quickly changing clinical picture made it challenging to advise individuals about health promotion choices related to the virus. When the first COVID-19 vaccine became available in December 2020, the data were not clear about whether vaccination was the best choice for pregnant persons. COVID-19 in pregnancy was extremely dangerous, but the vaccine was not initially tested on this population.<sup>75</sup> Individuals had to decide what was more dangerous, the possibility of contracting the infection and its possible sequelae or the possible effect of the vaccine on the fetus or the pregnancy. Clinicians could not provide clear data to answer these questions.

In terms of advising a client, this presented a similar problem to the dilemma of conflicting official recommendations, although the issue was changing data in the case of COVID-19 vaccines. Individuals knew that no official recommendation had been issued for vaccinations for pregnant persons and no studies had been done in this population. Some persons might want to simply follow their clinician's recommendation. Some might ask for information and make their own decision. Most persons will fall somewhere in between. The main difference between this and other situations involving ambiguous recommendations is that the midwife has a clinical responsibility to stay current in a rapidly changing situation and be ready to pass on high-quality information and give its source.

## Health Promotion Topics

### Actual Causes of Death

Year after year, the leading causes of death in the United States include heart disease, cancer, and accidents.<sup>76</sup> But, for decades, scholars have explained that these causes of death—that is, what appears

on death certificates—are not the *actual* causes of death. In 1979, the U.S. Surgeon General publicized findings that behavior (50%) and environment (20%) had a much larger effect on health outcomes than clinical services (10%) or genetics (20%).<sup>77</sup> In 1993, the *Journal of the American Medical Association* published a landmark study on the “Actual Causes of Death in the United States,” which showed the top three to be tobacco use, diet and physical activity, and alcohol use.<sup>78</sup> By this, the authors meant that these modifiable behaviors were the actual causes of death, not what was directly reported on death certificates. As they pointed out, tobacco, diet, exercise, and alcohol are all implicated in heart disease and cancer, and alcohol is a prime etiology in injury deaths. These findings were replicated 7 years later.<sup>79</sup> Currently, opioids might find a place in the top three actual causes of death.

Both of the reports stressed the importance of preventive services, such as health promotion over curative treatments. An exception may be opioid deaths, which are fueled by a complex lack of mental health treatment resources as well as a lack of substance use disorder treatment facilities. Fortunately, these issues can be addressed with evidence-based interventions throughout the continuum of care provided by midwives.

### Tobacco

For the last three decades, scholars have recognized tobacco as the major cause of preventable mortality in the United States, accounting for about 480,000 deaths annually.<sup>80</sup> Tobacco causes death through its close links to cancers, cardiovascular and respiratory diseases, and diabetes, and it causes other lethal and nonlethal conditions as well.<sup>80</sup> Although the prevalence of adult smokers has decreased since the 1990s,<sup>80</sup> an estimated 19% of adults in the United States use tobacco products currently.<sup>80</sup> The vast majority of adult cigarette smokers started before they were 18 years old, making prevention among children particularly important.

Electronic cigarettes are a source of new concern in tobacco addiction. Most e-cigarettes contain nicotine, which is the addictive substance of cigarettes that can damage the developing brain of adolescents.<sup>81</sup> There is substantial evidence that e-cigarettes are addictive.<sup>82</sup> Since the 1990s, youth have smoked fewer cigarettes, but their use of e-cigarettes has increased.<sup>81</sup> Use of e-cigarettes in youth is associated with smoking cigarettes in adulthood.<sup>83</sup> In addition, the delivery system of e-cigarettes, vaping, has been associated with lung injuries.<sup>83</sup>

Recommendations are available for both tobacco prevention cessation and prevention. For children and adolescents, the USPSTF provides a B-grade recommendation to counsel against initiation of tobacco use, but an I-grade recommendation to screen for use and counsel on cessation.<sup>82</sup> The USPSTF gives its only A-grade counseling recommendation on tobacco: It calls for screening adults, including in pregnancy, about tobacco use and providing counseling on cessation to those who do.<sup>82</sup> It advises the use of the “5 A’s” and a menu of other approaches to counsel adults about cessation of tobacco use. This includes physician or nurse advice, phone- and mobile app–based advice, counseling, and pregnancy-specific advice.

Although brief, individual counseling alone can be effective for tobacco cessation, longer-term counseling interventions and pharmacotherapy achieve the best results.<sup>84</sup> To achieve the best results, the brief intervention of the 5 A’s will lead to referral for at least four to eight counseling sessions, along with use of pharmacologic agents such as bupropion hydrochloride sustained release, nicotine replacement, or varenicline. Many states have websites and telephone resources with information on where to get free pharmacotherapy and counseling (see the Resources section at the end of the chapter).

### Healthy Weight, Diet, and Physical Activity

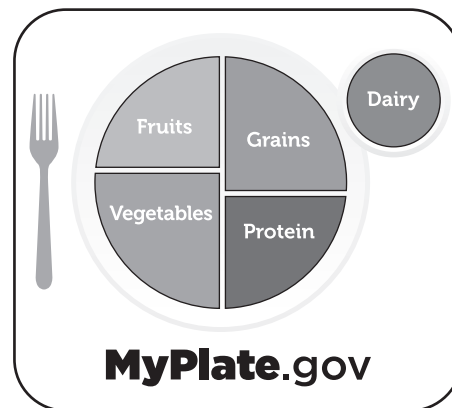
Obesity is a severe problem for the United States, which affects more than 40% of adults<sup>85</sup> and almost 19% of children and adolescents. Obesity is associated with serious conditions, including heart disease, type 2 diabetes, respiratory diseases, and cancer as well as increased mortality.<sup>86</sup> Evidence indicates that increased physical activity and dietary changes can reduce both weight and the risk of the conditions associated with obesity.<sup>86</sup> See the *Skillful Communication to Mitigate Clinician Bias* appendix for an in-depth discussion of how to counsel with sensitivity.

The USPSTF provides B-grade recommendations to screen for obesity and offer referrals for comprehensive behavioral interventions to lose weight to obese children, adolescents, and adults.<sup>86,87</sup> These recommendations call for comprehensive behavioral interventions, lasting 1 to 2 years, often with core phases followed by support phases. For overweight adults, the recommendation is to “individualize the decision to provide or refer to behavioral counseling.” For children, evidence suggests intensive interventions that last 2 to 12 months, shorter than for adults, but still over an extended course. These recommendations offer the opportunity to employ the 5 A’s, which include assisting and arranging for these more intensive counseling interventions.

For adults with cardiovascular risk factors, the USPSTF provides a grade-B recommendation to counsel individuals to consume a healthful diet and engage in physical activity.<sup>88</sup> This recommendation defines risk for cardiovascular disease as adults with hypertension, dyslipidemia, or multiple risk factors leading to a 10-year risk equal to or higher than 7.5% using a risk assessment tool such as the Pooled Cohort Equations.<sup>89</sup> The intervention recommended is to counsel the individual to eat a diet low in saturated fats, salt, and sugar and high in fruits, vegetables, and whole grains. Counseling for physical activity should encourage the individual to engage in 90 to 180 minutes of moderate to vigorous physical activity over the course of a week. After that, individuals should be referred to more intensive counseling, with one-on-one time with a trained counselor over time. Family members may be included. Again, the 5 A’s may be beneficial in an encounter of this sort.

The USPSTF recommendation for counseling on healthy diet<sup>88</sup> refers clinicians to federal guidelines on diet as an appropriate counseling resource (Figure 4-2; also see the Resources section). These guidelines suggest that individuals “start simple” by using the “MyPlate” tool, and offer some simple suggestions to increase their intake of fruits, vegetables, and whole grains and vary their sources of proteins. MyPlate tools include the use of the infographic shown in Figure 4-2 and smartphone applications that help with grocery shopping and meal planning. The *Dietary Guidelines for Americans*<sup>90</sup> go into more detail on how to achieve these behaviors, such as paying attention to portion size. (See the *Nutrition* chapter for further discussion.)

