Research Prioritization Topic Briefs

PCORI Scientific Program Area:
Addressing Disparities

Prepared for PCORI by researchers at the
Minnesota Evidence-Based Practice Center

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Topic 1: Improving the Continuum of Care for Patients with Disabilities

Compare the effectiveness of interventions to improve continuum of care for community dwelling, nonelderly adults with disabilities, including access to care, care coordination, and quality of care.

Criteria	Brief Description
Introduction	
Overview/definition of topic	DESCRIPTION OF CONDITION Medical advances have increased survival rates for people with developmental or acquired disabilities.[1] Developmental disabilities appear before age 22 and may be cognitive and/or physical in nature.[2] Acquired disabilities occur at other points in the life course and are often the result of accident or illness. This topic brief focuses on nonelderly adults between the ages of 18 and 64 who are aging with a permanent disability. Nonelderly adults with permanent disabilities face multiple barriers to accessing healthcare services. • Lack of health insurance is one barrier to access. o 11.6% of working-aged people with disabilities are uninsured and report significantly more barriers to accessing healthcare and needed medications than their nondisabled counterparts.[3, 4] • Underinsurance, defined by high out-of-pocket medical expenses as a percentage of income, disproportionately affects sicker people and those with disabilities.[5] o Medicaid recipients with disabilities were more likely to report delays in care and more likely to have an unmet healthcare need than nondisabled Medicaid recipients.[6] These delays in care may be partially due to the rising out-of-pocket costs for disabled Medicaid recipients.[7] • Persons with disabilities who are eligible for Medicare and Medicaid, or the dually eligible, experience fragmented care and state level differences in Medicaid covered services such as prescription drugs, mental health, dental and vision.[8] Structural (including physical access), financial and cultural barriers to access are intensified for people with disabilities, particularly those with severe disabilities.[9] o Structural barriers to receipt of preventive services and screenings have been well documented in the literature, particularly for women with mobility constraints.[10-16] o Financial barriers to access disproportionately affect nonelderly adults with a disability.[17] Approximately half of nonelderly disabled Medicare recipients report problems paying for care or foregoing care due to cost, compared to 20% of elderly Medicare recipients.[18] o Between 15 and 25 % of nonelderly adults with disabilities report

Criteria	Brief Description
	having problems finding a provider that understands their disability, a cultural barrier to accessing care.[18, 19] • Nonelderly adults with disabilities have high rates of mental health and substance use disorders[20] and differential access to care. Nonelderly adults with disabilities are twice as likely as their nondisabled counterparts to have a substance abuse problem and half as likely to enter treatment.[21] Quality of care research for disabilities is not as well represented in the literature as access to care.[22] However, the limited evidence suggests that when treatment is sought, nonelderly adults with disabilities do not receive the same quality of care. • Diabetic Medicaid recipients with a developmental disability had their blood glucose, cholesterol, and eyes tested at lower rates than the general diabetic population, with dual eligibles having even lower rates on some measures.[23] The term “care coordination” does not have a consensus definition.[24] The National Quality Forum (NQF) defines care coordination as a “function that helps ensure that the patient’s needs and preferences for health services and information sharing across people, functions, and sites are met over time.”[25] • Coordination of medical care and support services may improve the access and quality of care for persons with disabilities. • However, this is a relatively new literature currently focused on the initial implementation of various types of interventions,[22] and the evidence for the effectiveness of specific care coordination interventions is not yet strong.[26] • Lack of reimbursement for care coordination services disproportionately affects the nonelderly disabled who have complex health care needs.[27]
Relevance to patient-centered outcomes	PATIENT-CENTERED OUTCOMES • Healthy People 2020 is developing a goal to reduce the proportion of people with disabilities who report delays in receiving primary and periodic preventive care due to specific barriers.[28] • • Improving access to care and care coordination may have long-term implications for:[29] o Quality of life[30] o Receipt of primary prevention services[31] o Decreased or delayed morbidity associated with secondary comorbid chronic conditions[31, 32] o Decreased dependence on tertiary care[33, 34]

Criteria	Brief Description
Burden on Society	
Recent prevalence in populations and subpopulations	PREVALENCE • According to a 2010 report from the U.S. Census Bureau, 56.7 million Americans, or 19% of the noninstitutionalized population, are living with a physical, mental, or communicative disability (34.9 million had a severe disability).[35] • 18.6 million working age, noninstitutionalized adults have a disability, 40% of whom are from a racial or ethnic minority group.[36] • There are many ways in which the population aging with disabilities (nonelderly disabled) differs from that aging into disability (elderly disabled). o Among Medicare beneficiaries, nonelderly people with disabilities are approximately three times more likely to live in poverty, report fair or poor health, and report having trouble finding a doctor, compared to their elderly counterparts.[37]
Effects on patients' quality of life, productivity, functional capacity, mortality, use of health care services	QUALITY OF LIFE / PRODUCTIVITY • Only 20% of working aged adults (ages 16-64) with disabilities were employed in 2009.[28] • Presence of secondary health conditions may affect the ability of adults with disabilities to participate in work and leisure activities. The following comorbidity statistics refer to all adults over the age of 18 (not limited to nonelderly adults). • Adults with a disability had an average of five secondary preventable physical and mental health conditions.[38] Presence of secondary health conditions may affect a person's ability to participate in work and leisure activities. • Noninstitutionalized adults with disabilities are two to three times more likely to have 14 secondary conditions compared to nondisabled adults.[29] Some of the most common secondary conditions include: pain, weight problems, fatigue, difficulty getting out into the community, falls and injuries, sleep problems, muscle spasms, and bowel or bladder problems. • Obesity rates among people with disabilities are particularly high, around 30%.[27, 39, 40] • There is a high prevalence of comorbid substance use among persons with disabilities.[21, 41, 42] HEALTH CARE SERVICE UTILIZATION • Among nonelderly adults with severe disability, 40% do not have a regular physician, 65% need at least one medication they cannot afford, 45% are not satisfied with care, and 40% rate quality of care as fair or poor.[43] • Providers have limited training to address mobility, communication, or behavioral needs of patients with disabilities in a clinical setting. Transportation to treatment facilities, and the facilities and treatments

