

An interdisciplinary look at advancing pain care, education, and research **RESPONDING TO THE IOM'S CALL TO ACTION TO IMPROVE PAIN MANAGEMENT**

[FACULTY]

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[LEARNING OBJECTIVES]

After reading this publication, the provider will be able to do the following:

- [] List the underlying principles of the Institute of Medicine's (IOM) report, *Relieving Pain in America*.
- [] Discuss the recommendations in the blueprint put forth by the IOM to improve pain management.
- [] Describe barriers to appropriate pain management in older adults.
- [] Identify public-private partnership research opportunities.
- [] Discuss knowledge gaps that are appropriate for future study.

The Institute of Medicine's *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*

The recently issued report, *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*, from the Institute of Medicine (IOM) provides a timely and comprehensive response to the growing public health problem of chronic pain and the challenges of pain management.¹ The report was commissioned by the U.S. Department of Health and Human Services through the National Institutes of Health (NIH) "to increase recognition of pain as a public health problem in the U.S." The study was required by the federal Patient Protection and Affordable Care Act of 2010 to address the widespread problem of undertreated and untreated pain.² The IOM was requested to conduct a study to assess the state of the science regarding pain research, care, and education and to make recommendations to advance the field. The report is based on scientific evidence and expert consensus and was reviewed by an independent panel of professionals who brought a breadth of diverse perspectives and technical expertise to the report.

The ultimate conclusions of the report are summed up as follows:

"Pain affects the lives of more than a hundred million Americans, making its control of enormous value to individuals and society. To reduce the impact of pain and the resultant suffering will require a transformation in how pain is perceived and judged both by people with pain and by the health care providers who help care for them. The overarching goal of this transformation should be gaining a better understanding of pain of all types and improving efforts to prevent, assess, and treat pain."¹ (p S-4)

Blueprint for Moving Forward

Relieving Pain in America provides a blueprint for transforming the way pain is understood, assessed, treated, and prevented. The report does not provide clinical recommendations for the diagnosis and treatment of pain. Rather, it describes the scope of the problem of pain from public health and community-based perspectives and provides an overview of needs for care, education, and research. The underlying principles that informed the report are listed in Table 1. The IOM recommendations and objectives for researchers, practitioners,

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[PRE-ACTIVITY QUESTIONS]

Assess your baseline knowledge by answering the following questions:

- [1] According to the Institute of Medicine (IOM), which of the following statements describes a vital issue regarding pain relief?**
- a]** Chronic pain should be considered a disease in its own right.
 - b]** When opioids are used as prescribed and appropriately monitored, they can be safe and effective.
 - c]** Effective pain management is a moral imperative.
 - d]** All of the above.
- [2] Which of the following statements about analgesic use in older adults is true?**
- a]** Most prescription analgesics have been extensively studied in older patients.
 - b]** Older adults with cognitive impairment may have difficulty articulating their pain, creating an important barrier to assessment and treatment.
 - c]** The pharmacokinetics and pharmacodynamics of opioids are unchanged in older adults.
 - d]** Long-term care facility staff receive comprehensive training regarding appropriate analgesic use.
- [3] The IOM found that pain care for older individuals is generally overseen by which providers?**
- a]** Cardiologists.
 - b]** Geriatricians.
 - c]** Internal medicine physicians.
 - d]** There often is no one provider overseeing pain care.
- [4] According to the IOM, which of the following is an important barrier to effective pain management?**
- a]** Inadequate diffusion of knowledge about pain.
 - b]** Lack of effective analgesics.
 - c]** The small number of patients with severe pain.
 - d]** All of the above.
- [5] Which of the National Institutes of Health oversees and coordinates pain-related research?**
- a]** National Cancer Institute.
 - b]** National Institute on Aging.
 - c]** National Institute of General Medicine Sciences.
 - d]** There is no single institute that oversees and coordinates pain-related research.

ANSWER KEY: [1] d [2] b [3] c [4] d [5] b

educators, and policy makers to facilitate this transformation are spelled out in the report. Selected steps from the blueprint—including current and emerging opportunities for health care providers and researchers—are highlighted here.