Counseling should also include encouragement of physical activity.<sup>86–88</sup> In addition to helping individuals maintain a healthy weight, it has many



**Figure 4-2** MyPlate symbol of the five good groups. Used with permission. MyPlate graphics. <https://www.myplate.gov/resources/graphics/myplate-graphics>.

other health benefits, such as bone health, cognition, protection against cancer, improved perinatal outcomes, fall reductions in the elderly, reduced mortality, and improved quality of life.<sup>91,92</sup> The *Physical Activity Guidelines for Americans* provide goals for people of different ages and with different conditions, including pregnancy, as well as some guidance for behavior change in this area.<sup>92</sup>

For adults of healthy weight without cardiovascular risk factors, the USPSTF does not recommend routinely discussing healthy diet and physical activity, a C-grade recommendation.<sup>93</sup> This seems counterintuitive to many clinicians. Doesn't an annual examination offer the opportunity for exactly that sort of discussion of healthy habits such as diet and exercise? The review for the recommendation presents evidence that unsolicited advice on diet and exercise provided in clinical encounters does not result in lasting changes in diet or exercise. However, midwives should provide such information to individuals who request it.

**Alcohol and Illicit Drugs**

The United States has a “serious substance misuse problem”—that is, a problem with “the use of alcohol or drugs in a manner, situation, amount, or frequency that could cause harm to the user or to those around them.”<sup>94(p1-1)</sup> In 2019, 26% of U.S. adults reported binge drinking in the previous month.<sup>95</sup> Approximately 5% (14.5 million persons) of all people in the United States 12 years and older have alcohol use disorder, including 2% of all adolescents. About 10% of U.S. children live with a parent who has alcohol use disorder.<sup>96</sup> Among persons 12 to 20 years old, approximately 2.2% report heavy alcohol use in the past month.<sup>97</sup> Emergency department visits have been on the rise and 19% of them are related to alcohol.<sup>98</sup> Annual mortality due to alcohol is about 95,000 persons in the United States.<sup>95</sup> Alcohol consumption, sometimes even small amounts, contributes to morbidity and mortality from both intentional and unintentional injuries including suicides.<sup>99</sup> In 2019, alcohol contributed to the 85,688 deaths from liver disease that occurred in the United States.<sup>95</sup> It also increases the risk of some cancers,<sup>100</sup> heart disease, depression, and stroke,<sup>95</sup> as well as fetal alcohol syndrome if used in pregnancy.<sup>95</sup> U.S. alcohol-related mortality doubled between 1999 and 2017.<sup>101</sup>

Substance misuse involving illicit drugs and prescription medications in the United States is associated with an equally bleak picture. Similar to the case with alcohol, individuals driving under the influence of drugs<sup>102</sup> have an increased risk of intentional and unintentional injuries.<sup>94</sup> The rate of

opioid overdose mortality in particular has skyrocketed over the two decades, increasing 345% between 2001 and 2016, from 33 to 131 deaths per million population.<sup>103</sup> Rates have continued to rise in more recent years, with adults between ages 25 and 45 most likely to die of this cause.<sup>104</sup>

Evidence supports screening adults for “risky or hazardous” drinking and then providing “brief behavioral interventions” as indicated in a primary care setting, a B-grade recommendation.<sup>105</sup> The screening tools recommended are short—one to three questions. One recommended tool is the Single Alcohol Screening Question (SASQ). A “yes” response can indicate a significant alcohol use disorder. The abbreviated Alcohol Use Disorders Identification Test–Consumption (AUDIT-C) has 10 questions, but only the first three apply to alcohol consumption (see **Table 4-9** and the Resources section). Scores range from 0 to 12, with the cut-off for a positive screen being a score of 4 or greater in men and a score of 3 or greater in women.

Table 4-9	Screening Questions for Unhealthy Alcohol Use
<b>Single Alcohol Screening Question (SASQ)<sup>107</sup></b>	
A single-question screener: “How many times in the past year have you had five or more drinks in a day (for males) or four or more drinks in a day (for females)?”	
<b>Alcohol Use Disorders Identification Test–Consumption (AUDIT-C)<sup>108</sup></b>	
1. How often do you have a drink containing alcohol? <i>Never = 0; monthly or less = 1; 2–4 times/month = 2; 3–4 times/week = 3; &gt;4 times/week = 4</i>	
2. How many drinks containing alcohol do you have on a typical day you are drinking? <i>0–2 = 0; 3–4 = 1; 5–6 = 3; 7–9 = 3; &gt;10 = 4</i>	
3. How often do you have x (5 for males; 4 for females and for males older than age 65) or more drinks on one occasion? <i>Never = 0; monthly or less = 1; monthly = 2; weekly = 3; daily or almost daily = 4</i>	

Based on Smith PC, Schmidt SM, Allensworth-Davies D, Saitz R. Primary care validation of a single-question alcohol screening test. *J Gen Intern Med.* 2009;24(7):783-788. doi:10.1007/s11606-009-0928-6 and Bush K, Kivlahan DR, McDonnell MB, Fihn SD, Bradley KA. The AUDIT Alcohol Consumption Questions (AUDIT-C): An effective brief screening test for problem drinking. Ambulatory care quality improvement project (ACQUIP). Alcohol Use Disorders Identification Test. *Arch Intern Med.* 1998;158(16):1789-1795. doi:10.1001/archinte.158.16.1789.

Many clinicians use the Cut down, Annoyed, Guilty, Eyeopener (CAGE) tool, but it does not detect as wide a range of risky alcohol behaviors.<sup>106</sup> Both SASQ and AUDIT-C are supported by evidence that suggests they are effective in identifying unhealthy alcohol behaviors in adults.

Using the 5 A's to help individuals who screen positive for unhealthy alcohol use to find an evidence-based program fits well into the primary care role of midwives. For those individuals who screen positive, the USPSTF recommendation describes several evidence-based approaches to brief interventions that have evidence supporting their potential for reducing unhealthy alcohol behaviors in adults.<sup>105</sup> Many of these interventions are available on the Internet. Their time commitment is often from 30 minutes to 2 hours. Effective programs include such strategies as normative feedback (explaining how an individual's behavior fits in with recommended norms), personalized feedback, cognitive-behavioral therapy, diaries, action plans, and coping strategies.

The USPSTF did not find sufficient evidence for other counseling recommendations related to alcohol misuse and illicit drug use. Notably, the USPSTF issued an I-grade recommendation regarding screening and counseling adolescents on alcohol misuse.<sup>105</sup> The reviewers cited a dearth of studies on the outcomes of these interventions with this population. Likewise, the USPSTF assigned an I grade to counseling to prevent illicit drug use in children, adolescents, and young adults.<sup>109</sup> Again, reviewers pointed out that while some programs show promise, there is an overall lack of evidence for their effectiveness, particularly in terms of the need for replication studies. In addition, inconsistency in the outcomes measurements made results hard to evaluate. Finally, few studies addressed both benefits and harms, particularly legal and social harms.

While the USPSTF does not recommend screening and therefore any screening tool for illicit drug use, some tools have been studied and validated. The Substance Abuse and Mental Health Services Administration recommends use of the National Institute on Drug Abuse's (NIDA's) modified ASSIST questionnaire.<sup>110,111</sup> The Drug Abuse Screening Test is another screening interview tool for primary care settings with some evidence to support it<sup>112</sup> (see the Resources section). Remember that the decision on whether to screen should incorporate more considerations than just the strength of the tool. When making practice-specific screening decisions, always return to the characteristics of a good screening program.

## Reproductive Life Planning

Reproductive life planning (RLP) is a topic for health promotion that midwives frequently address. The *Preconception Care* appendix provides detailed preconception and interconception planning information, which addresses a part of RLP. A few of the lessons about health promotion counseling for RLP are highlighted here.

RLP and preconception care gained national attention in 2006 when the CDC issued a report supporting the intervention and giving 10 related recommendations.<sup>113</sup> The report explained that “a reproductive health plan reflects a person's intentions regarding the number and timing of pregnancies in the context of their personal values and life goals. This health plan might increase the number of planned pregnancies and encourage persons to address risk behaviors before conception, reducing the risk for adverse outcomes for both the mother and the infant.”<sup>113</sup> In this report and in subsequent articles responding to its call, the topics of RLP and preconception care appeared together, at times almost interchangeably.<sup>114–118</sup> The idea was to encourage individuals to plan whether to have children or not, and to get the appropriate care for that decision, either preconception or contraception care.