Criteria	Brief Description
	themselves, often pose barriers to care for people with disabilities.[12, 14, 44-62] • Lack of access and dissatisfaction with preventive, primary, and secondary care may lead to the costly and disruptive use of tertiary care among nonelderly adults with a disability.
How strongly does this overall societal burden suggest that CER on alternative approaches to this problem should be given high priority?	• Nonelderly adults with disabilities are the fastest growing Medicare and Medicaid subpopulation.[63, 64] Dual eligibles are also the most costly publicly funded population.[65] Traditional cost and quality approaches, including the move from fee-for-service to managed care, may not be in the best interest of the nonelderly disabled.[20, 66] Nonelderly disabled adults face many barriers to access and disparities in health care process and outcomes. • Nonelderly disabled adults disproportionately represent vulnerable populations including racial and ethnic minorities, low-income, the mentally ill, and the homeless. • Given the large burden on public insurance and the current unmet need, CER on alternative approaches to access and care coordination is a high priority.
Options for Addressing the Issue	
Based on recent systematic reviews, what is known about the relative benefits and harms of the available management options?	In its 2008 report, the National Council on Disability highlighted seven models of effective care delivery for persons with specific disabilities, including:[27] • Minnesota based UCare Complete provides residents with physical disabilities between the ages of 18 and 64 one-on-one care planning with a nurse. The program improved satisfaction and patient knowledge of the importance of primary care, and reduced overall costs. • The Center for Development and Disability in New Mexico provides person- and family-directed care including health and budget planning; 75% of Medicaid users reported increased knowledge of how to access primary care services. However, the relative benefits and harms of disability specific models, and potentially cross-cutting approaches (including person-centered planning or lifestyle planning), have not been rigorously studied.[67-69] More research on disability as a complicating condition is needed.[22]

Criteria	Brief Description
What could new research contribute to achieving better patient-centered outcomes?	The following research needs have been identified:[27, 32, 70] - Inclusion of the disabled population as a demographic category in disparities research - Potential for enhanced efficiency and cost savings through improved access - Effectiveness of universal design in decreasing environmental barriers - Development of universal quality of care measures for persons with disabilities - Linking health outcomes to models of care and financing models - Physician knowledge of disability and effectiveness of trainings to improve knowledge - Wellness and health promotion programs that are inclusive of persons with disabilities
Have recent innovations made research on this topic especially compelling?	Recent attention and investment in this topic is compelling: - In 2005, the Surgeon General issued a "Call to Action to Improve the Health and Wellness of Persons with Disabilities."[36] - The National Council on Disabilities organized a Summit on Health Care for People with Disabilities in 2008, and published "The Current State of Health Care for People with Disabilities" in 2009. - The Affordable Care Act (ACA) provides for increased reimbursement of "health homes" for Medicaid patients with chronic disease.[71] - Healthy People 2020 has a section on health and disability with four objectives related to health care barriers.[28]
How widely does care now vary?	- Disability exists on a continuum, similar to health. While the vast majority (87%) of persons with disabilities have at least one secondary medical condition,[29] adults with more severe disabilities have an average of five secondary preventable physical and mental health conditions.[38]
What is the pace of other research on this topic (as indicated by recent publications and ongoing trials)?	- The Agency for Healthcare Research and Quality (AHRQ) is currently sponsoring a systematic literature review to determine the effectiveness of cultural competence interventions for the reduction of health disparities in priority populations, including persons with disabilities. Draft of key questions for this report can be found here: http://www.effectivehealthcare.ahrq.gov/ehc/index.cfm/search-for-guides-reviews-and-reports/?pageAction=displayTopic&topicID=573 - Searching only the published literature available through Ovid Medline, exploded search combinations of key words including "disabled persons," "patient care planning," "health services needs and demands," and "health services accessibility" yielded almost 400 relevant references. However, most of the studies are cross-sectional.
How likely is it that a new CER on this topic would provide better	Current understanding of this issue recognizes that health care access and care coordination for nonelderly adults with disabilities may be influenced by the individuals, their conditions, healthcare providers, and systems in which they work. This is an important public health priority with existing models that

Criteria	Brief Description
information to guide clinical decision making?	require a greater evidence base to determine their usefulness with different patients in multiple settings.
Potential for New Information to Improve Care and Patient-Centered Outcomes	
What are the facilitators and barriers that would affect the implementation of new findings in practice?	FACILITATORS: • Rapidly increasing nonelderly disabled population with many unmet health needs and high service utilization. • Federal financial support for new models of care coordination • Federal benchmarking via Healthy People 2020 BARRIERS: • Lack of time/reimbursement for medical providers to provide care coordination • Lack of training for medical providers in working with patients with disabilities and their families • Lack of facility and treatment accessibility for people with disabilities • Lack of insurance in population of interest
How likely is it that the results of new research on this topic would be implemented in practice right away?	• If CER studies demonstrate the effectiveness of reducing access barriers and providing care coordination services for specific subpopulations, it is likely that implementation may be slow but could be improved if the large public insurance programs incentivized use of effective models of care coordination and environmental adaptation.
Would new information from a CER on this topic remain current for several years, or would it be rendered obsolete quickly by subsequent studies?	• There are few rigorous studies tying outcomes to models to reduce access barriers or provide additional care coordination for nonelderly persons with disabilities • It is likely that a large, well-conducted study would stay current for several years.

References for Topic 1: Improving the Continuum of Care for Patients with Disabilities

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Topic 2: Interventions to Promote Tobacco Cessation among Vulnerable Populations

Compare the effectiveness of clinical interventions to promote tobacco cessation among populations with known tobacco disparities, including the mentally ill and LGBT populations.

Criteria	Brief Description
Introduction	
Overview/definition of topic	DESCRIPTION OF CONDITION • Tobacco dependence is a chronic disease with far reaching consequences such as cancer (lung, liver, colorectal, prostate, breast), respiratory disease, cardiovascular disease, diabetes, immune and autoimmune disorders, reproductive effects, and eye disease, that often requires repeated intervention and multiple attempts to quit.[1] DESCRIPTION OF INTERVENTIONS • Clinical interventions for smoking cessation include: o Nicotine Replacement Therapies (NRT) (nicotine gum, nicotine patches, nasal sprays, inhalers, etc.,) o Non-nicotine therapies including antidepressants (bupropion and nortriptyline), nicotine receptor partial agonists (varenicline and cytisine), anxiolytics, selective type 1 cannabinoid receptor antagonists (rimonabant), clonidine, lobeline, dianicline, mecamylamine, Nicobrevin, opioid antagonists, nicotine vaccines, and silver acetate. Often, these therapies include efforts on behalf of primary care, school-based clinics, and out-of-home placement facilities (detention centers, etc.).[2] • Physician advice to quit smoking is an evidence-based strategy for increasing quit attempts.[3] • According to a 2009 comparative effectiveness review, six-month abstinence rates for five active pharmacotherapies were the following: o Bupropion SR= 16.8% o Nicotine patch= 17.7% o Nicotine lozenge= 19.9% o Combination patch & lozenge= 26.9% o Combination bupropion SR & lozenge= 29.9%[4] DESCRIPTION OF THE POPULATION • As of 2010, the prevalence of smoking in adults in the United States was 19% (compared to 42.4% in 1965).[5] • The National Health Interview Survey (2001-2010) found that 69% of adult smokers wanted to stop smoking, 52% had made a quit attempt in the past year, 6% had recently quit, 48% had been advised by a health professional to quit and 32% had used counseling and/or medications when they tried to quit.[5]

