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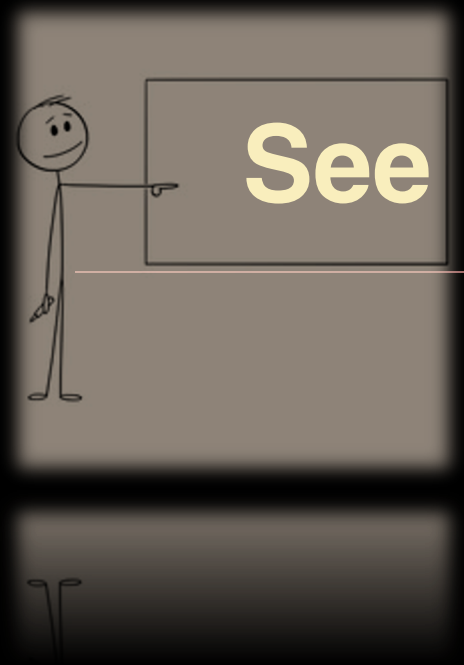


See One, Do One, Be One

Patricia Tsui, PhD

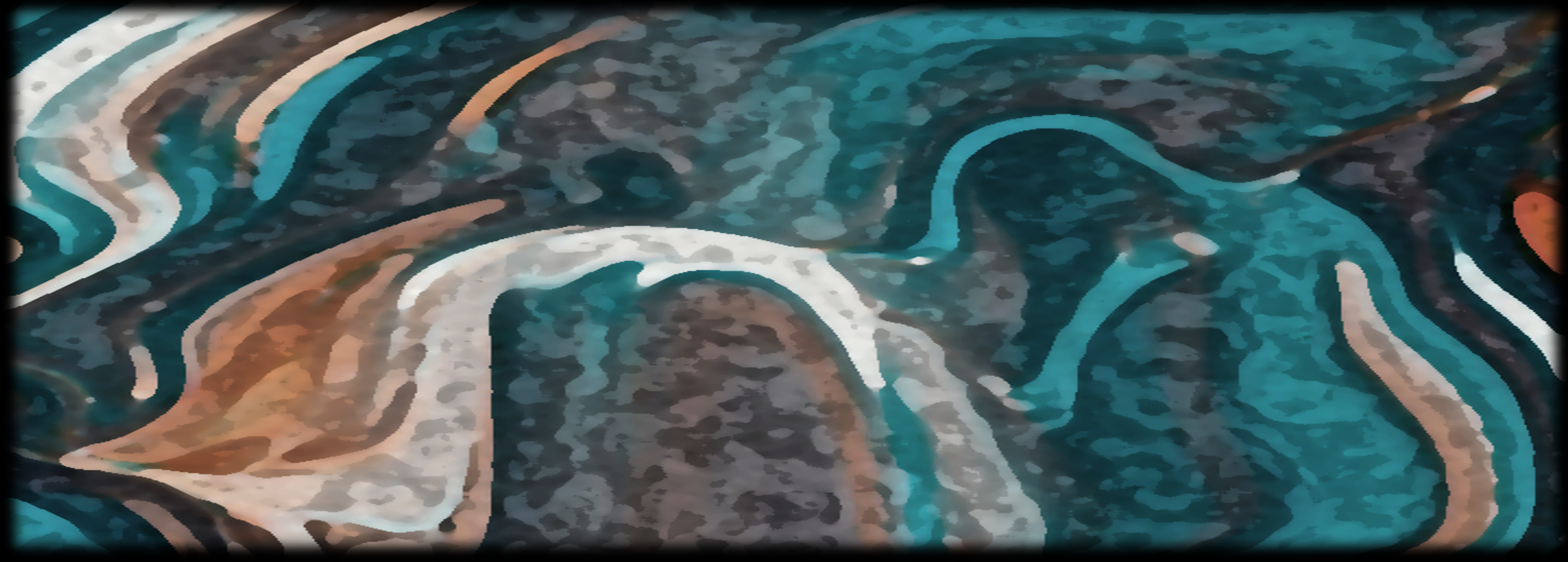
Kevin L. Zacharoff, MD, FACPE, FACIP, FAAP

Disclosures

- Nothing to Disclose

Learning Objectives

- Describe the need to educate future health care professionals about pain and Substance Use Disorders (SUDs)
- Describe guidelines and recommendations for pain education
- Identify resources to develop a pain and SUD education program for students
- Review challenges that may arise when implementing this type of program and how to overcome potential barriers
- Explain how to conduct a pain and SUDs course face-to-face and online



