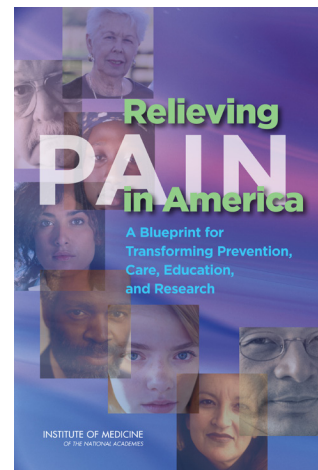


# Relieving Pain in America

## A Blueprint for Transforming Prevention, Care, Education, and Research



**Chronic pain** affects about 100 million American adults—more than the total affected by heart disease, cancer, and diabetes combined. Pain also costs the nation up to \$635 billion each year in medical treatment and lost productivity.

*The 2010 Patient Protection and Affordable Care Act* required the Department of Health and Human Services (HHS) to enlist the Institute of Medicine (IOM) in examining pain as a public health problem. Acting through the National Institutes of Health (NIH), HHS asked the IOM to assess the state of the science regarding pain research, care, and education and to make recommendations to advance the field.

*Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research* presents the IOM study committee's findings and recommendations.

**Pain represents a national challenge. A cultural transformation is necessary to better prevent, assess, treat, and understand pain of all types.**

### Fostering a Cultural Transformation

Pain represents a national challenge. A cultural transformation is necessary to better prevent, assess, treat, and understand pain of all types.

Government agencies, healthcare providers, healthcare professional associations, educators, and public and private funders of health care should take the lead in this transformation. Patient advocacy groups also should engage their diverse constituencies. This report provides a blueprint for achieving this transformation.

### Pain as a Public Health Challenge

To reach the vast multitude of people with various types of pain, the nation must adopt a population-level prevention and management strategy. HHS should develop a comprehensive plan with specific goals, actions, and timeframes. The plan should:

- heighten awareness about pain and its health consequences;
- emphasize the prevention of pain;
- improve pain assessment and management in the delivery of healthcare and financing programs of the federal government;
- use public health communication strategies to inform patients on how to manage their own pain; and
- address disparities in the experience of pain among subgroups of Americans.

Better data are needed to help shape efforts. Although pain is known to be prevalent across society, reliable data are lacking on the full scope of the problem, especially among those currently underdiagnosed and undertreated, including racial and ethnic minorities; people with lower levels of income and education; women, children, and older people; military veterans; surgery and cancer patients; and people at the end of life; among others. Therefore, the National Center for Health Statistics, Agency for Healthcare Research and Quality (AHRQ), other federal and state agencies, and private organizations should accelerate the collection of data on pain incidence, prevalence, and treatments. Data should be collected at regular intervals using standardized questions, protocols for surveys, and electronic medical records to identify the following information:

- subpopulations at risk;
- characteristics of acute and chronic pain;
- profound health consequences of pain, including death, disease, and disability; and
- related trends over time.

## Care of People with Pain

People with pain receive care in various ways, including assistance with self-management, primary care, specialty care, and pain clinics, among others. Treatments can include medications, surgery, behavioral interventions, psychological counseling, rehabilitative and physical therapy, and complementary and alternative therapies. For many people, however, pain prevention, assessment, and treatment are inadequate.

Among steps to improving care, healthcare providers should increasingly aim at tailoring pain care to each person's experience, and self-management of pain should be promoted. Also, primary care physicians—who handle most front-line pain care—should collaborate with pain specialists in cases where pain persists. Public and private insurers can help by offering incentives to support the delivery by primary care providers of coordinated, evidence-based, interdisciplinary pain assessment and care for persons with complex pain.

A number of barriers—including regulatory, legal, institutional, financial, and geographical barriers—limit the availability of pain care and contribute to the disparities found among some groups. Government agencies, healthcare providers, and public and private funders of health care should adopt a comprehensive, strategic approach to reduce or eliminate these barriers.

## Education Challenges

Across health care and society alike, there are major gaps in knowledge about pain. Educating health professionals about how to better understand pain and its causes will help bridge these gaps.