Criteria	Brief Description
Relevance to patient-centered outcomes	While the following outcomes were developed using research focused on the largest racial/ethnic minority groups (Black and Hispanic), it is likely that most marginalized groups (including LGBT, those living in poverty, and all racial or ethnic minorities) have similar experiences. PATIENT-CENTERED OUTCOMES • Patient satisfaction with screening and provision of services. • Minority smokers: o Are less likely to have access to primary care services; o Are less likely to receive cessation counseling from their primary care provider; o Often receive poorer quality care; o Are significantly under-represented in smoking cessation research.
Burden on Society	
Recent prevalence in populations and subpopulations	• According to a 2011 publication, not only are there ethnic and racial disparities in cigarette smoking rates, the following groups also experience smoking rates higher than average: persons with low socioeconomic status; persons with histories of mental health and substance abuse conditions; and the lesbian, gay, bisexual, and transgender communities.[1] • A 2004 study of 44,606 respondents[6] found that smoking rates for lesbians, bisexual women, gay men, and bisexual men were 25%, 27%, 33%, and 20% respectively, compared to the general population.[7] • Smoking prevalence is approximately 41% for those with psychiatric conditions and is much higher among certain subsets of that population, such as those with schizophrenia and bipolar disorder.[7] • Adults with disabilities are more likely to smoke cigarettes than adults without disabilities. (25.4% versus 17.3%)[8]
Effects on patients' quality of life, productivity, functional capacity, mortality, use of health care services	QUALITY OF LIFE • Researchers followed a group of 1,658 men for 26 years and found that those who smoked 20 or more cigarettes a day saw especially large differences in the scales of physical functioning and role limitations owing to physical health than never-smokers, even if they quit smoking during the study period.[9] PRODUCTIVITY • In a study of 300 office workers, current smokers had significantly greater absenteeism than did never smokers, with former smokers having intermediate values. Among former smokers, absenteeism showed a significant decline with years following cessation.[10] • Former smokers showed an increase in seven of 10 objective productivity measures as compared to current smokers, with a mean increase of 4.5%.[10] • Cigarette smoking remains the leading cause of preventable morbidity and mortality in the United States, resulting in an estimated 443,000

Criteria	Brief Description

	premature deaths and $193 billion in direct health-care expenditures and productivity loses per year.[1]
	HEALTH CARE SERVICE UTILIZATION
	• In the last year:
	  o Current smokers were more likely to have had inpatient admission in the past year than never smokers.
	  o Current smokers were more likely than never smokers to have ≥4 outpatient visits.
	  o Former smokers were more likely than never smokers to have ≥4 outpatient visits.[11]

How strongly does this overall societal burden suggest that CER on alternative approaches to this problem should be given high priority?	The burden of smoking-related mortality and morbidity has been well-established. For these special populations, that burden is even greater and the currently utilized approaches for cessation, while effective, may be missing these groups for a variety of reasons. CER on alternative approaches to increase utilization of NRT and other clinical interventions should be given very high priority.
Options for Addressing the Issue	
Based on recent systematic reviews, what is known about the relative benefits and harms of the available management options?	HARMS OF SMOKING CESSATION INTERVENTIONS • NRT, bupropion, varenicline and cytisine have been shown to improve the chances of quitting. Combination NRT and varenicline are equally effective as quitting aids. Nortriptyline also improves the chances of quitting. On current evidence, none of the treatments appear to have an incidence of adverse events that would mitigate their use.[2] • Failure to achieve abstinence in those who have attempted to quit may lead to a long-term increase in anxiety according to a study of almost 500 adult smokers who attended smoking cessation clinics in England. Those who relapsed six months after treatment had significantly higher anxiety scores than those who remained abstinent.[12] • Smokers who had a comorbid psychiatric disorder and who relapsed had the highest increases in anxiety scores from baseline, whereas the comorbid group who continued to stay abstinent had more decreases in scores.[12] BENEFITS OF SMOKING CESSATION INTERVENTIONS • Lowered risk for lung cancer and many other types of cancer. • Reduced risk for coronary heart disease, stroke, and peripheral vascular disease. • Reduced coronary heart disease risk within one to two years of quitting. • Reduced respiratory symptoms, such as coughing, wheezing, and shortness of breath. The rate of decline in lung function is slower among

Criteria	Brief Description
	people who quit smoking than among those who continue to smoke. • Reduced risk of developing chronic obstructive pulmonary disease (COPD), one of the leading causes of death in the United States. • Reduced risk for infertility in women of reproductive age. • Women who stop smoking during pregnancy also reduce their risk of having a low birth weight baby.[13]
What could new research contribute to achieving better patient-centered outcomes?	• There is a dearth of randomized clinical trials evaluating the effectiveness of evidence-based smoking cessation treatments in underserved populations.[14] • Because psychiatric conditions are often exclusion criteria for participation in clinical trials, little is known about the response of this group to smoking cessation interventions.[7] • Despite the high prevalence of smoking in the LGBT community, few studies have examined how they respond to smoking cessation interventions.[7] • A 2006 review found that for smokers with psychiatric diagnoses and smokers addicted to illicit drugs, alcohol, or both; cessations rates for intervention groups were not statistically better than those for control groups suggesting that these special populations may have unique smoking cessation needs and that more research is needed.[7]
Have recent innovations made research on this topic especially compelling?	• The 2010 Patient Protection and Affordable Care Act will expand coverage of smoking cessation treatments substantially. o The Act requires Medicaid programs to provide cessation coverage to pregnant Medicaid enrollees with no cost sharing. o The legislation also bars state Medicaid programs from excluding FDA-approved cessation medications, including over-the-counter medications, from Medicaid drug coverage and requires non-grandfathered private health plans to offer cessation coverage without cost sharing. o Additionally, the Joint Commission has developed new voluntary performance measures for hospitals for assessing and treating tobacco dependence in all hospitalized patients.[5] • System level changes that might increase the frequency of effective cessation delivery include: taking advantage of the electronic medical record for clinician reminders (to document tobacco use, give brief advice to quit, prescribe medications, and to refer cessation counseling). Electronic medical records facilitate referrals to cessation counseling, assess provider performance, and provide feedback to patients and providers.[15]
How widely does care now vary?	**Care varies by race and ethnicity** • An analysis of the 2005 National Health Interview Survey showed that compared to white smokers, black and Hispanic smokers had significantly lower odds of (1) being asked about tobacco use, (2) being advised to quit, or (3) having used smoking cessation aids during the past year in an attempt