Callegari and colleagues struck a different note, calling for a more person-centered approach.<sup>119</sup> They pointed out that not all individuals with child-bearing potential have the same perspective on pregnancy planning: “Researchers in social science and medicine have long challenged the assumption that pregnancy intention is dichotomous and have suggested that, instead, it is a continuum shaped by a complex set of personal, social, and cultural factors.”<sup>119(p130)</sup> Insisting that individuals decide on a definitive RLP at one point in time could hurt the clinical relationship, impair the understanding of information, evoke a sense of shame, or misdirect counseling. These authors recommend using open-ended questions, collaborating on strategies, recognizing that some individuals do not consider an unintended pregnancy a failure, and avoiding assumptions and judgments. Cultural humility and an assessment of the stages of change can be used productively here.

Both the CDC recommendations and Callegari and colleagues' approach are based on evidence, yet they came to different recommendations about RLP. The CDC looked at what is known about behaviors to improve outcomes. Callegari's group looked at qualitative and psychological data on responses to pregnancy and advice by persons assigned female at birth. It is important to keep in mind that evidence



used to recommend a health behavior can come from differing perspectives and needs to be applied to an individual patient and an individual setting.

## Screening Exams

The screening or annual examination may be the most familiar health intervention we know. This examination is not initiated based on a specific health concern; it consists entirely of health promotion. This encounter often contains all the components taught to students as the basic physical examination: heart, lungs, reflexes, skin, pelvic examination, and so on. The usefulness of this kind of physical exam has been questioned for decades.<sup>120</sup> Rigorous testing in 17 randomized, controlled trials has not supported that it saves lives by reducing total mortality, cancer mortality, or cardiovascular mortality.<sup>121</sup> When these data first began appearing, some sources pointed out that periodic visits may promote relationships between clinicians and consumer, and this relationship also has importance in treating health conditions.<sup>122</sup>

The health promotion encounter does not have to be a complete screening physical examination. It often has been replaced by an encounter that includes more counseling and partnership, which can help develop the clinician–patient relationship. The most common interventions in a health promotion encounter include interviews, screening and lab tests, counseling, immunizations, and preventive medications. ACOG recommendations for a wellness visit and the adolescent first reproductive visit promote mainly counseling on recommended topics.<sup>123,124</sup> Not all patients are comfortable with this counseling-focused approach, which omits much of the physical exam and routine blood tests, or feel it is worth their time.<sup>125</sup> Nevertheless, evidence indicates that a counseling-focused approach offers the most effective use of clinical time, and it leaves individuals with more information to take home and use between visits.

## Social and Structural Determinants of Health

The ecological model described earlier in the chapter (Figure 4-1) makes clear to clinicians the risk and protective factors that are sometimes invisible in the examining room—that is, the social and structural determinants of health (SDoH). SDoH are “the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems

shaping the conditions of daily life.”<sup>126</sup> Starting in the 1970s,<sup>77</sup> and reinforced since then,<sup>78</sup> data have shown that SDoH have far more influence on health outcomes than does clinical care, with the environment estimated to be responsible for approximately 50% of the effect on outcomes and health care only approximately 10%. As time passes, increasing importance continues to be attributed to the effects of SDoH—not just on individuals’ outcomes, but also on broader health inequities. The *Context of Individuals Seeking Midwifery Care* chapter offers more information on SDoH.

SDoH affect health outcomes and health equity in many ways. With such clear links drawn to these outcomes, it is not surprising that all health professionals need to learn about SDoH.<sup>127</sup> But, how does one move from the evidence of the importance of SDoH to clinical health promotion interventions? This is a question that many have asked in recent years, including the USPSTF in a very public way.<sup>128,129</sup> With few screening tests or counseling recommendations that address SDoH, the USPSTF analyzed barriers and opportunities in making such recommendations, as well as an analytic framework for moving forward.<sup>129</sup>

This framework subjects screening tests for SDoH to the same conditions as any other screening program, asking the same questions. The following is an expansion of the questions in this framework using the evidence from the USPSTF evidence report for screening for intimate partner violence (IPV) as an example.<sup>130</sup> Note all studies reviewed did not distinguish gender identification, and the report uses the terms “women” and “men.”

1. Overall, the program recommended must show the characteristics of any screening program—that is, does the program result in improved quality or length of life for a population that participates in it? As noted previously, there are many aspects to consider for a universal screening, although IPV is more complex than most screenings because this problem includes both intergenerational and interpersonal aspects.<sup>131</sup> The USPSTF report identified four studies of screening among adult women followed by brief counseling, with no differences found in health or quality of life at 3 to 18 months.
2. Does the test accurately screen for an important SDoH in a population of sufficient prevalence? The USPSTF recommendation reports that 36% of women and 33% of men experience IPV in their lifetime, establishing

its importance. If midwives screen for IPV, does sufficient evidence show that a positive finding affects health outcomes? The recommendation statement reported three studies of ongoing (not brief) interventions that resulted in positive health outcomes.

3. What are harms associated with the test, and do they outweigh the benefits? The USPSTF statement included data on harms from screening in the section on research needs and gaps, so the statement did not meet this condition.
4. Is there treatment available to participants in the program? For example, if midwives screen for IPV, can they refer their clients to support programs? The USPSTF statement reported on programs that work. Several masked studies were cited in the statement showing that brief counseling did not make any difference. If a given agency does not have access to any programs, then screening should not be carried out. Instead, work should be done at the community level to develop programs.
5. What are the harms associated with treating the condition, and do they outweigh the benefits? Several studies were cited in the USPSTF statement indicating that screening did not seem to result in harms.
6. Is the treatment effective? As mentioned earlier, studies were reported in the statement that found longer-term treatments were effective, but not brief interventions.
7. Does an improvement in intermediate outcomes lead to improved health outcomes in the long term? The USPSTF statement summarized the randomized controlled trials included in the systematic review and found small improvements in only the perinatal programs, which were of longer duration. Brief interventions did not show differences in outcomes, for either pregnant or nonpregnant women.

This framework provides a good starting point for integrating SDoH into the USPSTF recommendations. It does well at applying the principles of screening tests, though it does not explicitly address issues specific to bringing SDoH into primary care. The USPSTF plans to address SDoH only when they are modifiable and only when they are modifiable by interventions by individuals. For example, the

USPSTF considers that community-based interventions (such as initiating an IPV support program) do not fall within the purview of the primary care provider. Sixteen existing recommendations have been identified, and new SDoH risk factors that meet those criteria could be reviewed for recommendations.<sup>129</sup>

## Population-Based Health Promotion

### Health Equity

With examination of the SDoH model (Figure 4-1), the need for population-based approaches to health promotion becomes glaringly obvious. Healthcare services directed toward individuals have an important role to play. Yet, the many other SDoH are where individuals spend most of their lives and have an enormous impact on their health. These conditions can be made better by interventions with a population focus.

Health inequity is a health issue that is revealed at the population level: “avoidable or remediable differences among *groups of people* [emphasis added], whether those groups are defined socially, economically, demographically, or geographically.”<sup>132</sup> As a result, recommendations to reduce or eliminate health inequities tend to center on interventions at the system or population level. For example, a landmark report from the Institute of Medicine on healthcare inequities, *Unequal Treatment*,<sup>133</sup> made 20 recommendations, only one of which can be implemented by a clinician in their individual practice. The rest require implementation at the system level.

### U.S. Preventive Services Task Force

The USPSTF began to review systematically both its processes for developing recommendations and the content of its published recommendations in light of the long-standing history of systemic racism and resulting health inequities affecting Americans of color.<sup>134</sup> It found that while health disparities in risk factors or outcomes were frequently mentioned in the recommendation statements, the etiologic role of racism, which is well established in the literature, was mentioned in only one of these statements. Recommendations are applied to the general population, even when the studies with which evidence was developed included study participants who were not representative. As an example, only 1 out of every 7 people in the studies supporting a recommendation may be a person of color and only 1 out of the 7 may be a woman, yet the population targeted by the recommendation may be predominantly people

of color and perhaps 4 out of 7 are women.<sup>134</sup> Although evidence frequently does not include studies that included a range of races and ethnicities in their samples, few statements call for more research to fill this gap in evidence. Answers to key questions for the Social Risk and Needs Framework should facilitate the development of recommendations that incorporate knowledge related to racism and its effect of the specific recommendation. One change planned at the USPSTF is to consistently address the representativeness of evidence in statement sections on gaps in evidence.