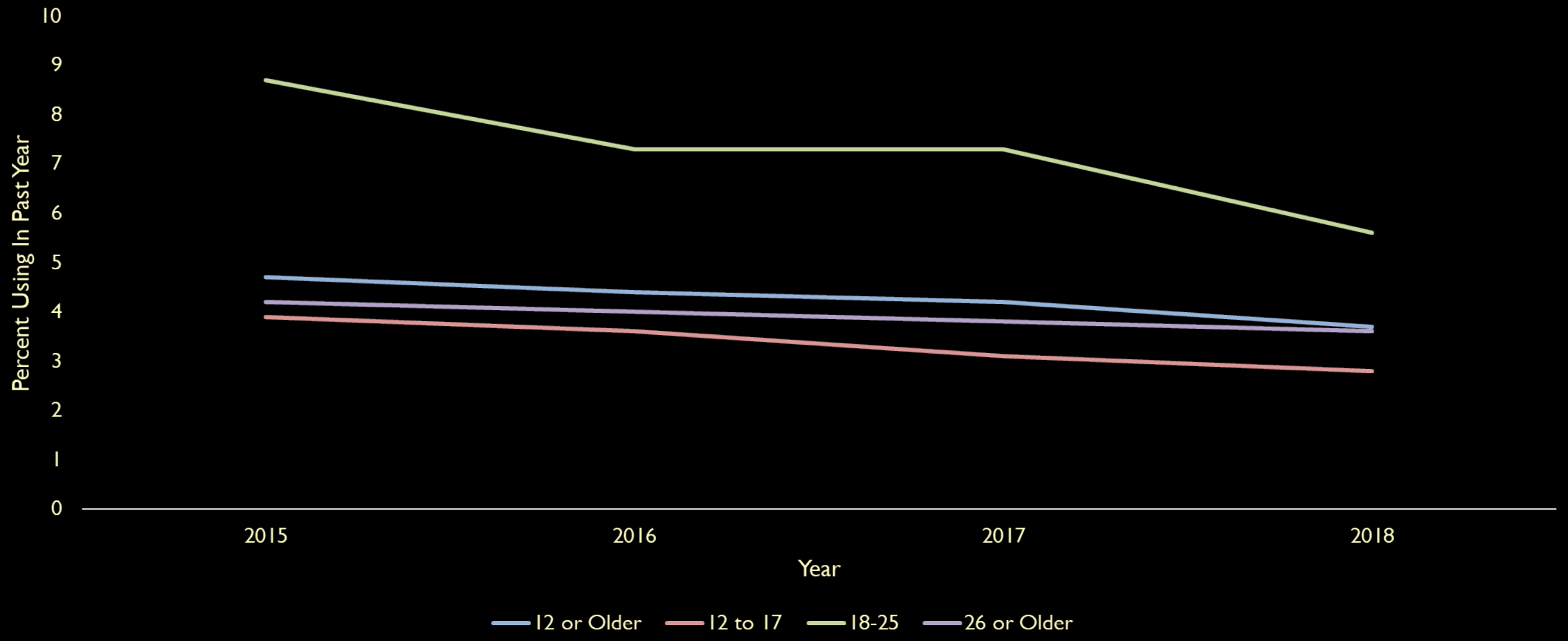
Background

Chronic Pain and Opioid Use Disorders

- According to the National Health Interview Survey (2016), chronic pain is experienced by 50 million Americans or 20.4% of the U.S. population
- U.S. Department of Health and Human Services data suggest that at least 2 million Americans have an OUD involving prescribed opioids and nearly 600,000 have an OUD involving heroin, with about 90 Americans dying every day from overdoses that involve an opioid
- According to the National Survey on Drug Use and Health data, 9.9 million people 12+ y/o in 2018 misused prescription pain relievers in the past year

1. Dahlhamer, J. et al. Prevalence of Chronic Pain and High Impact Chronic Pain Among Adults - United States, MMWR 2016.
2. National Academies of Sciences, Engineering, and Medicine. 2017. Pain Management and the Opioid Epidemic: Balancing Societal and Individual Benefits and Risks of Prescription Opioid Use. Washington, DC: The National Academies Press. doi: https://doi.org/10.17226/24781.
3. Substance Abuse and Mental Health Services Administration. (2019). Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health (HHS Publication No. PEP19-5068, NSDUH Series H-54). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from https://www.samhsa.gov/data/

Past Year Opioid Misuse among People Aged 12 or Older: 2015-2018



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Substance Abuse and Mental Health Services Administration. (2019). Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health (HHS Publication No. PEP19-5068, NSDUH Series H-54). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from https://www.samhsa.gov/data/ (p. 23)

