

2.7 SPECIAL POPULATIONS

Painful conditions and pain management are complex in part because various populations have unique issues that affect acute and chronic pain. Special populations in pain management that the Task Force identified include children, older adults, women, pregnant women, individuals with SCD, individuals with other chronic relapsing pain conditions, racial and ethnic minority populations, active-duty service members and Veterans, and patients with cancer and those in palliative care. The special populations section in this report was included to highlight several special populations' considerations for pain management. The populations highlighted here are non-exhaustive and the special populations section on chronic relapsing conditions is intended to serve as a general category that applies to many painful conditions not specifically mentioned. No special population was purposefully excluded from the Report.

2.7.1 UNIQUE ISSUES RELATED TO PEDIATRIC PAIN MANAGEMENT

Chronic pain is estimated to affect 5% to 38% of children and adolescents.³⁴⁰⁻³⁴² These pain conditions can be from congenital diseases (e.g. sickle cell disease [SCD]), where pain begins in the infant or toddler age period, chronic non-congenital diseases (e.g., juvenile idiopathic arthritis, fibromyalgia, inflammatory bowel disease), or primary chronic pain conditions (e.g., headaches, chronic abdominal pain, chronic musculoskeletal pain, CRPS). The origin of pain conditions in the pediatric age group is important because the developing pediatric nervous system can be especially vulnerable to pain sensitization and development of neuroplasticity.³⁴³ Data support the finding that early neonatal and childhood pain experiences can alter pain sensitivity in later life.³⁴⁴ Poor pain management in children can put them at risk for persistent pain and increased impairment as they transition into adulthood and may even be linked to the development of new chronic pain conditions.^{345,346} The application of the biopsychosocial model to pediatric pain care is therefore vital. Psychological conditions resulting from chronic disease and pain syndromes can contribute to long-term pain. These psychological conditions can include difficulty coping, anxiety, and depression. Incorporation of parents and family into pain care is especially important in the pediatric population because childhood pain can be affected by family and parental factors, including family functioning and parental anxiety, and depression. Appropriate pain management in childhood is imperative because children's early pain experiences can shape their response to pain as adults. Overall, there is a substantial need for more trained pediatric pain specialists to address the often complex aspects of pediatric pain. There is a greater challenge in attracting top physicians to further specialize in pediatric pain fellowships, and this aspect of medical education would address an ongoing gap in this area. It is of utmost importance to introduce comprehensive pain care early in the pediatric age group to optimize their QOL now and in the future.³⁴⁷

GAPS AND RECOMMENDATIONS

Gap 1: The significant shortage of pediatric pain specialists and comprehensive pain service centers presents a barrier to addressing the needs of pediatric patients with acute and chronic pain. This limited access is further compromised by lack of reimbursement and coverage for services related to comprehensive pain management, including non-pharmacologic evidence-based pain therapies.

- **Recommendation 1a:** Increase access to pediatric pain services with pain expertise, which can likely be achieved through an increase in the workforce and novel care delivery models.
- **Recommendation 1b:** Deliver and appropriately reimburse and cover pediatric pain care in the context of comprehensive, multidisciplinary treatment.

Gap 2: Pediatric patients with chronic pain conditions eventually transition to adult care, during which time they may experience gaps in care, increased health care utilization, poor patient outcomes, and other health care vulnerabilities and morbidities.

- **Recommendation 2a:** Develop models of care for appropriate transition for pediatric patients with acute or chronic pain conditions to ensure seamless care delivery as well as decreased morbidity and mortality.

Gap 3: Most physician pain specialists are not credentialed in pediatric pain and therefore, are not permitted by their institutions to take care of children with chronic pain.

- **Recommendation 3a:** Encourage and assist pain physicians in obtaining the necessary training for credentialing in pediatric pain. This is a significant step toward improving pediatric patient access.

Gap 4: Many current CBPs do not address pediatric opioid prescribing best practices. Further, RCTs and real-world evidence of non-opioid pharmacologic therapies in pediatric patients for chronic pain are lacking.

- **Recommendation 4a:** Develop pediatric pain management guidelines that address appropriate indications for opioids and responsible opioid prescribing.
- **Recommendation 4b:** Conduct pediatric pain research to inform national guidelines using multimodal approaches to optimize pain management for children and adolescents.