The findings in the report and recommendations in the blueprint are ripe with opportunities to build the capacities of individuals who work with older adults and the communities where they live. From basic research to direct patient care to policy making, strategies to improve pain care and management are suggested.

Pain as a Public Health Problem

Pain remains widely undertreated in the United States. Unrelieved or poorly managed pain not only results in unnecessary suffering and decreased quality of life, it also has been shown to result in an increased utilization of health care resources, sleep impairment, exacerbations of anxiety and depression, disabilities, and reduced patient satisfaction with the health care system.

The IOM describes what is known about pain as a public health problem and its serious social and economic implications for the nation.¹

1. Scope and magnitude. Pain affects approximately one-third of Americans and exacts a huge toll from society in terms of morbidity, mortality, disability, demands on the health care system, and economic burden.
2. Disparities in pain management. Although virtually all people experience pain at some point in their lives, there are several vulnerable populations—including older adults—who are more likely to encounter undertreatment of pain.

EFFECTIVE PAIN MANAGEMENT is a moral imperative, a professional responsibility, and the duty of people in the healing professions.

3. Population-level response. A comprehensive pain prevention and management strategy is needed for the country.
4. Economic impact. Pain costs the country \$560 billion to \$635 billion annually according to a new conservative estimate developed as part of the IOM study.
5. Diversion and misuse of opioids. The misuse and abuse of opioids raise important societal concerns requiring cross-governmental efforts to ensure that opioids are available for those who need them and not available to abusers.
6. Education of health professionals. Much of the nation's health professions training (including both graduate programs and continuing professional education) is heavily supported by public funds. Resources could be directed for professionals to learn more about the importance of pain prevention, ways to prevent the transition from acute to chronic pain, how to treat pain more effectively in terms of clinical outcomes and costs, and how to prevent physical and psychological comorbidities associated with pain.

[MYTH 1]

Older adults are less sensitive to pain than younger adults.

FACT: Although older adults may have reduced sensitivity to mild painful sensations, they are more vulnerable to the experience of severe pain.

TABLE 1. UNDERLYING PRINCIPLES ABOUT PAIN AND PAIN MANAGEMENT IN THE IOM REPORT

Principle	Details
A moral imperative	Effective pain management is a moral imperative, a professional responsibility, and the duty of people in the healing professions.
Chronic pain can be a disease in itself	Chronic pain has a distinct pathology, causing changes through the nervous system that often worsen over time. It has significant psychological and cognitive correlates that can constitute a serious, separate disease entity.
Value of comprehensive treatment	Pain results from a combination of biological, psychological, and social factors and often requires comprehensive approaches to prevention and management.
Need for interdisciplinary approaches	Given chronic pain's diverse effects, interdisciplinary assessment and treatment may produce the best results for people with the most severe and persistent pain problems.
Importance of prevention	Chronic pain has such severe impacts on all aspects of the lives of its sufferers that every effort should be made to achieve both primary prevention (e.g., in surgery for broken hip) and secondary prevention (of the transition from the acute to the chronic state) through early intervention.
Wider use of existing knowledge	While there is much more to be learned about pain and its treatment, even existing knowledge is not always used effectively, and thus substantial numbers of people suffer unnecessarily.
The conundrum of opioids	Diversion and abuse of opioid drugs are serious problems and questions remain about their usefulness long term; however, when opioids are used as prescribed and appropriately monitored, they can be safe and effective, especially for acute, post-operative, and procedural pain, as well as for patients near the end of life who desire more pain relief.
Roles for patients and clinicians	The effectiveness of pain treatments depends greatly on the strength of the clinician-patient relationship; pain treatment is never about the clinician's intervention alone, but about the clinician and patient (and family) working together.
Value of a public health and community-based approach	Many features of the problem of pain lend themselves to public health approaches including a concern about the large number of people affected, disparities in occurrence and treatment, and the goal of prevention. Public health education can help counter the myths, misunderstandings, stereotypes, and stigma that hinder better care.

Source: Reference 1 (p 1-4).



PAIN COSTS THE COUNTRY \$560 billion to \$635 billion annually according to a new conservative estimate.