To improve patient and public understanding of pain, federal agencies and other stakeholders should redesign education programs. They should aim to foster an understanding among patients, the public, and healthcare providers that there are complex biological and psychosocial aspects

**Among steps to improving care, healthcare providers should increasingly aim at tailoring pain care to each person's experience and self-management of pain should be promoted. Also, primary care physicians—who handle most front-line pain care—should collaborate with pain specialists in cases where pain persists.**

to pain, and they should develop materials about the nature of pain; ways to use self-help strategies to prevent, cope with, and reduce pain; and available treatments for pain. The materials should be specifically targeted to patients, the public, and healthcare providers.

To increase understanding among the array of health professionals who deal with pain, undergraduate and graduate training programs should offer standardized information about pain and include experience in caring for pain in interprofessional settings. Improving education is especially important for primary care providers, given their key role in pain management. In addition, all care providers should keep their knowledge current by engaging in continuing education programs; and licensure, certification, and recertification examinations should include assessments of providers' pain education.

## **Research Challenges**

Research has made remarkable strides in understanding the biological, cognitive, and psychological underpinnings of pain, and the future promises advances in a number of fields—from genomic and cellular through behavioral mechanisms. Still, many gaps persist, and developing more effective and less risky pain relievers remains a major challenge. Additional challenges exist when trying to use advances in the implementation sciences to help translate effective treatments from research into practice and to adapt the regulatory process

to enable more efficient evaluation and approval of potentially effective therapies. This will be especially important as personalized medicine approaches to pain management develop. At present, however, federal dollars for pain research are in short supply and likely to decrease. Moreover, the responsibility for pain research is spread thin.

The committee recommends that an existing NIH institute be designated the lead institute for pain. It also recommends that the NIH Pain Consortium take a stronger leadership role in effecting the necessary transformation in how pain research is conducted, by fostering coordination across institutes and centers, by improving study section decision making on pain proposals, and by exploring a range of potential public-private initiatives.

The need for pain-related research is not confined to the NIH. Research into the prevention, occurrence, and costs of pain and the delivery and financing of pain treatment are of concern to many public health entities, for example, the Centers for Disease Control and Prevention, for epidemiological data and public education strategies; AHRQ, for quality improvement; the Health Resources and Services Administration, with respect to professional education and service delivery for vulnerable populations; and the Centers for Medicare and Medicaid Services, for reimbursement-related research and demonstration programs.



## Committee on Advancing Pain Research, Care, and Education

**Philip A. Pizzo** (Chair)  
Dean, Carl and Elizabeth  
Naumann Professor of Pediatrics  
and of Microbiology and Im-  
munology, Stanford University  
School of Medicine, Stanford, CA

**Noreen M. Clark** (Vice Chair)  
Myron E. Wegman Distin-  
guished University Professor;  
Director, Center for Managing  
Chronic Disease, University of  
Michigan, Ann Arbor, MI

**Olivia Carter-Pokras**  
Associate Professor, Depart-  
ment of Epidemiology and Bio-  
statistics, University of Maryland  
College Park School of Public  
Health, College Park, MD

**Myra Christopher**  
President and CEO, Kathleen M.  
Foley Chair in Pain and Pallia-  
tive Care, Center for Practical  
Bioethics, Kansas City, MO

**John T. Farrar**  
Associate Professor of Epide-  
miology; Director, Master of  
Science in Clinical Epide-  
miology, Center for Clinical  
Epidemiology and Biostatistics,  
University of Pennsylvania,  
Philadelphia, PA

**Kenneth A. Follett**  
Professor and Chief of Neuro-  
surgery, Division of Neurosur-  
gery, University of Nebraska  
Medical Center, Omaha, NE

**Margaret M. Heitkemper**  
Elizabeth Sterling Soule Chair;  
Professor and Chairperson,  
Department of Biobehavioral  
Nursing and Health Systems,  
University of Washington,  
Seattle, WA

**Charles Inturrisi**  
Professor of Pharmacology,  
Weill Cornell Medical College,  
Pharmacology, New York, NY

**Francis Keefe**  
Professor, Department of  
Psychiatry and Behavioral  
Sciences; Director, Duke Pain  
Prevention and Treatment  
Research Program, Professor of  
Psychology and Neuroscience,  
Durham, NC

**Robert D. Kerns**  
National Program Director for  
Pain Management, VA Central  
Office; Director, Pain Research,  
Informatics, Medical Comorbid-  
ities, and Education (PRIME)  
Center, VA Connecticut; Profes-  
sor of Psychiatry, Neurology  
and Psychology, Yale University  
PRIME Center, VA Connecti-  
cut Healthcare System, West  
Haven, CT