2.7.2 OLDER ADULTS

Chronic pain is one of the most common, costly, and incapacitating conditions in older adults.³⁴⁸ Managing pain in older adults can be complex because of age-related physiologic changes, associated medical and mental health comorbidities, polypharmacy, increases in pain thresholds, decreases in pain tolerance, and alterations in pharmacokinetics and pharmacodynamics that increase the risk of side effects from pharmacologic treatment.^{302,349} Effective pain management for older adults requires an understanding of the special considerations associated with the physiology of aging, validated assessment tools, common pain presentations in the older adult population,³⁵⁰ and the use of evidence-informed CPGs for common conditions such as low-back pain.³⁵¹ Older patients may have increased risk of GI bleeding and renal damage from NSAIDs.

GAPS AND RECOMMENDATIONS

Gap 1: There is a need for opioid prescribing guidelines for the aging population provided the potential for increased risk of falls, cognitive impairment, respiratory depression, organ metabolism impairment, and age-related and non-age related pain issues.

- **Recommendation 1a:** Develop pain management guidelines for older adults that address their unique risk factors. However, a risk factor of a medication should not necessarily be an automatic reason to not give this medication to an elderly patient. Clinicians must assess the risk versus benefit of utilizing medications while considering other modalities in this patient population.
- **Recommendation 1b:** Consider utilizing a multidisciplinary approach with non-pharmacological emphasis given the increased risk of medication side effects in this population.
- **Recommendation 1c:** Establish appropriate pain management education for physicians and health care providers who treat older adults.

2.7.3 PATIENTS WITH CANCER-RELATED PAIN AND PATIENTS IN PALLIATIVE CARE

Cancer pain affects millions of Americans.^{304,352} In addition, there are more than 14 million cancer survivors in the United States as a result of remarkable advances in cancer diagnosis and therapy. An estimated 40% of cancer survivors continue to experience persistent pain as a result of treatment such as surgery, chemotherapy, and radiation therapy. Persistent pain is also common and significant in patients with a limited prognosis, as often encountered in hospice and palliative care.³⁵³

GAPS AND RECOMMENDATIONS

Gap 1: These patient populations are frequently managed by practitioners who do not specialize in pain or palliative care. Many oncologists and primary care physicians are not trained to recognize or treat persistent pain associated with cancer or other chronic medical problems with limited prognosis.

- **Recommendation 1a:** Clinicians should assess and address pain at each patient encounter. Causes of pain such as recurrent disease, second malignancy or late onset treatment effects should be evaluated, treated, and monitored.

Gap 2: Patients with persistent pain associated with cancer and/or cancer treatment or other chronic medical problems with limited prognosis in palliative care often receive less optimal care with restricted treatment modalities.

- **Recommendation 2a:** When clinically indicated, utilize multimodal and multidisciplinary treatment as part of cancer-related pain management and palliative care.

2.7.4 UNIQUE ISSUES RELATED TO PAIN MANAGEMENT IN WOMEN

Central to the unique issues women face in pain management are the differences between men and women with respect to pain sensitivity, response to pain medication, and predisposition to clinical pain conditions.³⁵⁴ Data and recent literature suggest that women experience more pain than men, have greater sensitivities to painful stimuli compared with men, and report experiencing more intense pain.^{355,356} In addition to the response to pain medication, there exist sex differences in the patterns of nonmedical use and abuse of prescription opioids.^{357,358} Research has identified that women are more likely than men to misuse prescription opioids.³⁵⁹ Furthermore, from 1999 to 2010, the percentage increase in opioid-related overdose deaths was greater in women than in men.³⁶⁰ Finally, women face unique pain management challenges in the pregnancy and postpartum periods. To mitigate the heightened risk associated with pain management in these periods, it is important to emphasize the importance of obstetricians and gynecologists (OB-GYNs) on the multidisciplinary pain management team.

GAPS AND RECOMMENDATIONS

Gap 1: Women face unique challenges regarding their physical and mental health, interactions with the health care system, and roles in society. Women use the health care system as patients, caregivers, and family representatives and can be particularly affected by costs, access issues, and gender insensitivity from health care providers and staff. Several diseases associated with pain — in particular, chronic high-impact pain — have a higher prevalence in women or are sex specific, including endometriosis, musculoskeletal and orofacial pain, fibromyalgia, migraines, and abdominal and pelvic pain.