7. Focus on new research. Increasing the national knowledge base on pain can reduce its impact on public health. New knowledge can be generated by the nation's research establishment, through basic, clinical, and translational research, epidemiologic studies, and analysis of care patterns and costs.
8. Infrastructure for addressing the undertreatment of pain. Public health offers an infrastructure and a forum for developing strategies for preventing and addressing pain.

Beyond public health, other sectors of society that must be involved in improving pain management include the health care delivery system, educational institutions and academic medical centers,

businesses and employers, the research establishment, state and federal policy makers, voluntary health organizations, pharmaceutical and device industries, accrediting and licensing bodies, news and information media, and other stakeholders who share the goal of improving pain care.

Existing Shortfalls in Pain Management

The IOM identifies a range of system, clinician, and patient barriers to improved pain care throughout patients' clinical course of assessment and treatment.

There are numerous ways to assess and treat pain. Pain is often assumed to be a symptom of an underlying condition and while

THE IOM SUPPORTS the position that chronic pain is a disease in its own right, not merely a symptom of other conditions.

clinicians may prescribe analgesics, they are often primarily focused on diagnosing and treating the underlying problem. However, if a cause cannot be found, if early treatments fail to bring improvement, and if the pain persists for several months, the pain may become a disease itself. When pain becomes a disease, the patient requires comprehensive assessment, care planning, and treatment. The IOM supports the position that chronic pain is a disease in its own right, not merely a symptom of other conditions. This perspective reframes the management of pain to prevent it from being sidelined while clinicians work to resolve another problem.

Disparities in Care for Older Adults

The IOM noted several vulnerable subgroups of the U.S. population who are more likely to have chronic pain and endure inadequate treatment. Characteristics that increase the risk of chronic pain include: having English as a second language, race and ethnicity, lower income and education, female gender, children and older adults, geographic location, military veterans, cognitive impairment, surgical patients, cancer patients, and end-of-life patients. Because each of these characteristics increases risk independently, various subgroups of increased risk may exist within already vulnerable subgroups. (For example, older female patients who speak English as a second language may have increased risk compared with older male patients who speak English as their first language.) Additional research could further quantify these disparities.

Substantial evidence shows that pain is undertreated in nursing homes. Research suggests that 45% to 80% of U.S. nursing home residents experience pain that contributes substantially to functional impairment or reduces quality of life.³⁻⁵ Factors that contribute to poor pain management include:

- Cognitively impaired residents' inability to articulate pain and some residents' belief that their pain is untreatable or should be tolerated as part of getting old.
- Insufficient knowledge about pain and ways to reduce it, and lack of training on pain care among health professionals and other staff members working in long-term care settings.
- The lack of standardized tools for assessing and treating pain in nursing homes.
- Concerns about the side effects of medications, especially opioids, in frail individuals and possible adverse interactions with other drugs being taken.

Pain Care for Older Adults

The report found that while prevalence statistics vary in the general population, increasing severity of pain and pain that interferes with activities are associated with advancing age.¹ Common causes of pain in older adults include joint pain (primarily osteoarthritis), postsurgical pain, and chronic conditions associated with aging, such as shingles. Research indicates that severe pain in older adults leads to a decreased quality of life, including both satisfaction with life and health-related quality of life.⁶

[MYTH 2]

Pain is a natural part of aging.

FACT: Even though pain is associated with several conditions that increase in prevalence with age (e.g., osteoarthritis), pain should never be considered "normal." Pain in older adults can lead to serious consequences including decreased functioning, increased disability, exacerbation of anxiety and depression, increased utilization of health care resources, and decreased quality of life.

[MYTH 3]

The management of chronic and acute pain should be similar.

FACT: The IOM report concludes that chronic pain is a disease in its own right. Chronic pain has a distinct pathology, causing changes through the nervous system that often worsen over time. It has significant psychological and cognitive correlates that can constitute a serious, separate disease entity. When pain becomes a disease itself, care requires comprehensive assessment, care planning, and treatment.

Treatment of pain in older adults is complicated by a lack of evidence regarding how pharmacokinetic and pharmacodynamic changes that occur with aging affect appropriate dosages of analgesic medications. Older adults generally are excluded from clinical trials of medications, and thus relevant data from this population generally are not collected.