In the report's findings, the USPSTF identified several changes for future work.<sup>134</sup> It will use health equity frameworks to guide its work, prompting systematic incorporation of evidence on racism into reviews. In addition, it plans to use more consistent language to describe race, ethnicity, and culture. There are also ongoing efforts to foster a culture of diversity in membership, leadership, and values. Health equity will be added to the values used when considering new topics. The USPSTF plans to pilot inclusion of evidence for how recommendations may work differently in different populations or systems as part of its reviews. Statement sections on gaps in the evidence will be enhanced to address when evidence does not have a diversity of research study participants. Several new ideas are under consideration to address which populations were included in studies of the interventions. All of these changes were introduced by USPSTF in 2021 for pilot testing.

### Midwifery Contribution

Individual midwives can take many actions to join with others to promote health on the population level, which can have effects at the local, state, and national levels. Not only do midwives care for each individual and family ethically,<sup>135–137</sup> but they also enter into a social contract, agreeing as a profession to protect the public.<sup>138</sup> There are many ways to do this, incorporating the preferences and skills of each midwife.

#### Local Level

At the local level, midwives can undertake quality improvement processes to ensure their provision of care is consistent with the relevant evidence. Quality improvement plans are aimed at improving the quality of care for all patients. However, they may unintentionally increase gaps in health outcomes.<sup>139</sup> This can occur if the improvement plan uses approaches

that are more effective among advantaged versus less advantaged populations.<sup>139</sup> Therefore, it is essential that plans consider all populations whom they serve and the characteristics of these populations, so culturally and linguistically appropriate approaches are used.

Speaking at hearings offers an avenue for local, population-based health promotion. Nurses and midwives are trusted by the public and can use that trust when speaking publicly. Speaking at school board meetings, serving as an expert source for local organizations, and asking parents to provide healthy snacks for their children at school also all provide examples of population health promotion at the local level.

Community-based health promotion opportunities also present themselves in local agencies. Service to a health agency (hospital, birth center, clinic) to improve clinical protocols or on other committees offers an avenue of local work to promote health. Many midwives work in community organizations, carrying out community-based interventions for families, rather than clinical care.

#### State Level

At the state level, avenues of population-based health promotion also abound. Service to the state affiliates of ACNM, the Midwives Alliance of North America, or other professional organizations can promote health by improving professional practice. Service on the board of nursing or midwifery, board of health, or maternal mortality review board often has an important influence on the health care delivered within a state. Many states have committees implementing safety bundles in hospitals, often focused on maternal mortality. The ACNM website has an advocacy section that details challenges and opportunities for improving the practice environment for midwives by state.

#### National Level

Naturally, the national level has an even bigger effect on health. A variety of national entities welcome professional volunteers, such as The Joint Commission (for healthcare quality), the Accreditation Commission for Midwifery Education (for midwifery education quality), the National Quality Forum (on healthcare quality<sup>140</sup>), the USPSTF, and ACIP. Professional organizations organize member participation in lobbying efforts at the national level, such as occurred with a 2018 law that funded maternal mortality review boards across the nation.<sup>141</sup>

## Conclusion

Health promotion focuses on shared decision making and person-centered care, making it consistent with midwifery philosophy. Health promotion clinical interventions tend to fall into the primary and secondary levels of preventions. The components of a clinical health promotion encounter are counseling, screening, preventive medication, and immunization. While the evidence is sometimes contradictory or insufficient, guidelines for good

counseling can enable clinicians to better help their clients. Today, screening exams have fewer physical exam components than they once did, but offer more opportunities for shared decision making. Social determinants of health represent a new area of screening and counseling. Health promotion at the population level might seem daunting, but health equity and obligations to the profession and the public require midwives to take the broader perspective and protect the public good at many levels.

## Resources

Issue	Organization	Description
General health promotion	ACOG Well-Woman Preventive Services Initiative	Recommendations on well-women care, including the Well-Woman Chart
	American Academy of Family Practice (AAFP)	AAFP review of USPSTF clinical preventive services recommendations
	Centers for Disease Control and Prevention (CDC)	Complete listing of risk reduction, evidence-based interventions
	Guide to Community Preventive Services	Community-based preventive services recommendations based on systematic reviews
	<i>Theory at a Glance: A Guide for Health Promotion Practice</i>	Review of health promotion–related theories compiled by the National Cancer Institute
	U.S. Department of Health and Human Services (DHHS)	<i>Healthy People 2030</i> database of evidence-based, community-based, health promotion interventions
	U.S. Preventive Services Task Force (USPSTF)	Preventive health services graded recommendations based on systematic reviews
	U.S. Preventive Services Task Force (USPSTF)	Mobile device application for USPSTF recommendations
Addictions	Women's Preventive Services Initiative (WSPi)	Publishes and updates clinical preventive guidelines for women every five years
	Centers for Disease Control and Prevention (CDC)	Manual for clinicians planning to implement a brief intervention for risky alcohol use
	Centers for Disease Control and Prevention (CDC)	Screening tools for alcohol abuse
	Food and Drug Administration (FDA)	The Real Cost Campaign; resources for tobacco prevention and cessation
	National Institutes of Health (NIH)	Tobacco quit lines and other tobacco addiction resources
	U.S. Department of Health and Human Services (DHHS)	DAST drug screening tool
	Substance Abuse and Mental Health Services Administration (SAMHSA)	NIDA-modified ASSIST drug screening tool
	U.S. Department of Health and Human Services (DHHS)	<i>Smoke-Free Women</i> : smoking-cessation resources for women

Issue	Organization	Description
Cervical cancer	American Society for Colposcopy and Cervical Pathology (ASCCP)	Cervical cancer screening guidelines
Diet	U.S. Department of Agriculture (USDA)	<i>Dietary Guidelines for Americans</i> ; dietary guideline information and resources, including infographics, apps, and reports
Genetics	National Institutes of Health (NIH), National Human Genome Research Institute (NHGRI)	Genetic counseling services and resources for clinicians and women
Group B <i>Streptococcus</i> (GBS) screening	ACOG Committee Opinion with ACNM and AAP	Regularly updated guidelines on GBS screening in pregnancy
Immunization	Advisory Committee on Immunization Practices (ACIP)	Immunization recommendations across the lifespan
	Advisory Committee on Immunization Practices (ACIP)	Vaccine Schedules webpage
	Sage Working Group on Vaccine Hesitancy	Report on factors creating vaccine hesitancy and how to create social norms to accept vaccination
Intimate partner violence (IPV)	Centers for Disease Control and Prevention (CDC)	Facts, screening, and programs related to IPV
Motor vehicle safety	Centers for Disease Control and Prevention (CDC)	Information about child safety seats for clinicians and parents
	National Highway Traffic Safety Administration (NHTSA)	Seat belt recommendations during pregnancy
Physical activity	Centers for Disease Control and Prevention (CDC)	Physical activity guidelines for individuals across the lifespan; resources for clinicians and women, including strategies for overcoming barriers
	U.S. Department of Health and Human Services (DHHS), Office of Disease Prevention and Health Promotion	Physical activity guidelines for different age groups, benefits, and behavior change strategies
Reproductive life planning	March of Dimes	Comprehensive interactive resources for individuals considering a pregnancy
Sexual violence	Centers for Disease Control and Prevention (CDC)	Sexual violence prevention strategies
Shared decision making	Agency for Healthcare Research and Quality (AHRQ)	Shared decision-making approach tools and training
	Ottawa Hospital Research Institute	Ottawa Decisional Support Framework tools and training

## References

- World Health Organization. *Constitution*. <https://www.who.int/about/governance/constitution>. Published 1947. Accessed December 10, 2022.
- World Health Organization. *Ottawa Charter for Health Promotion 1986*. [https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0004/129532/Ottawa\\_Charter.pdf](https://www.euro.who.int/__data/assets/pdf_file/0004/129532/Ottawa_Charter.pdf). Published 1986. Accessed December 10, 2022.
- Centers for Disease Control and Prevention. *Prevention*. [https://www.cdc.gov/pictureofamerica/pdfs/picture\\_of\\_america\\_prevention.pdf](https://www.cdc.gov/pictureofamerica/pdfs/picture_of_america_prevention.pdf). Accessed December 10, 2022.
- Harris RP, Helfand M, Woolf SH, et al. Current methods of the U.S. Preventive Services Task Force: a review of the process. *Am J Prev Med*. 2002;20(3S):21-35. <https://doi.org/10.1016/j.amepre.2020.01.001>.
- Davis R, Campbell R, Hildon Z, Hobbs L, Michie S. Theories of behaviour and behaviour change across the social and behavioural sciences: a scoping review. *Health Psychol Rev*. 2015;9(3):323-344.