- **Recommendation 1a:** Increase research to elucidate further understanding of the mechanisms driving sex differences in pain responses and research of mechanism-based therapies that address those differences.
- **Recommendation 1b:** Raise awareness in the public and health care arenas to the unique challenges that women face during pregnancy and in the postpartum period, including various pain syndromes and psychosocial comorbidities.

Gap 2: Women may experience increased pain sensitivity. Of note, OB-GYNs may be one of the first health care providers a woman with pain encounters, yet they are not often included as part of a multidisciplinary care team.

- **Recommendation 2a:** Include OB-GYNs as part of multidisciplinary care teams because they are likely to play an important role in the treatment of pain for women.

2.7.5 PREGNANCY

Managing pain in pregnant women is uniquely challenging because clinical decision making must account for the pregnant mother and the developing fetus.³⁶¹ Further complicating pain management in the peripartum period is the lack of CPGs for non-pharmacologic treatments that may decrease the potential adverse outcomes for newborns associated with opioid therapy, such as neonatal abstinence syndrome. Greater research into chronic pain management in pregnancy is needed.^{362–364}

GAPS AND RECOMMENDATIONS

Gap 1: There is a need for evidence-based CPGs for the use of analgesics during pregnancy and the postpartum period.

- **Recommendation 1a:** Improve evidence for pain management of pregnant and postpartum women with greater research and innovation, in collaboration with the national specialty societies (the American College of Obstetricians and Gynecologists, neonatologists, obstetricians, perinatal pediatricians, and other specialists).

- **Recommendation 1b:** Counsel women of childbearing age on the risks of opioids and non-opioid medications in pregnancy, including risks to the fetus and newborns.

2.7.6 CHRONIC RELAPSING PAIN CONDITIONS

Chronic pain with periods of remission and frequent relapses defines “chronic relapsing pain conditions.” Examples of such conditions include various degenerative, inflammatory, immune-mediated, rheumatologic, and neurologic conditions such as MS, trigeminal neuralgia, Parkinson’s disease, CRPS, porphyria, systemic lupus erythematosus, lumbar radicular pain, migraines, and cluster headaches. Acute pain flares on top of the chronic pain condition can be a common occurrence that may affect daily routines and overall functionality, resulting in additional morbidity and the need for comprehensive pain care.

GAPS AND RECOMMENDATIONS

Gap 1: There is sometimes a lack of partnership between the disease specialist (i.e., the hematologist, oncologist, rheumatologist, or neurologist) and providers of comprehensive multidisciplinary pain programs.

- **Recommendation 1a:** Provide referrals to a comprehensive pain program early in the course of the chronic disease (e.g., MS, porphyria, systemic lupus erythematosus, migraine, Parkinson’s disease, neuropathic pain syndromes) to determine the optimal approach to managing acute or chronic pain exacerbations, including potential non-opioid, alternative therapies and non-pharmacologic therapies. Establish a partnership between the disease specialist (e.g., the hematologist, oncologist, neurologist, or rheumatologist) and the pain team to optimize care.



ANNE’S STORY

PATIENT TESTIMONIAL

My name is Anne. I’m a 19-year-old girl and college sophomore. I have struggled with sickle-cell disease my whole life. My dad always told me that sickle cell does not have me – I have sickle cell. I have learned to persevere through the pain.

I found that my passions were the one thing that kept the pain away. Even though I would be in pain, I would still go out and dance. I would still sing. I was even a cheerleader at one point. I think that with sickle cell, it’s also about what you can handle mentally.

I struggled with depression for a while and as recently as last February, I went through a period of depression. It was the hardest thing, but I kept telling myself, OK Anne, you’re going to get better. Just keep pushing. Just keep pushing.

I have been through six surgeries in my 19 years. I have had brain surgery due to Chiari I malformation from sickle cell, which caused multiple migraines every day. I was shocked because I would still go to school. I would still get my homework done. I would still go out and have fun with my friends, even though I was still going through all this pain.

My brother told me that I am one of the strongest people he’s ever met. And that was so touching because at that time I didn’t believe I was a strong person. It was hard because my parents never dealt with a child with sickle cell. I’m their last child. And I’ve seen them cry. I’ve seen them persevere with me.

My family is one thing that keeps me going; I can’t let anything stop me. I can’t even let one little crisis stop me. I barely go to a hospital for my crisis now because I try to find ways at home to get rid of my pain.