The delivery of effective pain management for older adults begins with an accurate assessment of the patient's pain. However, the experience of pain is influenced by a range of physical, psychosocial, and behavioral factors; and because pain is subjective, accurate assessment is challenging.

Research has found that older individuals have “a modest and somewhat inconsistent age-related decline in pain sensitivity to mild noxious stimuli,” which could contribute to underreporting of mild pain symptoms.⁷ However, other evidence indicates that the ability to tolerate severe pain decreases with age and that older people are more vulnerable to severe or persistent pain.

Psychosocial Factors and Pain Care

Psychosocial factors play a central role in the experience of chronic pain. For example, in patients with disabilities, psychosocial factors associated with increased pain include catastrophizing cognitions; task persistence, guarding, and resting coping responses; and perceived social support.⁸ Additionally, chronic pain is associated with increased risk for depression and anxiety, which in turn increase the perception of pain leading to a vicious cycle.^{9,10} Conversely, there is some evidence that personality, self-efficacy, and religious/spiritual beliefs reduce the impact of chronic pain on patient function.^{11–13} Research into various psychosocial factors that are important for chronic pain management in older

adults could lead to improvements in comprehensive pain care.

Relieving Pain and Suffering Among Older Adults: An Issue for Human and Social Services

Many factors that influence the experience of pain are based on social and economic structures. Due to the complexity of the public health problem of pain, the recommendations of the IOM for comprehensive population-based strategies for pain prevention, treatment, management, and research will require investments in human and social services infrastructures. Such infrastructure investments will need to address, among other important policy goals, geriatric workforce development, health and economic security, and strategies to reduce poverty and improve well-being.

The economic costs of pain are reported based on two primary measures: (1) medical expenditures and (2) lost wages and productivity. However, these measures of economic costs do not take full account of lost social capital resulting from the impact of pain. Creative and productive human agency, human development, and individual and collective action impeded by lack of economic opportunity; inability to access care, social networks, support, or services; and pain and suffering burden are social capital deficits.¹⁴ Attempts to conceptualize or approach measurement of this lost capital presents challenges, especially among vulnerable older persons who in many instances may not be able to communicate effectively about their experiences of pain and its impact in their lives. An important area for future research and investigation is the social service response to the public health problem of pain and utilization of social services by older adults in pain.

Relieving pain and suffering for older adults is a matter of elder justice and

human rights. Ethical consideration of how to allocate scarce resources to improve the health and well-being of older adults will require full public discourse and new research evaluating human and social services interventions and outcomes. The IOM report provides an important foundation for engagement in this discourse and research evaluation process.

Gaps in Policy that Impede Pain Care

Regulatory and enforcement practices have been found to reduce access to opioid analgesics for people with pain. These practices cause some health care providers to fear being unfairly prosecuted for prescribing opioids.¹⁵ To promote appropriate balance between the need to maintain access to opioids for patients with pain while preventing the misuse, abuse, and diversion of opioids, the IOM recommends focusing on the following barriers:

- Insufficient continuing education and training for health care professionals. Education should address gaps in knowledge and competencies related to pain assessment and management, cultural attitudes about pain, negative and ill-informed attitudes about people with pain, and stereotyping and biases that contribute to disparities in pain care.
- Systematic barriers. These barriers include the magnitude of the pain problem, certain provider attitudes and training, and insurance coverage issues.
- Cultural attitudes of patients. Many patients do not recognize the need to address pain early to minimize progression to chronic pain.
- Geographic barriers. Individuals in rural communities often lack convenient access to care.
- System and organizational barriers. Current reimbursement policies can obstruct patient-centered care. Examples of these barriers

[MYTH 4]

Health care providers receive extensive training in pain management.

FACT: Although pain is the primary reason patients seek medical attention, the majority of health care providers have received minimal training in pain management. The IOM calls for a comprehensive system-wide approach to improving the pain management education that health care providers receive.



[MYTH 5]

Patients are not afraid to ask for pain medication.