Criteria	Brief Description
	to quit.[16] **Care varies by sexual orientation** • One-fourth of respondents in a Colorado study of LGBT smokers reported being uncomfortable talking to their doctors about quitting smoking.[17] **Care varies by mental health status** • Smokers with psychiatric disorders may present themselves less frequently for tobacco dependence treatment. Additionally, it is often challenging for providers to determine the best time to initiate cessation discussions as stopping smoking or nicotine withdrawal may exacerbate a patient's comorbid condition.[3]
What is the pace of other research on this topic (as indicated by recent publications and ongoing trials)?	ClinicalTrials.gov: Smoking cessation AND clinical interventions AND disparities • Open trials: 2 (1 for integrating cancer control referrals into 211 in MO; 1 looking at home BP telemonitoring among minority stroke survivors) Smoking cessation AND clinical interventions AND mental • Open trials: 38 Smoking cessation AND clinical interventions AND gay • Open trials: 0 (drop "clinical interventions" = 1 open study) Smoking cessation AND clinical interventions AND lesbian • Open trials: 0 (drop "clinical interventions" = 1 open study) Smoking cessation AND clinical interventions AND bisexual • Open trials: 0 (drop "clinical interventions" = 1 open study) Smoking cessation AND clinical interventions AND sexual minorities • Open trials: 0 NIH reporter: Smoking cessation AND clinical interventions AND disparities • 0 projects / 0 publications Smoking cessation AND clinical interventions AND mental • 0 projects / 0 publications Smoking cessation AND clinical interventions AND gay • 0 projects / 0 publications Smoking cessation AND clinical interventions AND lesbian • 0 projects / 0 publications Smoking cessation AND clinical interventions AND bisexual • 0 projects / 0 publications Smoking cessation AND clinical interventions AND sexual minorities • 0 projects / 0 publications
How likely is it that a new CER on this topic would provide better information to guide clinical	While clear disparities exist between smoking rates of the general population and those of minority populations, much remains unclear. A 2004 publication made recommendations that remain germane today. Researches proposed that future work "develop and evaluate interventions to promote delivery and use of treatment for nicotine addiction in various groups, including substance abusers and the mentally ill; addiction conduct research on how evidence-

Criteria	Brief Description
decision making?	based treatment programs are adopted, implemented, and maintained in health care systems, schools, and so forth; develop novel therapies and innovative ways of treating nicotine dependence; examine treatment in other fields for relevance to the treatment of nicotine dependence; examine barriers to use of behavioral and pharmacological treatments at the individual, organizational, and community levels and assess ways of improving access to treatments."[18] LGBT self-identification was not associated with lower than average acceptance of evidence-based smoking cessation strategies, especially NRT, but a large majority of LGBT smokers were unlikely to seek cessation assistance through clinic encounters. Public health campaigns should focus on supporting motivation to quit and providing nonclinical access to evidence-based treatments.[17]
Potential for New Information to Improve Care and Patient-Centered Outcomes	
What are the facilitators and barriers that would affect the implementation of new findings in practice?	FACILITATORS: • Large number of smokers in vulnerable populations. • Among a sample of Colorado LGBT smokers, four factors were significantly associated with preparation to quit smoking: (1) daily smoking, (2) ever having used NRT, (3) a smoke-free home rule, and (4) comfort asking one's doctor for cessation advice. BARRIERS: • Some LGBT subgroups are less likely than the general population to have access to or use general medical facilities in which best practice cessation services are commonly used.[19] • Cost for NRT may be a factor in utilization. Levinson found that under a hypothetical scenario of cost-free availability, interest in using NRT or a prescription cessation medicine was more widespread overall and within each sexual orientation group than when interest was assessed without the cost-free scenario.[17] • Inaccurate beliefs about NRT are widespread. More than half (53%) of surveyed LGBT Coloradans stated a belief that NRT is "as addictive as cigarettes," 45% believing NRT "can cause heart attacks," and 27% reporting a belief that NRT is "as carcinogenic as smoking."[17] • Smokers with psychiatric disorders may present themselves less frequently for tobacco dependence treatment. Additionally, it is often challenging for providers to determine the best time to initiate cessation discussions as stopping smoking or nicotine withdrawal may exacerbate a patient's comorbid condition.[3] • Treating tobacco dependence in individuals with psychiatric disorders is made more complex by the potential for multiple psychiatric diagnoses and multiple psychiatric medications, as stopping tobacco use may affect the pharmacokinetics of certain psychiatric medications.[3]

Criteria	Brief Description
How likely is it that the results of new research on this topic would be implemented in practice right away?	It is highly likely that results of new research would be implemented quickly. It is well understood that LGBT, mentally ill, racial and ethnic minorities have higher rates of smoking than the population as a whole. Evidence-based strategies to address these differences would likely be embraced by primary care.
Would new information from a CER on this topic remain current for several years, or would it be rendered obsolete quickly by subsequent studies?	New information related to increasing screening on the part of primary care and the offering of cessation services will likely remain relevant for quite some time. Aggressive, targeted cigarette industry marketing campaigns are a contributing factor to their higher rates of smoking (along with elevated social stress with higher risk of mental disorders due to stigma, prejudice, rejection, and homophobia, more prevalent substance use and risky health behaviors, perhaps as a coping response to social stress)[17] and these efforts are unlikely to subside.