2.7.7 SICKLE CELL DISEASE

Sickle cell disease (SCD) is a group of inherited disorders characterized by complex acute and chronic symptoms, including pain.³⁶⁵ An estimated 90,000 people in the United States have SCD, which disproportionately affects minority populations, particularly African-Americans.³⁶⁶ Acute pain episodes, or “pain crises,” associated with SCD are abrupt in onset, unpredictable, and drive patients to seek care in the ED and inpatient unit, with estimated health care costs of almost \$2 billion per year.^{367,368} Chronic, severe, daily pain also occurs in approximately 30% to 40% of adolescents and adults with SCD, significantly impairing their functioning and increasing in incidence and severity with age.^{369–371} Pain in SCD is unique in that it occurs throughout the patient’s lifespan, from infancy to adulthood, and develops directly from the disease.³⁷² The biology of SCD pain is complex, varied, and likely arises from multiple mechanisms depending on whether an individual is suffering from acute or chronic pain.³⁷³ Pulmonary,³⁷⁴ orthopedic,³⁷⁵ psychosocial,³⁷⁶ and other comorbidities of SCD can also give rise to painful complications in adults and children.

GAPS AND RECOMMENDATIONS

Gap 1: There is a lack of evidence-based management guidelines for the treatment of acute and chronic pain in children and adults with SCD.

- **Recommendation 1a:** Develop comprehensive, evidence-based guidelines for the treatment of acute and chronic SCD pain in children and adults.
- **Recommendation 1b:** Conduct research to understand underlying mechanisms of acute and chronic pain and develop mechanistic non-opioid pharmacologic therapies and non-pharmacologic approaches for SCD pain management.

Gap 2: Unpredictable, episodic exacerbations of acute pain pose a challenge for SCD pain management, and the majority of patients have failed non-opioid pain medications prior to presentation for acute care. Constraints on opioid treatment duration can make individualization of pain management difficult. Further, limited access to oral opioids at home for the treatment of unplanned acute pain can result in increased use of health care services that could have been avoided.

- **Recommendation 2a:** Protect access to the appropriate and safe use of opioids for patients with SCD, with consideration for exemption from prescribing guidelines and state prescribing laws that do not specifically address patients with SCD because of the complex nature and mechanism of acute and chronic sickle cell pain.
- **Recommendation 2b:** Consider the lowest effective dose of opioids to treat acute pain crises and prescribe within the context of close follow-up and comprehensive outpatient pain care.
- **Recommendation 2c:** Develop an individualized approach to pain management that includes consideration of opioid and non-opioid therapies, such as behavioral health strategies and multimodal approaches.
- **Recommendation 2d:** Provide patient education on the risks and benefits of opioids.

Gap 3: The SCD patient population faces significant health care disparities that affect access to and delivery of comprehensive pain care and mental health services. Further, stigma, negative provider attitudes, and perceived racial bias are associated with SCD pain,^{377,378} which may compromise care, thus leading to increased suffering from pain and pain care delivery.^{379–383}

- **Recommendation 3a:** Develop comprehensive care delivery models for SCD pain management, including collaborative partnerships among pain medicine, SCD specialists and advocates, and multidisciplinary teams.
- **Recommendation 3b:** Develop outpatient infusion clinics/day hospitals for SCD pain management to decrease reliance on the ED for pain treatment.
- **Recommendation 3c:** Increase access to and reimbursement for mental health services for patients with SCD.
- **Recommendation 3d:** Provide education focused on stigma, negative provider attitudes, and perceived racial bias at all levels of health care to optimize delivery of pain treatment to patients with SCD.

2.7.8 HEALTH DISPARITIES IN RACIAL AND ETHNIC POPULATIONS, INCLUDING AFRICAN-AMERICANS, HISPANICS/LATINOS, AMERICAN INDIANS, AND ALASKA NATIVES

Considerable evidence exists documenting health disparities in racial and ethnic minority populations, particularly substantial disparities in the prevalence, treatment, progression, and outcomes of pain-related conditions.³⁸⁴ These disparities in care are attributed to factors related to social disadvantage as well as factors within health systems.³⁸⁵ Health disparities contributing to suboptimal pain management in these special populations may be related to such factors as barriers to accessing health care, lack of insurance, discrimination, lack of a PCP, lack of child care, a lower likelihood to be screened or receive pain treatment, and environmental barriers that impede effective self-management. Effective strategies and plans to address these issues specifically in these disparate communities are necessary to address these gaps to improve patient outcomes.