FACT: Patients with pain are often unaware of their treatment options or may hold inaccurate or value-laden beliefs that obstruct treatment. The IOM report provides a comprehensive list of essential patient education topics that includes reasons why pain relief is important (e.g., poorly managed acute pain can progress to chronic pain) and how patients can learn to advocate for themselves.

are minimal capacity for frequent visits when necessary; limited time for comprehensive assessments; inadequate patient education initiatives; difficulties in accessing specialty care; and lack of reimbursement for needed services.

- **Regulatory and legal barriers.**

The medically appropriate use of opioid analgesics may be inhibited because providers are concerned regarding administrative barriers and overzealous regulatory scrutiny.

Some of these barriers may create particular issues for older adults. Older adults often have multiple chronic conditions and visit several physicians. Coordination of care among the patient's providers is often lacking, and no one provider takes the lead to ensure the patient receives adequate pain management. Furthermore, older adults are more likely than others to undergo transitions of care. As patients move from one setting to another, their pain management regimen may not follow them seamlessly due to a number of systematic barriers. For example, if a patient is discharged from the hospital to a long-term care facility, the hospital may prescribe an analgesic that is not on the facility's drug formulary, resulting in treatment delays as the issue is resolved.

The IOM called for population-level strategies to identify and develop a comprehensive approach to overcoming existing barriers to pain care, especially for populations that are disproportionately affected by and undertreated for pain (e.g., older adults). Such an approach can help close the gap between empirical evidence regarding the efficacy of pain treatments and current practice.

Recommendations for Improving Pain Management

To address the shortcomings noted in the care of patients with pain,

the IOM makes these recommendations:¹ (pp 3-41–3-44)

- **Pain care must be individualized for each patient.** The majority of care and management should take place through self-management and primary care, with specialty services focused on complex cases. Pain care should be patient-centered and interdisciplinary when necessary. [Older patients often require family involvement to optimize pain care; educational initiatives should account for family and informal caregivers.] Financial, referral, records management, and other systems need to support flexibility for individualized patient care.
- **Health care provider organizations should take the lead in developing educational approaches and materials that promote and enable self-management for people with pain and their families.** These materials should include information about the nature of pain; ways to use self-help strategies to prevent, cope with, and reduce pain; and the benefits, risks, and costs of various pain management options.
- **Collaboration between pain specialists and primary care clinicians should be supported, and patients should be referred to pain centers when appropriate.**
- **Payers and health care organizations should work to foster coordinated and evidence-based pain care that aligns payment incentives with evidence-based assessment and treatment of pain.**
- **Health care providers should provide pain assessments that are consistent and complete, and they should document the assessments.**

Education Challenges

Improved education is needed for multiple audiences, including patients and

the general public, to shape demand for appropriate pain care. Patients require better information about their treatment options and require education to correct misperceptions that obstruct optimal treatment. Broad improvements also are needed for health care providers, who often receive little, if any, training in the management of pain, despite the fact that it is the primary complaint of patients presenting to primary care providers.

Recommendations for Improving Pain Education

The IOM offers the following recommendations to address educational challenges in pain management:¹ (pp 4-26-4-27)

- Education should be utilized as a central part of the necessary cultural transformation of the approach to pain.
- Federal agencies and other stakeholders should expand and redesign their education programs to transform the understanding of pain. Programs should be designed for patients, the public, and health care providers to promote a transformation in their expectations, beliefs, and understanding about pain, its consequences, its management, and its prevention.
- The Centers for Medicare and Medicaid Services (CMS), the Health Resources and Services Administration, accrediting organizations, and undergraduate and graduate health professional training programs should improve pain education curricula for health care professionals.
- Educational programs for medical, dental, nursing, mental health, physical therapy, pharmacy, and other health professionals who participate in the delivery of pain care should increase their capacity to train providers with advanced expertise in pain care.

Research Challenges

The IOM focused on steps that would be needed to make pain research initiatives a reality with the overall goals of expediting the translation of scientific findings into patient care in tandem with developing new knowledge that will lead to future progress in diagnosis and treatment. Investment is needed in multiple basic science disciplines as well as psychosocial domains.