References for Topic 2: Interventions to Promote Tobacco Cessation among Vulnerable Populations

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Topic 3: Quality of Care for LGBT Populations

This topic brief examines studies addressing quality of care for LGBT populations and examines patient-centered measures of quality, including access to care, physician-patient communication, welcoming clinical environment and knowledgeable clinical care to meet the specific health needs of LGBT individuals.

Criteria	Brief Description
Introduction	
Overview/definition of topic	DESCRIPTION OF THE POPULATION • The 2008 General Social Survey of adults reported that 7.5% identified as homosexual, gay, lesbian or bisexual. In the 2010 National Survey of Sexual Health and Behavior, 11.3% identified as homosexual, gay, lesbian or bisexual. Data on the proportion of transgender individuals in the US are lacking.[1] DESCRIPTION OF CONDITION • Although there are no LGBT specific diseases, there are numerous health disparities that affect members of this population. These include: o Sexually transmitted infections, including HIV, which is particularly an issue for men who have sex with men (MSM) o Human papillomavirus (HPV) associated with anal cancer in men o Overweight and obesity in lesbians o Eating disorders (particularly in gay and bisexual men, and gay or lesbian adolescents) o Breast, cervical, and ovarian cancer in lesbian and bisexual women o Disproportionate chronic disease risk factors for heart disease and cancer o Substance abuse (smoking, alcohol and other drugs; drug use that is associated with unsafe sex and transmission of infections, particularly in gay men and male to female transgender women) o Mental disorders (depression, anxiety, and suicide) o Teen bullying and suicide o Intimate partner violence o Negative effects of long term hormone use with transgender elders[1] • LGBT individuals have greater difficulty accessing health care compared to their heterosexual counterparts. This negatively affects all of the above specific conditions by influencing access to disease management and preventive health services. DESCRIPTION OF THE INTERVENTION • The 2011 Institute of Medicine (IOM) Report on the Health of Lesbian, Gay, Bisexual and Transgender People defines access to health care as the “timely use of personal health services to achieve the best possible outcomes.” LGBT individuals face unique barriers to access. These include stigma, discrimination, lack of cultural competency, and lack of knowledge

Criteria	Brief Description
	of LGBT issues among providers. • The following interventions (consistent with AMA and Joint Commission guidelines)will potentially reduce barriers to access and improve quality of care for LGBT populations:[2, 3] o Creating a safe and welcoming environment, including prominent posting of nondiscrimination policy, implementation of nondiscriminatory visitation policies, fostering an environment that supports and respects all patients (may involve cultural competence training for all staff), forms that contain inclusive, gender-neutral language. o Facilitating patient-provider communication that avoids assumptions about sexual orientation and gender identity, facilitates disclosure of sexual orientation and gender identity while remaining respectful of the patient's right to disclose at their own pace, and assures patient of confidentiality. o Providing information, guidance and care for the specific health concerns facing lesbian and bisexual women, gay and bisexual men, and transgender people.
Relevance to patient-centered outcomes	PATIENT-CENTERED CARE • Regular source of healthcare • Use of prevention and screening services • Satisfaction with care • Quality of life
Burden on Society	
Recent prevalence in populations and subpopulations	The risks related to various conditions affecting LGBT individuals are generally unknown or equivocal, often based on minimal evidence. There are exceptions, however, where the evidence is compelling. CHILDHOOD/ADOLESCENCE: The IOM Report[1] defines this period of life as roughly from childhood up to the early twenties. • Evidence indicates an increased risk of suicide attempts and suicidal ideation among LGBT youth compared with heterosexual youth; this finding has been consistent across several state and national studies.[4] o A meta-analytic review of suicidality and depression disparities between LGBT and heterosexual youth found that LGBT youth reported significantly higher rates of suicidality (odds ratio = 2.92) and higher rates of depression symptoms as compared with heterosexual youth.[5] • LGBT youth experience elevated levels of harassment, victimization, and violence. • LGBT youth may demonstrate higher rates of disordered eating than

Criteria	Brief Description
	heterosexual youth. - The burden of HIV infection falls disproportionately on young men who have sex with men, particularly young black men.[1] - Rates of substance use, including smoking and alcohol consumption, may be higher among LGBT than heterosexual youth. National and state representative surveys have consistently demonstrated higher rates of substance use among LGBT youth compared with non-LGBT youth. A meta-analysis of adolescent sexual orientation and substance use found almost three times the odds of substance use for LGBT youth compared with non-LGBT youth across studies. This overall odds ratio was higher when only considering LGBT youth who were female compared with heterosexual females (odds ratio = 5.0) and for those male and female youth reporting bisexual identity compared with their heterosexual peers (odds ratio = 4.4)[4]. - The rate of smoking in sexual minority women (i.e., lesbian and bisexual women) is approximately double that for heterosexual women. Estimated smoking rates for adolescent and adult lesbians range from 38% to 50%.[6] EARLY/MIDDLE ADULTHOOD: The IOM Report roughly defines this age group as the period of life from the early twenties to the sixties. More data are available for this age group than for either childhood/adolescence or later adulthood.[1] - Based on a systematic review, King found that LGBT people are at higher risk of suicidal behavior, mental disorder, and substance misuse and dependence than heterosexual people. The meta-analyses demonstrate a two-fold excess in risk of suicide attempts in the preceding year in men and women, and a four-fold excess in risk in gay and bisexual men over a lifetime. Similarly depression, anxiety, alcohol, and substance misuse were at least 1.5 times more common in LGBT people. Lesbian and bisexual women were at particular risk of substance dependence while lifetime risk of suicide attempts was especially high in gay and bisexual men.[7] - In the United States, anal cancer in MSM is more common than cervical cancer in women. HPV is causally linked to the development of anal and cervical cancer. In a study of 1,218 HIV-negative MSM, ages 18-89 years old, who were recruited across four U.S. cities, the prevalence of HPV infection was 57%. The prevalence did not change with age. Anal HPV infection was independently associated with receptive anal intercourse (odds ratio = 2.0) during the preceding 6 months and with more than five sexual partners during the preceding 6 months (odds ratio = 1.5).[8] - Data from the Centers for Disease Control and Prevention (CDC) show that 55% of all new HIV infections occur among MSM.[9] o Gay men of color (Black and Latino) have disproportionate rates of HIV infection. A major concern is the finding of a strong link between new HIV infections and the use of stimulants, particularly methamphetamine.[6]