GAPS AND RECOMMENDATIONS

Gap 1: Socioeconomic and cultural barriers may impede patient access to effective multidisciplinary care. Evidence exists of racial and ethnic disparities in pain treatment and treatment outcomes in the United States, yet few interventions have been designed to address these disparities. Lower quality pain care may be related to many factors, including barriers to accessing health care, lack of insurance, discrimination, lack of a PCP, lack of child care, lower likelihood to be screened or receive treatment, and environmental barriers that impede self-management.

- **Recommendation 1a:** Develop intervention programs informed by the biopsychosocial model to reduce racial and ethnic disparities in pain.

Gap 2: Research shows that ethnic minorities may have greater pain sensitivity and are at increased risk for chronic pain, yet they remain underserved.

- **Recommendation 2a:** Develop biopsychosocial interventions for pain that are scalable and culturally enhanced.

2.7.9 MILITARY ACTIVE DUTY, RESERVE SERVICE MEMBERS AND VETERANS

The experience of pain is prevalent in military and Veteran populations.³⁸⁶ Pain management can be complex in military populations, who experience combat-related injuries (e.g., ballistic wounds, burns, over-pressurization, blunt trauma) in addition to complications from accompanying conditions such as post-traumatic stress disorder (PTSD) and traumatic brain injury (TBI), both of which are more prevalent in Veterans than in the civilian population.^{48,387,388} Delayed pain treatment following injury can increase the likelihood of acute pain becoming chronic pain in service members and Veterans.⁴⁸

As a Nation, we must do better in fulfilling our solemn obligation to care for all those who have served our country and to improve the quality of life of our Nation's Veterans – many of whom have risked their lives to protect our freedom while deployed, often multiple times, to areas of prolonged conflict. Veterans die by suicide at higher rates when compared to civilians in the U.S..³⁸⁹ Among Veterans, pain conditions are associated with an increased risk of suicide.³⁹⁰ Clinicians can discuss suicide risk with Veterans and recognize that public health approaches to suicide prevention include addressing pain.

GAPS AND RECOMMENDATIONS

Gap 1: Military active duty, reserve service members and veterans have unique physical and mental health challenges related to their military service that contribute to the development of or exacerbate acute and chronic pain conditions. Medical and mental health comorbidities such as TBI, PTSD, limb loss, and musculoskeletal injuries often interfere with successful treatment outcomes. Assessment and treatment of pain conditions in active-duty service members and Veterans require military-specific expertise and a coordinated, collaborative approach between medical and mental health providers.

- **Recommendation 1a:** Physicians and clinical health care providers taking care of military service members and Veterans, regardless of practice setting, should consider in their pain care plan prior military history and service-related health factors that may contribute to acute or chronic pain, as relevant to the clinical presentation.

- **Recommendation 1b:** Physicians and clinical health care providers should work collaboratively to deliver comprehensive pain care that is consistent with the biopsychosocial model of pain.
- **Recommendation 1c:** Conduct research to better understand the biopsychosocial factors that contribute to acute and chronic pain in active duty service members and Veterans, with a focus on TBI, PTSD, other mental health issues, and SUDs.
- **Recommendation 1d:** Conduct studies to better understand the contributing factors predisposing these patients to movement along the spectrum from acute to chronic pain.

Gap 2: The transition from military service to Veteran status can be complicated. A multitude of factors may affect a successful transition, including incomplete integration of EHRs and imposed changes or delays in access to primary care, pain specialty, and mental health physicians and health care providers.

- **Recommendation 2a:** The integration of DoD and Veterans Health Administration (VHA) health systems is important for effective and timely pain care. This integration should include coordination of the transition from active duty to Veteran status and care coordination across the health care spectrum that includes a smooth transition to primary care, mental health and pain specialty physicians, and health care providers.

Gap 3: Military active duty, reserve service members and Veterans increasingly receive care in the community (including care provided through external payment systems and DoD- or VHA-purchased care). A fragmented health care system results in lack of coordinated care in the community, within the Military Health System (MHS), and in VHA as well as differing care standards (such as the implementation of opioid risk-mitigation strategies). Within MHS, access to primary care and specialty care — and multidisciplinary pain specialty care in particular — is difficult for some Veterans because of geographical factors, limited availability of providers, and the need for specialized pain care treatment.

- **Recommendation 3a:** To improve care coordination across health care systems, streamlined access to medical records and collaboration across systems are needed to provide more timely and effective pain care.