Organizing Research Efforts

The array of researchers addressing pain management is spread across multiple disciplines including anesthesiology, physiatry, psychiatry, neurology, occupational medicine, mental health (including psychology and social work), nursing, and palliative care (including palliative social work). The number of actual pain specialists is small and they do not carry the same influence as other large specialty organizations, such as those for heart disease, diabetes, or cancer. Because so many groups are involved in pain management, there is no one overarching group that has ownership. Despite the widespread prevalence of chronic pain, patient advocacy organizations do not have the resources or visibility of patient advocacy organizations for other health conditions.

Pain is a topic of interest for nearly every NIH institute and center. However, because pain management is not on the primary agenda of any individual NIH institute, it is more challenging for researchers to obtain federal funding for projects intended to improve pain management. The NIH Pain Consortium was established to foster collaboration among the NIH institutes and centers. The IOM commends the work of the consortium and believes it should take a more proactive leadership role in transforming how pain research is conducted. The IOM also supports

the development of clinical research networks to conduct randomized controlled trials and other types of clinical research. Such an approach spreads costs across institutes, provides access to larger pools of patients, and achieves other economies of scale.

Significant current pressures to reduce federal expenses will likely prevent the creation of new NIH institutes and will compel existing institutes to focus their spending on their core missions. With federal money for pain research in short supply, efforts to promote public-private partnerships will be important for building and sustaining pain-related research. For example, the Analgesic Clinical Trial Translations, Innovations, Opportunities, and Networks (ACTTION) is a partnership with the U.S. Food and Drug Administration. The purpose of ACTTION is to identify, prioritize, sponsor, coordinate, and promote innovative activities—with a special interest in optimizing clinical trials—that will expedite the discovery and development of improved analgesic treatments for the benefit of the public health. Other partnerships already exist and could be expanded (see Table 2).

Public-private partnerships allow different organizations to collaborate and leverage their complementary strengths. Numerous potential research targets for such partnerships are enumerated in the IOM report.

Geriatricians who are involved in these research project partnerships can work to ensure that the needs of older individuals are addressed. For example, they can advocate for the inclusion of older subgroups in clinical trials so more data are generated to guide appropriate application of treatment strategies in this vulnerable population. Population-based research could complement controlled trials and effectiveness research by (1) estimating pain prevalence within subgroups of older patients, and (2) building knowledge about the predisposing risk factors of pain the psychosocial consequences of experiencing pain, and the strategies that moderate the impact of pain on everyday outcomes. The IOM report identified several research topic areas that are specific to the concerns of older individuals.

Recommendations for Research

The IOM report listed several recommendations for improving pain management research:¹ (pp 5-29–5-31)

- The NIH should designate a specific institute to lead efforts in advancing pain research. At the same time, NIH should increase financial resources and staffing support for and broaden the scope of the Pain Consortium and engage higher level staff from the institutes and centers in the consortium's efforts. The Pain Consortium should exert more proactive leadership in effecting the necessary transformation in how pain research is conducted and funded.
- Academia and industry should develop novel agents for the control of pain. Basic and clinical science research is required to discover new classes of pain therapeutics and more efficient ways of developing them.

TABLE 2. PUBLIC-PRIVATE RESEARCH PARTNERSHIPS

Organization	Website
Analgesic Clinical Trial Translations, Innovations, Opportunities, and Networks	www.acttion.org
Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials	www.immpact.org
The Mayday Fund	www.painandhealth.org
NIH Public-Private Partnership Program	http://ppp.od.nih.gov
Patient-Centered Outcomes Research Institute	www.pcori.org

Agency for Healthcare Research and Quality

www.ahrq.gov

American Academy of Pain Medicine

www.painmed.org

American Chronic Pain Association

www.theacpa.org

American Pain Foundation

www.painfoundation.org

American Pain Society

www.ampainsoc.org

Institute of Medicine

Relieving Pain in America (full report)

www.iom.edu/Reports/2011/Relieving-Pain-in-America-A-Blueprint-for-Transforming-Prevention-Care-Education-Research.aspx

University of Wisconsin

Pain and Policy Studies Group

www.painpolicy.wisc.edu

- Federal agencies, such as the NIH, Agency for Healthcare Research and Quality (AHRQ), Centers for Disease Control and Prevention, Department of Defense, and Department of Veterans Affairs, as well as private funders of pain research, should increase support for interdisciplinary research and training on pain-related diseases and deficiencies.
- Public and private funders should increase support for longitudinal research in pain, including comparative effectiveness research and novel randomized controlled trials, to help ensure that patients receive care that works best in both the short and long terms.
- Academic institutes should increase the training of basic, translational, behavioral, population, and clinical pain researchers with the support of training grants from the NIH. Training should recognize the interdisciplinary benefits of research on pain and pain management. Agencies such as the National Center for Health Statistics, the AHRQ, and the CMS should support the training of researchers interested in secondary analysis of pain-related data collected by these agencies.