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	o A few studies of HIV among women suggest that women who have sex with both men and women have higher HIV prevalence compared with exclusive heterosexual or homosexual women.[1] - There is a growing epidemic of STDs among gay men, with a resurgence of gonorrhea, syphilis, and chlamydia, in addition to conditions such as lymphogranuloma venereum (LGV). LGV is an STD caused by certain subtypes of the bacteria chlamydia trachomatis. These are different organisms from the subtypes that cause the more common chlamydia infections. [10,11] - LGB adults appear to have higher rates of smoking than heterosexual adults.[1, 9] LATER ADULTHOOD: The IOM Report chose to define the start of later adulthood as generally coinciding with retirement. However, the bulk of empirical literature on LGBT aging makes reference to younger ages. Since health conditions in mid-life often affect later life, this research may be included. - Depression and suicidality appear to be elevated among older lesbians and gay men. - Older lesbians and bisexual women have higher rates of obesity compared to heterosexual women.[9] - HIV/AIDS affects older as well as younger LGBT individuals. Data from the CDC show that 17% of all new HIV infections occur among people age 50 and older.[9] - Older LGBT adults have higher rates of tobacco use. Among older LGBT adults, one study found a 50% lifetime smoking rate with 10% currently smoking. Those living with HIV may be at further risk, as research finds that HIV makes the lungs less able to recover from smoking damage.[7] - Older LGBT adults have higher rates of alcohol and other nonprescription drug use than heterosexual peers.[1, 9]
Effects on patients' quality of life, productivity, functional capacity, mortality, use of health care services	Higher rates of suicide and mental health conditions among LGBT populations likely suggest lower quality of life and productivity.
How strongly does this overall societal burden suggest that CER or alternative approaches to this problem should be	Lack of research on interventions to improve access and quality of health care services among LGBT populations suggests that research identifying effective interventions could reduce disparities and societal burden. - Understanding provider attitudes and education, ways in which the care environment can be improved and the experience of LGBT people seeking care would provide a base from which to address the inequities. - Research is needed to develop and test the effectiveness of interventions

Criteria	Brief Description
given high priority?	designed to address health inequities and negative health outcomes experienced by LGBT people. Interventions that increase access to care or address the mental or physical conditions that lead to impaired health would help reduce health disparities in LGBT populations. Interventions focused on subgroups are especially needed; for example, young Black men who have sex with men.
Options for Addressing the Issue	
Based on recent systematic reviews, what is known about the relative benefits and harms of the available management options?	We did not identify any recent systematic reviews examining interventions to improve quality of care for the LGBT community. Again, most information was descriptive in nature and incorporated opinions of what quality of care should look like and what it would result in. The Fenway Institute[12] provides one example of such publications and is summarized below: BENEFITS • If doctors ask, and patients disclose their sexual behavior, and it is dealt with in a culturally competent manner, the patient is more likely to return for subsequent preventive care visits, and/or less likely to delay care if needed. • Successful implementation of a program to improve access and quality of patient centered care to LGBT populations will likely improve culturally competent care for all patients (including other minority groups) – potentially improving health outcomes for all. As with all patient populations, effectively serving LGBT patients requires clinicians to understand the cultural context of patients' lives, modify practice policies and environments to be inclusive, take detailed and nonjudgmental histories, educate themselves about the health issues of importance to their patients and reflect on personal attitudes that might prevent them from providing the kind of affirmative care that LGBT people need. By doing this, clinicians will ensure that their LGBT patients, and all their patients, achieve the highest possible level of health.[12] HARMS • If a patient discloses sexual orientation, a provider may focus only on sexual aspects of care, overlooking standard disease management and prevention aspects of care (e.g., heart disease risk factors, cancer). Or a provider may make assumptions based on sexual orientation (e.g., provider may assume that lesbian adolescents do not need contraceptive counseling). • Providers sometimes respond negatively when patients disclose their sexual orientation (e.g., they may attempt to dissuade the patient from being LGBT). • Upon being asked about sexual identity or behavior, if the patient is hesitant about disclosing, it is critical that the doctor respect the patient's right to decide if and when to disclose. • Providers who have deeply held prejudice (internalized stigma) toward

Criteria	Brief Description
	LGBT individuals may not be able to provide care for them, yet there may be no alternatives for referral/care in the patient's community.
What could new research contribute to achieving better patient-centered outcomes?	• Given the lack of literature examining interventions to improve quality of care, there is no area on the topic that would not benefit from new research contributions. • Most research on access has focused on patterns of access/utilization of care (e.g., increased mental health services, decreased preventive services in lesbian and bisexual women) with little attention to how lack of access/utilization impacts health outcomes.[1] • A 2012 systematic review of existing guidelines for primary care of LGBT people concluded that, although currently available guidelines are philosophically and practically consistent, there is a need for evidence-based guidelines that are more rigorously developed, disseminated, and evaluated for the primary care setting. Several consistent recommendations for primary care included: guidance on inclusive clinical environments, standards for provider-patient communication, sensitive documentation of sexual orientation, knowledge of cultural awareness, staff training, and addressing population health issues.[13] • The NIH LGBT Research Coordinating Committee identified the following areas as key:[14] o Impact of smoking on health; depression, suicide, cancer, heart disease, aging, obesity, alcoholism, increasing health care seeking behaviors; and transgender specific health needs o Research is also needed on the effect of training to enhance cultural competency on patient satisfaction with care. o Limitations with current research approaches o Lack of studies with representative or population-based samples. Most studies of LGBT populations use convenience samples. o Research designed to examine the risks and needs of sexual minority groups is often hampered by societal stigmas about homosexuality. o For example, much of what is known about health risk behavior of LGBT youth is derived from studies using self-selected samples such as homeless/runaway youth; youth presenting to STD clinics; or youth responding to ads in gay-oriented newspapers, dance clubs, or social venues.[15]
Have recent innovations made research on this topic especially compelling?	• There are no technical or research innovations that make this topic compelling. There is, however, policy interest and a sense of urgency for providing quality care. • In July 2010, the White House released the National HIV/AIDS strategy that aims to lower the number of new HIV cases in the United States by 25% by 2015.[16] • The implementation of recent federal policies (i.e., the Affordable Care Act) that expand insurance coverage for adolescents until age 26. However this