- doi: 10.1080/17437199.2014.941722. Epub 2014 Aug 8. PMID: 25104107; PMCID: PMC4566873.
6. Prochaska JO, DiClemente CC, Norcross JC. In search of how people change: applications to addictive behaviors. *Am Psychol.* 1992;47(9):1102-1114. doi:10.1037//0003-066x.47.9.1102.
  7. National Cancer Institute. *Theory at a Glance: A Guide for Health Promotion Practice.* 2nd ed. <https://cancercontrol.cancer.gov/sites/default/files/2020-06/theory.pdf>. Published 2005. Accessed December 10, 2022.
  8. Motivational Interviewing Network of Trainers. Understanding motivational interviewing. <https://motivationalinterviewing.org/understanding-motivational-interviewing>. Accessed March 9, 2021.
  9. Dahlgren G, Whitehead M. *European Strategies for Tackling Social Inequities in Health: Levelling Up (Part 2).* [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0018/103824/E89384.pdf](http://www.euro.who.int/__data/assets/pdf_file/0018/103824/E89384.pdf). Published 2006. Accessed December 10, 2022.
  10. National Academies of Sciences, Engineering, and Medicine. *A Framework for Educating Health Professionals to Address Social Determinants of Health.* Washington, DC: National Academies Press; 2016. doi:10.17226/21923.
  11. Whitlock EP, Orleans CT, Pender N, Allan J. Evaluating primary care behavioral counseling interventions: an evidence-based approach. *Am J Prev Med.* 2002;22(4):267-284. doi:10.1016/s0749-3797(02)00415-4.
  12. Tervalon M, Murray-García J. Cultural humility versus cultural competence: a critical distinction in defining physician training outcomes in multicultural education. *J Health Care Poor Underserved.* 1998;9(2):117-125. doi:10.1353/hpu.2010.0233.
  13. Withy KM, Lee W, Renger RF. A practical framework for evaluating a culturally tailored adolescent substance abuse treatment programme in Molokai, Hawaii. *Ethn Health.* 2007;12(5):483-496. doi:10.1080/13557850701616920.
  14. Soto A, Smith TB, Griner D, et al. Cultural adaptations and therapist multicultural competence: two meta-analytic reviews. *J Clin Psychol.* 2018;74(11):1907-1923. doi:10.1002/jclp.22679.
  15. Murray KE, Ermias A, Lung A, et al. Culturally adapting a physical activity intervention for Somali women: the need for theory and innovation to promote equity. *Transl Behav Med.* 2017;7(1):6-15. doi:10.1007/s13142-016-0436-2.
  16. Marutani M, Miyazaki M. Culturally sensitive health counseling to prevent lifestyle-related diseases in Japan. *Nurs Health Sci.* 2010;12(3):392-398. doi:10.1111/j.1442-2018.2010.00544.x.
  17. Haddad LG, Al-Bashaireh AM, Ferrell AV, Ghadban R. Effectiveness of a culturally-tailored smoking cessation intervention for Arab-American men. *Int J Environ Res Public Health.* 2017;14(4). doi:10.3390/ijerph14040411.
  18. American Psychological Association. *Competencies for Psychology Practice in Primary Care: Report of the Interorganizational Work Group on Competencies for Primary Care Psychology Practice.* <https://www.apa.org/ed/resources/competencies-practice.pdf>. Published 2015. Accessed December 10, 2022.
  19. CCI Conference on Preventive Aspects of Chronic Disease, 1951. Cited in Wilson JMG, Junger G. *Principles and Practices of Screening for Disease.* Geneva, Switzerland: World Health Organization; 1968.
  20. U.S. Preventive Services Task Force. Chlamydia and gonorrhea: screening. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/chlamydia-and-gonorrhea-screening>. Published 2014. Accessed March 9, 2021.
  21. U.S. Preventive Services Task Force. Latent tuberculosis infection: screening. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/latent-tuberculosis-infection-screening>. Published 2016. Accessed March 9, 2021.
  22. Wilson JMG, Junger G. *Principles and Practice of Screening for Disease.* Geneva, Switzerland: World Health Organization; 1968. [https://apps.who.int/iris/bitstream/handle/10665/37650/WHO\\_PHP\\_34.pdf?sequence=17](https://apps.who.int/iris/bitstream/handle/10665/37650/WHO_PHP_34.pdf?sequence=17). Accessed December 10, 2022.
  23. Grimes DA, Schulz KF. Uses and abuses of screening tests. *Lancet.* 2002;359(9309):881-884. doi:10.1016/S0140-6736(02)07948-5.
  24. Grimes DA, Peipert JF. Electronic fetal monitoring as a public health screening program: the arithmetic of failure. *Obstet Gynecol.* 2010;116(6):1397-1400. doi:10.1097/AOG.0b013e3181fae39f.
  25. U.S. Preventive Services Task Force. Breast cancer: medication use to reduce risk. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/breast-cancer-medications-for-risk-reduction>. Published 2019. Accessed April 9, 2021.
  26. U.S. Preventive Services Task Force. Folic acid for the prevention of neural tube defects: preventive medication. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/folic-acid-for-the-prevention-of-neural-tube-defects-preventive-medication>. Published 2017. Accessed April 9, 2021.
  27. Centers for Disease Control and Prevention. Immunization: the basics. <https://www.cdc.gov/vaccines/vac-gen/imz-basics.htm>. Published 2021. Accessed April 9, 2021.
  28. Centers for Disease Control and Prevention. Advisory Committee on Immunization Practices (ACIP): general committee-related information. <https://www.cdc.gov/vaccines/acip/committee/index.html>. Published 2020.
  29. Centers for Disease Control and Prevention, Office for State, Tribal, Local, and Territorial Support. State school immunization requirements and vaccine exemption laws. <https://www.cdc.gov/php/docs/school-vaccinations.pdf>. 2017. Accessed December 10, 2022.