**Janice S. Lee**  
Associate Professor, Depart-  
ment of Oral and Maxillofacial  
Surgery, School of Dentistry,  
University of California, San  
Francisco, CA

**Elizabeth Loder**  
Chief, Division of Headache  
and Pain, Department of  
Neurology, Brigham and  
Women's and Faulkner Hos-  
pitals; Associate Professor of  
Neurology, Harvard Medical  
School, Boston, MA

**Sean Mackey**  
Associate Professor, Depart-  
ments of Anesthesia, Neurosci-  
ence and Neurology; Chief for  
the Division of Pain Manage-  
ment, Stanford University School  
of Medicine, Palo Alto, CA

**Rick Marinelli**  
Naturopathic Physician and  
Acupuncturist Clinic Direc-  
tor, Natural Medicine Clinic,  
Portland Vein Clinic; Diplomate,  
American Academy of Pain  
Management; Commissioner,  
Oregon Pain Management  
Commission, Portland, OR

**Richard Payne**  
Professor of Medicine and Di-  
vinity, Esther Colliflower Direc-  
tor, Duke Institute on Care at  
the End of Life, Duke University  
Divinity School, Durham, NC

**Melanie Thernstrom**  
Contributing Writer, *The New  
York Times Magazine*, Vancou-  
ver, WA

**Dennis C. Turk**  
John and Emma Bonica Profes-  
sor of Anesthesiology and  
Pain Research; Director, Center  
for Pain Research on Impact,  
Measurement, and Effective-  
ness (C-PRIME), Department  
of Anesthesiology & Pain Medi-  
cine, University of Washington,  
Seattle, WA

**Ursula Wesselmann**  
Edward A. Ernst Endowed Pro-  
fessor of Anesthesiology, Pro-  
fessor of Neurology, University  
of Alabama at Birmingham,  
Department of Anesthesiol-  
ogy, Division of Pain Medicine,  
Birmingham, AL

**Lonnie Zeltzer**  
Director, Pediatric Pain  
Program, Mattel Children's  
Hospital at UCLA; Professor  
of Pediatrics, Anesthesiology,  
Psychiatry and Biobehavioral  
Sciences, David Geffen School  
of Medicine at the University of  
California, Los Angeles, CA

### Study Staff

**Adrienne Stith Butler**  
Study Director

**Jing Xi**  
Research Associate

**Thelma L. Cox**  
Senior Program Assistant

**Andrew M. Pope**  
Director, Board on Health  
Sciences Policy

**Donna Randall**  
Assistant, Board on Health  
Sciences Policy

**Victoria Bowman**  
Financial Associate

### Study Sponsor

The National Institutes of Health

Revised March 2012

## Blueprint for Action

The committee offers a blueprint for action in transforming prevention, care, education, and research, with the goal of providing relief for people with pain in America. The blueprint prioritizes the committee's recommendations. While some recommendations should be implemented by the end of 2012—including developing a comprehensive strategy, developing strategies to reduce barriers in care, supporting collaboration between pain specialists and primary care clinicians, and designating a lead institute at the NIH that is responsible for moving pain research forward—all other recommended actions must build on these short-term achievements and should be taken soon afterward. These other actions must be ongoing efforts that should be firmly developed and put in place by the end of 2015.

The strategy should be comprehensive in scope, inclusive in its development, expeditious in its implementation, and practical in its application. Most importantly, the strategy must be far-reaching. As evidenced in this report, pain is a major driver for visits to physicians and other healthcare providers, a major reason for taking medications, a major cause of disability, and a key factor in quality of life and productivity. Given the burden of pain in human lives, dollars, and social consequences, relieving pain should be a national priority. 26

## INSTITUTE OF MEDICINE

OF THE NATIONAL ACADEMIES

Advising the nation • Improving health

500 Fifth Street, NW  
Washington, DC 20001

TEL 202.334.2352

FAX 202.334.1412

[www.iom.edu](http://www.iom.edu)

The Institute of Medicine serves as adviser to the nation to improve health.

Established in 1970 under the charter of the National Academy of Sciences, the Institute of Medicine provides independent, objective, evidence-based advice to policy makers, health professionals, the private sector, and the public.

Copyright 2011 by the National Academy of Sciences. All rights reserved.