Criteria	Brief Description
	may be less relevant to those LGBT youth who do not live with their families. • The 2011 IOM Report on the health of LGBT people was commissioned by the NIH. The report makes specific recommendations to advance population-based science related to LGBT people by calling for the routine collection of data about sexual orientation and gender identity in federally funded surveys administered by the Department of Health and Human Services and in other relevant funded surveys.[15] • Clinical practice guidelines for appropriate clinical care for MSM are now available through both the CDC and United States Preventive Services Task Force, the latter being adopted by the Affordable Care Act. Clinical guidelines are available for transgender patients through the Center of Excellence for Transgender Health, the Joint Commission, and the Endocrine Society (regarding hormonal therapy). • Healthy People 2010, a 10-year plan developed by the Department of Health and Human Services in 2000, identified LGBT people, as one of six U.S. population groups affected by health disparities.[10]
How widely does care now vary?	• Members of the LGBT community are more likely than their heterosexual counterparts to experience difficulty accessing health care. Individuals in same-sex relationships are significantly less likely to have health insurance, are more likely to report unmet health needs, and, for women, are less likely to have had a recent mammogram or Papanicolaou test.[17] • In a 2010 survey of about 7,000 people by the National Center for Transgender Equality and the National Gay and Lesbian Task Force, 28% of transgender and gender nonconforming people postponed medical care when they were sick or injured due to concerns about discrimination. More than one in five LGBT adults withheld information about their sexual practices from their health care provider according to a 2004 survey.[18] • Some providers are not aware that they have LGBT patients and, therefore, do not take steps to provide a welcoming environment.[18]
What is the pace of other research on this topic (as indicated by recent publications and ongoing trials)?	• We could not identify any trials in ClinicalTrials.gov that examined interventions to improve quality of care in this population. • Interventional research on quality of care remains unexplored. The greatest focus of LGBT health research to date is on the increased risk and incidence of HIV/AIDS and other sexually transmitted infections (STIs) among sexual minority men, while research on sexual minority women and particularly transgender populations has been limited. In an examination of NIH funded research from 1989 through 2011, excluding projects about HIV/AIDS and other sexual health matters, only .1% of NIH-funded studies (n = 113) concerned LGBT health. Among the 113 studies of LGBT health, the most studied health concern has been HIV/AIDS (79% of projects), followed by illicit drug use (31%), mental health (23%), and alcohol use (13%). There were very few studies of certain age groups (younger than 18 and 50 and

Criteria	Brief Description
	older) and very little data on people of color; 68% of abstracts failed to mention race or ethnicity.[19]
How likely is it that a new CER on this topic would provide better information to guide clinical decision making?	Not applicable to this topic.
Potential for New Information to Improve Care and Patient-Centered Outcomes	
What are the facilitators and barriers that would affect the implementation of new findings in practice?	FACILITATORS: • Although the numbers in the LGBT population are small, they represent a high risk group. • There is increased interest in addressing this inequity in health care. BARRIERS: • Issues related to prioritizing which LGBT patient populations to target and in what order • Lack of time for adequate provider training • Lack of time for providers to develop patient rapport • Overt racism, sexism, homophobia • Unintended discrimination by individuals and institutions
How likely is it that the results of new research on this topic would be implemented in practice right away?	• The National Institutes of Health ranks disparity reduction as one of its four over-arching goals.[20] • Research findings will need to be translated into evidence-based clinical practice guidelines, which, once available and disseminated to professional medical organizations, will facilitate implementation of new research findings.
Would new information from a CER on this topic remain current for several years, or would it be rendered obsolete quickly by subsequent studies?	• There has been little to no research dealing with the effects of improved access, quality of care, and cultural competence on health outcomes, utilization of preventive health services, and patient satisfaction with the care experience for LGBT populations. Improvements to access and quality for LBGT individuals could affect health outcomes for many different health conditions as well as for other minority populations and are, thus, not likely to be rendered obsolete very quickly.

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Topic 4: Interventions to Reduce Disparities in the Efficacy of Treatments for Sleep Disorders

Compare the effectiveness of clinical interventions to reduce sleep disorder disparities among racial/ethnic minorities.

Criteria	Brief Description
Introduction	
Overview/definition of topic	DESCRIPTION OF CONDITION • Sleep in the U.S. population is affected by many factors. Environment, lifestyle, and other social determinants of health can affect the duration, quality, and efficiency of sleep and resulting daytime sleepiness. • Sleep problems can occur as a result of a medical condition or to the extent that they constitute a medical condition (i.e., sleep disorders). The Diagnostic and Statistical Manual-5 (DSM-5) defines ten sleep-wake disorder groups: o Insomnia disorder o Hypersomnolence disorder o Narcolepsy o Breathing-related sleep disorders including obstructive sleep apnea (OSA) o Circadian rhythm sleep-wake disorders o Non–rapid eye movement (NREM) sleep arousal disorders o Nightmare disorder o Rapid eye movement (REM) sleep behavior disorder o Restless legs syndrome o Substance/medication-induced sleep disorder • Individuals with these disorders typically present with sleep-wake complaints of dissatisfaction regarding the quality, timing, and amount of sleep. Resulting daytime distress and impairment are core features shared by all of these sleep-wake disorders.[1] • OSA and insomnia disorder are the most prevalent sleep disorders. This topic development will focus on these two disorders. • OSA is characterized by episodes of upper airway obstruction during sleep. Cardinal symptoms include snoring and daytime sleepiness.[1] • Insomnia disorder is characterized by the presence of sleep complaints along with distress or daytime dysfunction which occurs with a frequency of three times per week for a period longer than three months, occurs despite adequate opportunity for sleep, and cannot be explained by other medical and/or mental health conditions.[1] While as many as a third of the population reports insomnia symptoms at some point, many fewer meet criteria for a diagnosis of insomnia disorder.
Relevance to patient-centered	PATIENT-CENTERED OUTCOMES Patient-centered outcomes associated with OSA and insomnia are similar and