30. U.S. Citizenship and Immigration Services. Vaccination requirements. <https://www.uscis.gov/tools/designated-civil-surgeons/vaccination-requirements>. Published 2020. Accessed April 9, 2021.
31. U.S. Department of State, Bureau of Consular Affairs. Vaccinations. <https://travel.state.gov/content/travel/en/us-visas/immigrate/vaccinations.html>. Accessed April 9, 2021.
32. Ryan J, Malinga T. Interventions for vaccine hesitancy. *Curr Opin Immunol*. 2021;71:89-91. doi:10.1016/j.coi.2021.05.003.
33. Sage Working Group on Vaccine Hesitancy. Report of the Sage Working Group on Vaccine Hesitancy. <https://thecompassforsbc.org/sbcc-tools/report-sage-working-group-vaccine-hesitancy>. Published 2014. Accessed December 10, 2022.
34. Dubé E, Gagnon D, MacDonald NE. Strategies intended to address vaccine hesitancy: review of published reviews. *Vaccine*. 2015;33(34):4191-4203. <https://doi.org/10.1016/j.vaccine.2015.04.041>.
35. Jarrett C, Wilson R, O'Leary M, et al. Strategies for addressing vaccine hesitancy: a systematic review. *Vaccine*. 2015;33(34):4180-4190. <https://doi.org/10.1016/j.vaccine.2015.04.040>
36. U.S. Preventive Services Task Force. Recommendations. [https://uspreventiveservicestaskforce.org/uspstf/topic\\_search\\_results?topic\\_status=P](https://uspreventiveservicestaskforce.org/uspstf/topic_search_results?topic_status=P). Accessed May 9, 2022.
37. Caughey AB, Krist AH, Wolff TA, et al. USPSTF approach to addressing sex and gender when making recommendations for clinical preventive services. *J Am Med Assoc*. 2021;326(19):1953-1961. doi:10.1001/jama.2021.15731. [Published correction appears in *J Am Med Assoc*. 2021;326(23):2437.]
38. U.S. Preventive Services Task Force. Grade definitions. <https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf/methods-and-processes/grade-definitions>. Accessed December 10, 2022.
39. Curry SJ, Grossman DC, Whitlock EP, Cantu A. Behavioral counseling research and evidence-based practice recommendations: U.S. Preventive Services Task Force perspectives. *Ann Intern Med*. 2014;160:407-413. <https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf/methods-and-processes/behavioral-counseling-research-and-evidence-based-practice-recommendations-us-preventive-services-task-force-perspectives>. Accessed December 10, 2022.
40. U.S. Preventive Services Task Force. Prevention Task Force. <https://www.uspreventiveservicestaskforce.org/apps/>. Accessed December 10, 2022.
41. Centers for Disease Control and Prevention. Immunization schedules: resources for healthcare providers. <https://www.cdc.gov/vaccines/schedules/hcp/resources.html>. Published 2020. Accessed December 10, 2022.
42. Centers for Disease Control and Prevention (CDC). Immunization schedules: CDC vaccine schedules app for healthcare providers. <https://www.cdc.gov/vaccines/schedules/hcp/schedule-app.html#download>. Published 2021. Accessed December 10, 2022.
43. American Academy of Family Physicians. Overview of AAFP clinical preventive services recommendations. <https://www.aafp.org/family-physician/patient-care/clinical-recommendations/aafp-cps/overview.html>. Published 2021. Accessed December 10, 2022.
44. Women's Preventive Services Initiative. About WPSI. <https://www.womenspreventivehealth.org/about/>. Published 2018. Accessed December 10, 2022.
45. Women's Preventive Services Initiative. Recommendations. <https://www.womenspreventivehealth.org/recommendations/>. Published 2018. Accessed December 10, 2022.
46. Women's Preventive Services Initiative. Well-woman chart. <https://www.womenspreventivehealth.org/well-womanchart/>. Published 2018. Accessed December 10, 2022.
47. Prevention of group B streptococcal early-onset disease in newborns: ACOG Committee Opinion, Number 797. *Obstet Gynecol*. 2020;135(2):e51-e72. doi:10.1097/AOG.0000000000003668. [Published correction appears in *Obstet Gynecol*. 2020;135(4):978-979.]
48. Megregian M, Nieuwenhuijze M. Choosing to decline: finding common ground through the perspective of shared decision making. *J Midwifery Womens Health*. 2018;63(3):340-346. doi:10.1111/jmwh.12747.
49. American College of Nurse-Midwives. *Standards for the Practice of Midwifery*. [https://www.midwife.org/acnm/files/ACNMLibraryData/UPLOADFILE\\_NAME/000000000051/Standards\\_for\\_Practice\\_of\\_Midwifery\\_Sept\\_2011.pdf](https://www.midwife.org/acnm/files/ACNMLibraryData/UPLOADFILE_NAME/000000000051/Standards_for_Practice_of_Midwifery_Sept_2011.pdf). Published September 2011. Accessed December 10, 2022.
50. Nutbeam D, Lloyd JE. Understanding and responding to health literacy as a social determinant of health. *Annu Rev Public Health*. 2021;42:159-173. doi:10.1146/annurev-publhealth-090419-102529.
51. U.S. Preventive Services Task Force. Screening for breast cancer: recommendation statement. *Am Fam Physician*. 2010;82(6):672-676.
52. Wise J. Women aged 50 to 74 should have mammogram every two years, say US guidelines. *BMJ Br Med J*. 2016;352. <http://dx.doi.org/10.1136/bmj.i118>.
53. Sun LH. New breast cancer screening guidelines at odds with Congress. *Washington Post*. <https://www.washingtonpost.com/news/to-your-health/wp/2016/01/11/when-should-women-get-mammograms-congress-and-some-key-experts-disagree/>. Published January 16, 2016. Accessed December 10, 2022.
54. Nelson HD, Tyne K, Naik A, et al. Screening for breast cancer: an update for the U.S. Preventive Services Task Force. *Ann Intern Med*. 2009;151(10):727-742. doi:10.7326/0003-4819-151-10-200911170-00009.
55. U.S. Preventive Services Task Force. Breast cancer: screening. <https://uspreventiveservicestaskforce.org>

- /uspstf/recommendation/breast-cancer-screening. Published 2016. Accessed December 10, 2022.
56. Khan M, Chollet A. Breast cancer screening: common questions and answers. *Am Fam Physician*. 2021;103(1):33-41. PMID: 33382554.
  57. Prochaska JO, Butterworth S, Redding CA, et al. Initial efficacy of MI, TTM tailoring and HRI's with multiple behaviors for employee health promotion. *Prev Med*. 2008;46(3):226-231. <https://doi.org/10.1016/j.ypmed.2007.11.007>.
  58. U.S. Preventive Services Task Force. Final recommendation statement: unhealthy drug use: screening. <https://uspreventiveservicestaskforce.org/uspstf/recommendation/drug-use-illicit-screening>. Published June 9, 2020. Accessed December 10, 2022.
  59. U.S. Preventive Services Task Force. Healthful diet and physical activity for cardiovascular disease prevention in adults without known risk factors: behavioral counseling. <https://uspreventiveservicestaskforce.org/uspstf/index.php/recommendation/healthy-lifestyle-and-physical-activity-for-cvd-prevention-adults-without-known-risk-factors-behavioral-counseling>. Published 2017.
  60. Institute of Medicine. *Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem*. Colten HR, Altevogt BM, eds. Washington, DC: National Academies Press; 2006. doi:10.17226/11617.
  61. Panel CC, Watson NF, Badr MS, et al. Joint consensus statement of the American Academy of Sleep Medicine and Sleep Research Society on the recommended amount of sleep for a healthy adult: methodology and discussion. *Sleep*. 2015;38(8):1161-1183. doi:10.5665/sleep.4886.
  62. Centers for Disease Control and Prevention. Sleep and sleep disorders: data and statistics. [https://www.cdc.gov/sleep/data\\_statistics.html](https://www.cdc.gov/sleep/data_statistics.html). Published 2017. Accessed July 2, 2022.
  63. Bibbins-Domingo K, Grossman DC, Curry SJ, et al. Screening for obstructive sleep apnea in adults: US Preventive Services Task Force recommendation statement. *J Am Med Assoc*. 2017;317(4):407-414. doi:10.1001/jama.2016.20325.
  64. Lu Q, Zhang X, Wang Y, et al. Sleep disturbances during pregnancy and adverse maternal and fetal outcomes. *Sleep Med Rev*. 2021;101436:1-14. doi:10.1016/j.smrv.2021.101436/.
  65. Vézina-Im L-A, Moreno JP, Nicklas TA, Baranowski T. Behavioral interventions to promote adequate sleep among women: protocol for a systematic review and meta-analysis. *Syst Rev*. 2017;6(1):95. doi:10.1186/s13643-017-0490-y.
  66. Rios P, Cardoso R, Morra D, et al. Comparative effectiveness and safety of pharmacological and non-pharmacological interventions for insomnia: an overview of reviews. *Syst Rev*. 2019;8(1):281. doi:10.1186/s13643-019-1163-9.
  67. Alessi C, Vitiello MV. Insomnia (primary) in older people: non-drug treatments. *BMJ Clin Evid*. 2015;2015:2302. <https://pubmed.ncbi.nlm.nih.gov/25968443>. Accessed December 10, 2022.
  68. Jespersen KV, Koenig J, Jennum P, Vuust P. Music for insomnia in adults. *Cochrane Database Syst Rev*. 2015;8:CD010459. doi:10.1002/14651858.CD010459.pub2.
  69. Centers for Disease Control and Prevention. Tips for better sleep. [https://www.cdc.gov/sleep/about\\_sleep/sleep\\_hygiene.html](https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.html). Published 2016. Accessed November 12, 2021.
  70. Tavilani A, Abbasi E, Kian Ara F, et al. COVID-19 vaccines: current evidence and considerations. *Metab Open*. 2021;12:100124. <https://doi.org/10.1016/j.metop.2021.100124>.
  71. Fraser MR, Juliano C, Nichols G. Variation among public health interventions in initial efforts to prevent and control the spread of COVID-19 in the 50 states, 29 big cities, and the District of Columbia. *J Public Health Manag Pract*. 2021;27(suppl 1):S29-S38. doi:10.1097/PHH.0000000000001284.
  72. Kampf G, Brüggemann Y, Kaba HEJ, et al. Potential sources, modes of transmission and effectiveness of prevention measures against SARS-CoV-2. *J Hosp Infect*. 2020;106(4):678-697. doi:10.1016/j.jhin.2020.09.022.
  73. Wu J, Chiwaya N. Coronavirus deaths: U.S. map shows number of fatalities compared to confirmed cases. *NBC News*. <https://www.nbcnews.com/health/health-news/coronavirus-deaths-u-s-map-shows-number-fatalities-compared-confirmed-n1166966>. Published March 23, 2020. Accessed December 10, 2022.
  74. World Health Organization. The true death toll of COVID-19. <https://www.who.int/data/stories/the-true-death-toll-of-covid-19-estimating-global-excess-mortality>. Published 2021. Accessed December 10, 2022.
  75. Wainstock T, Yoles I, Sergienko R, Sheiner E. Prenatal maternal COVID-19 vaccination and pregnancy outcomes. *Vaccine*. 2021;39(41):6037-6040. <https://doi.org/10.1016/j.vaccine.2021.09.012>.
  76. Centers for Disease Control and Prevention. Fast facts: leading causes of death. <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>. Published 2021. Accessed December 10, 2022.
  77. Surgeon General of the United States. *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*. Washington, DC: U.S. Department of Health and Welfare; 1979. <https://profiles.nlm.nih.gov/spotlight/nn/catalog/nlm:nlmuid-101584932X94-doc>.
  78. McGinnis JM, Foege WH. Actual causes of death in the United States. *J Am Med Assoc*. 1993;270(18):2207-2212. PMID: 8411605.



79. Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual causes of death in the United States, 2000. *J Am Med Assoc.* 2004;291(10):1238-1245. doi:10.1001/jama.291.10.1238.
80. U.S. Department of Health and Human Services. *2014 Surgeon General's Report: The Health Consequences of Smoking—50 Years of Progress.* [https://www.cdc.gov/tobacco/data\\_statistics/sgr/50th-anniversary/index.htm](https://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm). Published 2014. Accessed December 10, 2022.
81. Owens DK, Davidson KW, Krist AH, et al. Primary care interventions for prevention and cessation of tobacco use in children and adolescents: US Preventive Services Task Force recommendation statement. *J Am Med Assoc.* 2020;323(16):1590-1598. doi:10.1001/jama.2020.4679.
82. Krist AH, Davidson KW, Mangione CM, et al. Interventions for tobacco smoking cessation in adults, including pregnant persons: US Preventive Services Task Force recommendation statement. *J Am Med Assoc.* 2021;325(3):265-279. doi:10.1001/jama.2020.25019.
83. National Academies of Sciences, Engineering, and Medicine. *Public Health Consequences of E-cigarettes.* Washington, DC: National Academies Press; 2018. doi:10.17226/24952.
84. Lancaster T, Stead LF. Individual behavioural counseling for smoking cessation. *Cochrane Database Syst Rev.* 2017;3(3):CD001292. doi:10.1002/14651858.CD001292.pub3.
85. Hales CM, Carroll MD, Fryar CD, Ogden CL. Prevalence of obesity and severe obesity among adults: United States, 2017–2018. *NCHS Data Brief.* 2020;360:1-8. PMID: 32487284.
86. Curry SJ, Krist AH, Owens DK, et al. Behavioral weight loss interventions to prevent obesity-related morbidity and mortality in adults: US Preventive Services Task Force recommendation statement. *J Am Med Assoc.* 2018;320(11):1163-1171. doi:10.1001/jama.2018.13022.
87. Grossman DC, Bibbins-Domingo K, Curry SJ, et al. Screening for obesity in children and adolescents: US Preventive Services Task Force recommendation statement. *J Am Med Assoc.* 2017;317(23):2417-2426. doi:10.1001/jama.2017.6803.
88. Krist AH, Davidson KW, Mangione CM, et al. Behavioral counseling interventions to promote a healthy diet and physical activity for cardiovascular disease prevention in adults with cardiovascular risk factors: US Preventive Services Task Force recommendation statement. *J Am Med Assoc.* 2020;324(20):2069-2075. doi:10.1001/jama.2020.21749.
89. American Heart Association, American College of Cardiology. *Prevention Guidelines Tool CV Risk Calculator.* <http://static.heart.org/riskcalc/app/index.html#/baseline-risk>. Published 2018. Accessed December 10, 2022.
90. U.S. Department of Agriculture. *Dietary Guidelines for Americans, 2020–2025.* 9th ed. [https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary\\_Guidelines\\_for\\_Americans-2020-2025.pdf](https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf). Published December 2020. Accessed October 12, 2021.
91. Ribeiro MM, Andrade A, Nunes I. Physical exercise in pregnancy: benefits, risks and prescription. *J Perinat Med.* 2021 Sep 6;50(1):4-17. doi:10.1515/jpm-2021-0315. PMID: 34478617.
92. U.S. Department of Health and Human Services. *Physical Activity Guidelines for Americans.* 2nd ed. <https://health.gov/our-work/nutrition-physical-activity/physical-activity-guidelines/current-guidelines>. Published 2018. Accessed December 10, 2022.
93. Patnode CD, Evans CV, Senger CA, et al. Behavioral counseling to promote a healthful diet and physical activity for cardiovascular disease prevention in adults without known cardiovascular disease risk factors: updated evidence report and systematic review for the US Preventive Services Task Force. *J Am Med Assoc.* 2017;318(2):175-193. doi:10.1001/jama.2017.3303.
94. *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health.* Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General; 2016.
95. National Institute on Alcohol Abuse and Alcoholism. Alcohol facts and statistics: alcohol use in the United States. <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics>. Published 2021. Accessed December 10, 2022.
96. Lipari RN, Van Horn SL. Children living with parents who have a substance use disorder. Substance Abuse and Mental Health Services Administration. [https://www.samhsa.gov/data/sites/default/files/report\\_3223/ShortReport-3223.html](https://www.samhsa.gov/data/sites/default/files/report_3223/ShortReport-3223.html). Published 2017. Accessed December 10, 2022.
97. National Institute on Alcohol Abuse and Alcoholism. Underage drinking. [https://www.niaaa.nih.gov/sites/default/files/publications/NIAAA\\_Underage\\_Drinking\\_1.pdf](https://www.niaaa.nih.gov/sites/default/files/publications/NIAAA_Underage_Drinking_1.pdf). Published 2021. Accessed December 10, 2022.
98. White AM, Slater ME, Ng G, et al. Trends in alcohol-related emergency department visits in the United States: results from the nationwide emergency department sample, 2006 to 2014. *Alcohol Clin Exp Res.* 2018;42(2):352-359. doi:10.1111/acer.13559.
99. Taylor B, Irving HM, Kanteres F, et al. The more you drink, the harder you fall: a systematic review and meta-analysis of how acute alcohol consumption and injury or collision risk increase together. *Drug Alcohol Depend.* 2010;110(1-2):108-116. doi:10.1016/j.drugalcdep.2010.02.011.