Conclusion

The IOM report revealed substantial shortcomings in pain management in the United States and created a blueprint for transforming pain care. Numerous opportunities were identified for individuals who work with older adults to contribute to this transformation. Gerontologists from all disciplines will find compelling issues for this call to action to improve pain management in older adults.

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For each question, circle the letter corresponding to the correct answer. There is only one correct answer to each question.

[1] The IOM report provides all of the following, *except*:

- a]** A blueprint for transforming the way pain is understood, assessed, treated, and prevented.
- b]** Clinical recommendations for the diagnosis and treatment of pain.
- c]** A description of the scope of the problem of pain and an overview of needs for care, education, and research.
- d]** Recommendations and objectives for researchers, practitioners, educators, and policy makers.

[2] Which of the following reasons describes how pain is a public health problem in the United States?

- a]** Pain affects more than a hundred million Americans and places substantial demands on the health care system.
- b]** Public health offers an infrastructure and a form for developing strategies for preventing and addressing pain.
- c]** Vulnerable populations, such as older adults, are more likely to have inadequately treated pain.
- d]** All of the above.

[3] According to the IOM's research, the annual cost of pain in the United States is approximately:

- a]** \$180 billion to \$220 billion.
- b]** \$330 billion to \$395 billion.
- c]** \$560 billion to \$635 billion.
- d]** \$805 billion to \$815 billion.

[4] Older individuals may be less sensitive than other adults to:

- a]** Mild noxious stimuli.
- b]** Severe pain.
- c]** Neuropathic pain.
- d]** Joint pain.

[5] Which group should take the lead in developing educational approaches and materials that promote and enable self-management for people with pain?

- a]** Primary care providers.
- b]** Specialist providers.
- c]** Health care provider organizations.
- d]** The National Institutes of Health.

[6] Which of the following statements about analgesic use in older adults is *true*?

- a]** Most prescription analgesics have been extensively studied in older patients.
- b]** Older adults with cognitive impairment may have difficulty articulating their pain, creating an important barrier to assessment and treatment.
- c]** The pharmacokinetics and pharmacodynamics of opioids are unchanged in older adults.
- d]** Long-term care facility staff receive comprehensive training regarding appropriate analgesic use.

[7] Which of the National Institutes of Health oversees and coordinates pain-related research?

- a]** National Cancer Institute.
- b]** National Institute on Aging.
- c]** National Institute of General Medicine Sciences.
- d]** There is no single institute that oversees and coordinates pain-related research.

[8] To better organize pain research efforts, the IOM recommends which of the following actions?

- a]** Development of clinical research networks to conduct randomized controlled trials.
- b]** Promotion of public-private partnerships.
- c]** Designation of a specific NIH institute to lead efforts to advance pain research and expand the scope of the Pain Consortium.
- d]** All of the above.

[9] Which public-private partnership has been specifically developed to expedite discovery and development of improved analgesic treatments?

- a]** Analgesic Clinical Trial Translations, Innovations, Opportunities, and Networks.
- b]** Mayday Fund.
- c]** NIH Public-Private Partnership.
- d]** Patient-Centered Outcomes Research Institute.

[10] Which of the following statements about the management of pain is *false*?

- a]** Poorly managed acute pain can progress to chronic pain.
- b]** Analgesic regimens usually transfer seamlessly when elders undergo transitions of care.
- c]** Many system barriers are driven by current reimbursement policies.
- d]** The diversion and abuse of opioids, which can be safe and effective when used appropriately, presents a conundrum for pain management.

ANSWER KEY: [1] b [2] d [3] c [4] a [5] c [6] b [7] d [8] d [9] a [10] b