Criteria	Brief Description
outcomes	include dissatisfaction with sleep, sleep parameters such as sleep latency onset, wake after sleep onset, waking early with the inability to return to sleep, sleep duration, sleep efficiency, sleep quality, cognitive functioning, daytime sleepiness, and quality of life.
Burden on Society	
Recent prevalence in populations and subpopulations	Several cross sectional studies have reported that African American adults in the United States have a higher prevalence of short and long duration sleep.[2] The proportion of African American adults reporting sleeping 6 hours or less in the 2004-2007 National Health Interview Survey was 37% compared to 29% for whites.[2] Short and long sleep duration are associated with health risks including cardiovascular disease. Sleep duration alone does not represent a sleep disorder and can often be explained by other factors such as sleep deprivation and/or social environments.[3] PREVALENCE Sleep disorders are relatively common: • OSA affects 1%–2% of children, 2%–15% of middle-age adults, and more than 20% of older individuals.[1] OSA is associated with obesity. Prevalence may be particularly high among males, older adults, and certain racial/ethnic groups.[1] o According to a meta-analysis of five studies, rates and severity of OSA are higher in African Americans compared to whites; however, this finding is fragile (calculations without one study with large race differences eliminated statistical significance).[4] Other research suggests that racial/ethnic group differences may not be as apparent once controlling for obesity, craniofacial structure, socioeconomic status, and neighborhood disadvantage.[5] o The Multiethnic Study of Atherosclerosis found a prevalence of OSA of 37% in Hispanics and 33% in whites. This difference was largely explained by BMI.[5] o The 2005-2006 National Health and Nutrition Examination (NHANES) study asked participants if they had ever been diagnosed with OSA. Nearly 5% of whites, 3.4% of blacks, nearly 2% of Hispanics and 2.2% of 'other' reported being diagnosed with insomnia.[6] A chi-square test indicated difference among groups. A study using data from NHANES 2007-2008 found that the prevalence of probably OSA (by report of certain symptoms) was 33% in whites, 33% in Hispanics, and 30% in blacks.[7] • A 2011 comparative effectiveness review on the diagnosis and treatment of sleep apnea did not identify studies that examined treatment efficacy or effectiveness by race.[8] • It is unclear whether treatment outcomes are associated with race.[9] • We identified one study reporting a difference in compliance rates with

Criteria	Brief Description
	continuous positive airway pressure (CPAP): o Blacks race was predictive of CPAP adherence at one month, but not at three months.[10] • Insomnia disorder is the second most prevalent of all sleep disorders affecting six to 10 % of the population.[1] • Several cross sectional studies have reported differences in sleep duration (not a sleep disorder) and certain sleep symptoms between racial/ethnic groups; these studies are of poor quality often relying on subjective retrospective reports of sleep patterns, use varying questions to assess sleep symptoms, rarely use questions that accurately assess whether patients meet diagnostic criteria, and report inconsistent results. o The 2005-2006 NHANES study asked participants if they had ever been diagnosed with insomnia. Less than 1% of whites, 1.5 % of blacks, nearly 2% of Hispanics, and 4.1% of 'other' reported being diagnosed with insomnia.[6] A chi-square test indicated difference among groups. o A 2010 meta-analysis of nine epidemiological studies reporting prevalence of various sleep parameters in racial/ethnic groups found that whites reported more insomnia-related sleep complaints than African Americans.[4] o The few studies examining racial/ethnic differences in insomnia (variably defined) have reported rates of 16.4% to 28.3% in whites, 15.3% to 23.7% in blacks, and 13.4% to 17.1%in Hispanics. [11] • We did not identify studies that reported differences in treatment efficacy or effectiveness by race: o A systematic review of non-benzodiazepines in the treatment of insomnia reported no evidence that drugs were more or less effective in any subgroup based upon race.[12] o Similarly, studies have not identified variations in treatment response with brief behavioral therapies by race or other demographic categories.[13]
Effects on patients' quality of life, productivity, functional capacity, mortality, use of health care services	• OSA has been associated with a variety of adverse clinical outcomes such as cardiovascular disease, type 2 diabetes, metabolic abnormalities, and an increased risk of motor vehicle and other accidents.[8] • Insomnia can reduce quality of life and cognitive functioning and may lead to increased risk of chronic disease.

Criteria	Brief Description
How strongly does this overall societal burden suggest that a CER on alternative approaches to this problem should be given high priority?	• Disparities in societal burden due to insomnia between whites, African Americans, and Hispanics have not been clearly established. Comparative effectiveness research would be premature.
Options for Addressing the Issue	
Based on recent systematic reviews, what is known about the relative benefits and harms of the available management options?	• Benefits and harms of treatments for insomnia and OSA in the general population are fairly well established. o Cognitive behavioral therapy and medications have been reported to improve sleep parameters. A comparative effectiveness review entitled Insomnia Disorder: Diagnosis and Management Outside of Sleep Medicine Clinics is underway and available at:[14] http://www.effectivehealthcare.ahrq.gov/ehc/index.cfm/search-for-guides-reviews-and-reports/?pageAction=displayTopic&topicID=548 • Studies that have tested for effect modification on treatment by race/ethnicity • CPAP has been shown to be effective for OSA.8
What could new research contribute to achieving better patient-centered outcomes?	• It is unclear how new research could contribute to achieving better patient-centered outcomes, as racial/ethnic disparities in treatment efficacy have not been established for OSA or insomnia.
Have recent innovations made research on this topic especially compelling?	• Electronic medical records could be analyzed more carefully to investigate suspected disparities in treatment response among racial and ethnic minority groups as exploratory or hypothesis generating research.
How widely does care now vary?	• It is unclear how widely care varies, as there is no evidence that treatments prescribed vary among race/ethnic groups.
What is the pace of other research on this topic (as indicated by recent publications and ongoing trials)?	Several trials evaluating treatments for OSA and insomnia are complete or underway. We identified no studies with a primary objective of evaluating treatment efficacy specific to racial and ethnic groups. ClinicalTrials.gov: • Ongoing trials: 0 • Completed trials: 0 NIH reporter: 0
How likely is it that a	• While some descriptive research reports higher prevalence of OSA in

Criteria	Brief Description
new CER on this topic would provide better information to guide clinical decision making?	African Americans compared to whites, we found no treatment-related decisional dilemmas to indicate that CER on this topic would better inform practice.
Potential for New Information to Improve Care and Patient-Centered Outcomes	
What are the facilitators and barriers that would affect the implementation of new findings in practice?	FACILITATORS: None identified BARRIERS: None identified
How likely is it that the results of new research on this topic would be implemented in practice right away?	• If research demonstrating that treatment efficacy or effectiveness is different in racial and ethnic minority groups, it would contradict currently available research so would be unlikely to be implemented until a better understanding of true disparities is available.
Would new information from a CER on this topic remain current for several years, or would it be rendered obsolete quickly by subsequent studies?	• This type of research is likely to remain current; however, this topic would benefit from additional epidemiological research establishing disparities in prevalence associated with race/ethnicity before CER can be meaningful.

References for Topic 4: Interventions to Reduce Disparities in the Efficacy of Treatments for Sleep Disorders

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