100. Bagnardi V, Rota M, Botteri E, et al. Light alcohol drinking and cancer: a meta-analysis. *Ann Oncol*. 2013;24(2):301-308. doi:10.1093/annonc/mds337.
101. White AM, Castle I-JP, Hingson RW, Powell PA. Using death certificates to explore changes in alcohol-related mortality in the United States, 1999 to 2017. *Alcohol Clin Exp Res*. 2020;44(1):178-187. doi:10.1111/acer.14239.
102. Fuller-Rowell T, Curtis DS, El-Sheikh M, et al. Racial discrimination mediates race differences in sleep problems: a longitudinal analysis. *Cultur Divers Ethnic Minor Psychol*. 2017;23(2):165-173. doi:10.1037/cdp0000104.
103. Gomes T, Tadrous M, Mamdani MM, et al. The burden of opioid-related mortality in the United States. *JAMA Netw Open*. 2018;1(2):e180217. doi:10.1001/jamanetworkopen.2018.0217.
104. Mattson CL, Tanz LJ, Quinn K, et al. Trends and geographic patterns in drug and synthetic opioid overdose deaths—United States, 2013–2019. *Morb Mortal Wkly Rep*. 2021;70(6):202-207. doi:10.15585/mmwr.mm7006a4.
105. Curry SJ, Krist AH, Owens DK, et al. Screening and behavioral counseling interventions to reduce unhealthy alcohol use in adolescents and adults: US Preventive Services Task Force recommendation statement. *J Am Med Assoc*. 2018;320(18):1899-1909. doi:10.1001/jama.2018.16789.
106. Samet JH, O'Connor PG. Alcohol abusers in primary care: readiness to change behavior. *Am J Med*. 1998;105(4):302-306. doi:10.1016/s0002-9343(98)00258-7.
107. Smith PC, Schmidt SM, Allensworth-Davies D, Saitz R. Primary care validation of a single-question alcohol screening test. *J Gen Intern Med*. 2009;24(7):783-788. doi:10.1007/s11606-009-0928-6.
108. Bush K, Kivlahan DR, McDonell MB, et al. The AUDIT Alcohol Consumption Questions (AUDIT-C): an effective brief screening test for problem drinking. Ambulatory Care Quality Improvement Project (ACQUIP). Alcohol Use Disorders Identification Test. *Arch Intern Med*. 1998;158(16):1789-1795. doi:10.1001/archinte.158.16.1789.
109. Krist AH, Davidson KW, Mangione CM, et al. Primary care-based interventions to prevent illicit drug use in children, adolescents, and young adults: US Preventive Services Task Force recommendation statement. *J Am Med Assoc*. 2020;323(20):2060-2066. doi:10.1001/jama.2020.6774.
110. Substance Abuse and Mental Health Services Administration. NIDA drug screening tool. <https://archives.drugabuse.gov/nmassist/>. Accessed December 10, 2022.
111. McNeely J, Strauss SM, Wright S, et al. Test-retest reliability of a self-administered Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) in primary care patients. *J Subst Abuse Treat*. 2014;47(1):93-101. doi:10.1016/j.jsat.2014.01.007.
112. Yudko E, Lozhkina O, Fouts A. A comprehensive review of the psychometric properties of the drug abuse screening test. *J Subst Abuse Treat*. 2007;32(2):189-198. doi:10.1016/j.jsat.2006.08.002.
113. Johnson K, Posner SF, Biermann J, et al. Recommendations to improve preconception health and health care—United States: a report of the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care. *MMWR Recomm Rep*. 2006;55(RR-6):1-23. <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm>. Accessed December 10, 2022.
114. Callegari LS, Ma EW, Schwarz EB. Preconception care and reproductive planning in primary care. *Med Clin North Am*. 2015;99(3):663-682. doi:10.1016/j.mcna.2015.01.014.
115. Liu F, Parmerter J, Straughn M. Reproductive life planning: a concept analysis. *Nurs Forum*. 2016;51(1):55-61. doi:10.1111/nuf.12122.
116. Sanders LB. Reproductive life plans: initiating the dialogue with women. *MCN Am J Matern Child Nurs*. 2009;34(6):342-347. doi:10.1097/01.NMC.0000363681.97443.c4.
117. Malnory ME, Johnson TS. The reproductive life plan as a strategy to decrease poor birth outcomes. *J Obstet Gynecol Neonatal Nurs*. 2011;40(1):109-119. doi:10.1111/j.1552-6909.2010.01203.x.
118. Files JA, Frey KA, David PS, et al. Developing a reproductive life plan. *J Midwifery Womens Health*. 2011;56(5):468-474. doi:10.1111/j.1542-2011.2011.00048.x.
119. Callegari LS, Aiken ARA, Dehlendorf C, et al. Addressing potential pitfalls of reproductive life planning with patient-centered counseling. *Am J Obstet Gynecol*. 2017;216(2):129-134. doi:10.1016/j.ajog.2016.10.004.
120. Gordon PR, Senf J, Campos-Outcalt D. Is the annual complete physical examination necessary? *Arch Intern Med*. 1999;159(9):909-910. doi:10.1001/archinte.159.9.909.
121. Krogsbøll LT, Jørgensen KJ, Gøtzsche PC, Krogsbøll LT. General health checks in adults for reducing morbidity and mortality from disease. *Cochrane Database Syst Rev*. 2019;1(1):CD009009. doi:10.1002/14651858.CD009009.pub3.
122. Himmelstein DU, Phillips RS. Should we abandon routine visits? There is little evidence for or against. *Ann Intern Med*. 2016;164(7):498-499. doi:10.7326/M15-2097.
123. ACOG Committee Opinion No. 755: well-woman visit. *Obstet Gynecol*. 2018;132(4):e181-e186. doi:10.1097/AOG.0000000000002897.

124. American College of Obstetricians and Gynecologists' Committee on Adolescent Health Care. The initial reproductive health visit: ACOG Committee Opinion, Number 811. *Obstet Gynecol.* 2020;136(4):e70-e80. doi:10.1097/AOG.0000000000004094.
125. Laine C. The annual physical examination: needless ritual or necessary routine? *Ann Intern Med.* 2002;136(9):701-703. doi:10.7326/0003-4819-136-9-200205070-00013.
126. World Health Organization. Social determinants of health. [https://www.who.int/health-topics/social-determinants-of-health#tab=tab\\_1](https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1). Accessed December 10, 2022.
127. Committee on Educating Health Professionals to Address the Social Determinants of Health, Board on Global Health, National Academies of Sciences, Engineering, and Medicine. *A Framework for Educating Health Professionals to Address the Social Determinants of Health*. Washington, DC: National Academies Press; 2016. doi:10.17226/21923.
128. Krist MD, Davidson KW, Ngo-Metzger Q. What evidence do we need before recommending routine screening for social determinants of health? *Am Fam Physician.* 2019;99(10):602-605.
129. Davidson KW, Kemper AR, Doubeni CA, et al. Developing primary care-based recommendations for social determinants of health: methods of the U.S. Preventive Services Task Force. *Ann Intern Med.* 2020;173(6):461-467. doi:10.7326/M20-0730.
130. Feltner C, Wallace I, Berkman N, et al. Screening for intimate partner violence, elder abuse, and abuse of vulnerable adults: evidence report and systematic review for the US Preventive Services Task Force. *J Am Med Assoc.* 2018;320(16):1688-1701. doi:10.1001/jama.2018.13212.
131. Shakoor S, Theobald D, Farrington DP. Intergenerational continuity of intimate partner violence perpetration: an investigation of possible mechanisms. *J Interpers Violence.* 2022;37(7-8):NP5208-NP5227. doi:10.1177/0886260520959629.
132. World Health Organization. Health equity. [https://www.who.int/health-topics/health-equity#tab=tab\\_1](https://www.who.int/health-topics/health-equity#tab=tab_1). Accessed December 10, 2022.
133. Smedley BD, Stith AY, Nelson AR, Committee on Understanding Racial and Ethnic Disparities in Health Care, Board on Health Sciences Policy. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare*. Washington, DC: National Academies Press; 2003. <http://www.nationalacademies.org/hmd/Reports/2002/Unequal-Treatment-Confronting-Racial-and-Ethnic-Disparities-in-Health-Care.aspx>. Accessed December 10, 2022.
134. Davidson KW, Mangione CM, Barry MJ, et al. Actions to transform US Preventive Services Task Force methods to mitigate systemic racism in clinical preventive services. *J Am Med Assoc.* 2021;326(12):2405-2411. doi:10.1001/jama.2021.17594.
135. American College of Nurse-Midwives. Code of ethics. <http://www.midwife.org/ACNM/files/ACNMLibraryData/UPLOADFILENAME/0000000000048/Code-of-Ethics.pdf>. Published 2005. Accessed December 10, 2022.
136. Midwives Association of North America. MANA statement of values and ethics. <https://mana.org/sites/default/files/pdfs/MANASTatementValuesEthicsColor.pdf>. Published 2010. Accessed December 10, 2022.
137. American Nurses Association. *Code of Ethics for Nurses: With Interpretive Statements*. Silver Spring, MD: American Nurses Association; 2015.
138. American Nurses Association. *Nursing's Social Policy Statement: The Essence of the Profession*. Silver Spring, MD: American Nurses Association; 2010.
139. Hirschhorn LR, Magge H, Kiflie A. Aiming beyond equality to reach equity: the promise and challenge of quality improvement. *BMJ.* 2021;374:n939. doi:10.1136/bmj.n939.
140. National Quality Forum. [https://www.qualityforum.org/Home\\_New/Working\\_with\\_NQF.aspx](https://www.qualityforum.org/Home_New/Working_with_NQF.aspx). Accessed December 10, 2022.
141. Congress.gov. H.R.1318: Preventing Maternal Deaths Act of 2018: summary. <https://www.congress.gov/bill/115th-congress/house-bill/1318>. Accessed December 10, 2022.