Centers for Disease Control and Prevention

MMWR

Morbidity and Mortality Weekly Report

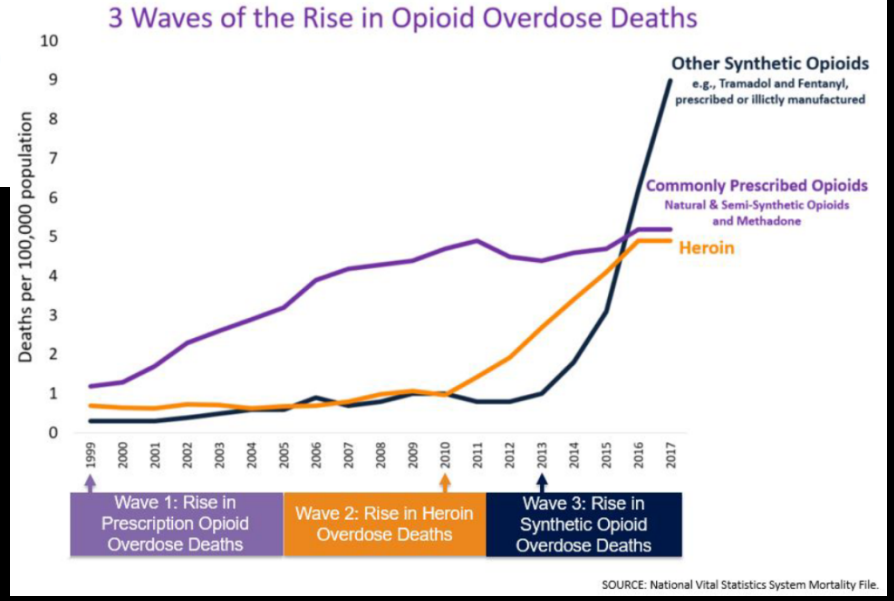
Weekly / Vol. 68 / No. 34

August 30, 2019

Changes in Opioid-Involved Overdose Deaths by Opioid Type and Presence of Benzodiazepines, Cocaine, and Methamphetamine — 25 States, July–December 2017 to January–June 2018

R. Matt Gladden, PhD[1]; Julie O'Donnell, PhD[1]; Christine L. Mattson, PhD[1]; Puja Seth, PhD[1]

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention



- **Three major changes in opioid deaths from July–December 2017 to January–June 2018 were identified:**
  - Overall decreases in opioid overdose deaths
  - Decreases in both prescription opioid deaths without co-involved illicit opioids and non-IMF* illicit synthetic opioids (i.e., fentanyl analogs and U-series* drugs) deaths
  - Increases in IMF deaths, especially those with heroin, fentanyl analogs or non-opioid drugs
  - ***At least one non-opioid drug*** (benzodiazepine, cocaine, or methamphetamine) was present in the majority of opioid deaths

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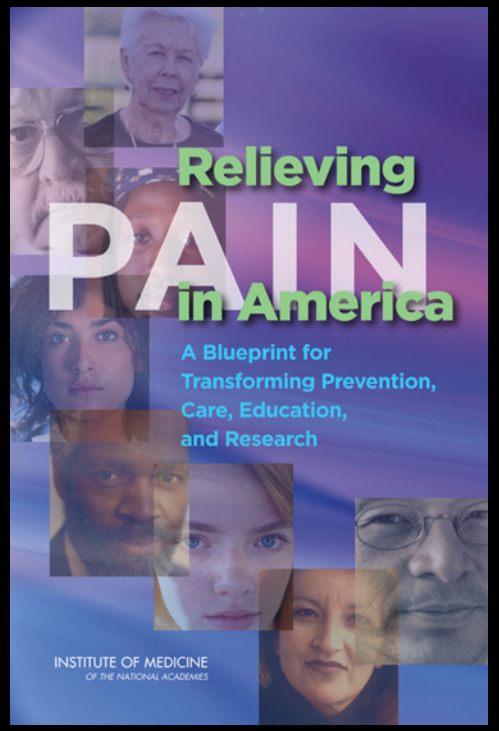
1. * IMF = Illicitly Manufactured fentanyl
2. *U-series drugs = Are novel non-fentanyl-related synthetic opioids with no authorized medical uses

Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research – 2011

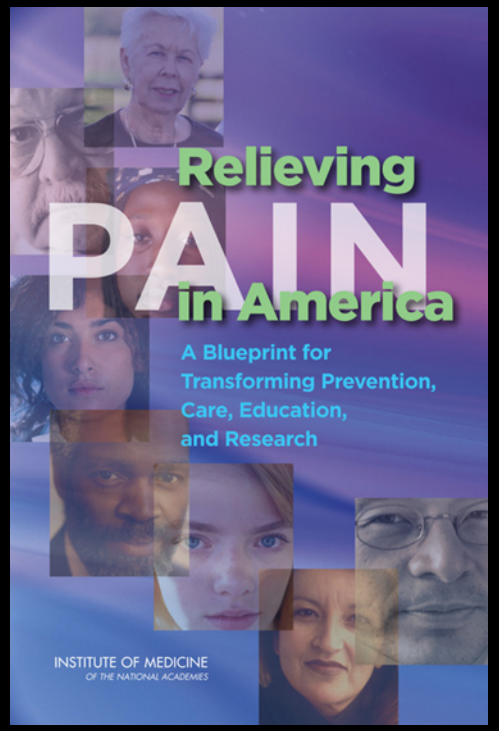
- *"Our committee recognizes the need for a transformed understanding of pain. We believe pain arises in the nervous system but represents a complex and evolving interplay of biological, behavioral, environmental, and societal factors that go beyond simple explanation"*

- *"We also see the importance of approaching the individual within the broader domain of cultural diversity and of recognizing the subpopulations that are most affected by chronic pain and develop strategies to address their needs"*



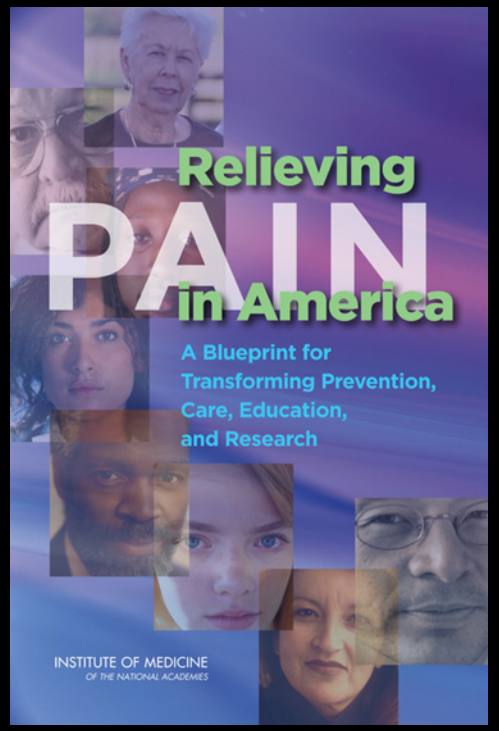
Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research – 2011

- Pain is a uniquely individual and subjective experience that depends on a variety of biological, psychological, and social factors, and different population groups experience pain differentially
- For many patients, treatment of pain is inadequate not just because of uncertain diagnoses and societal stigma, but also because of shortcomings in the availability of effective treatments and inadequate patient and clinician knowledge about the best ways to manage pain
- Some answers will come from exciting new research opportunities, but changes in the care system also will be needed for patients' pain journeys to be shorter and more successful



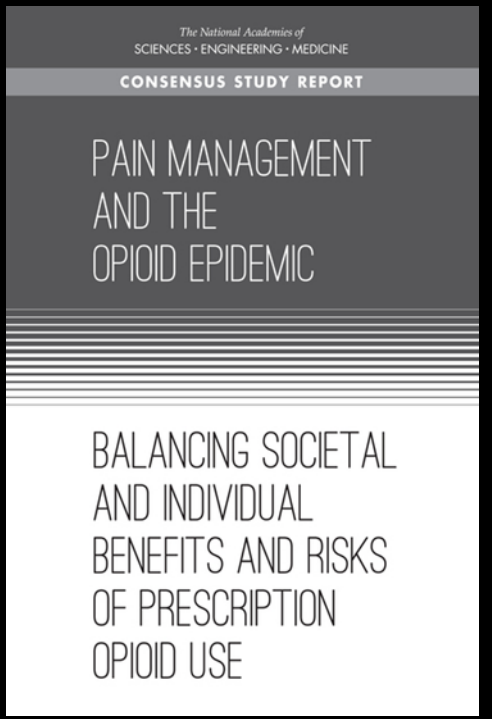
Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research – 2011

- The value of comprehensive treatment
- The need for interdisciplinary approaches
- The importance of prevention – not something we've spoken much about
- Wider use of existing knowledge
- The opioid conundrum…
- Roles for clinicians *and* patients
- Value of public health and community-based approach
  - *Disparities*
  - *EDUCATION*



Balancing Societal and Individual Benefits and Risks of Prescription Opioid Use – 2017

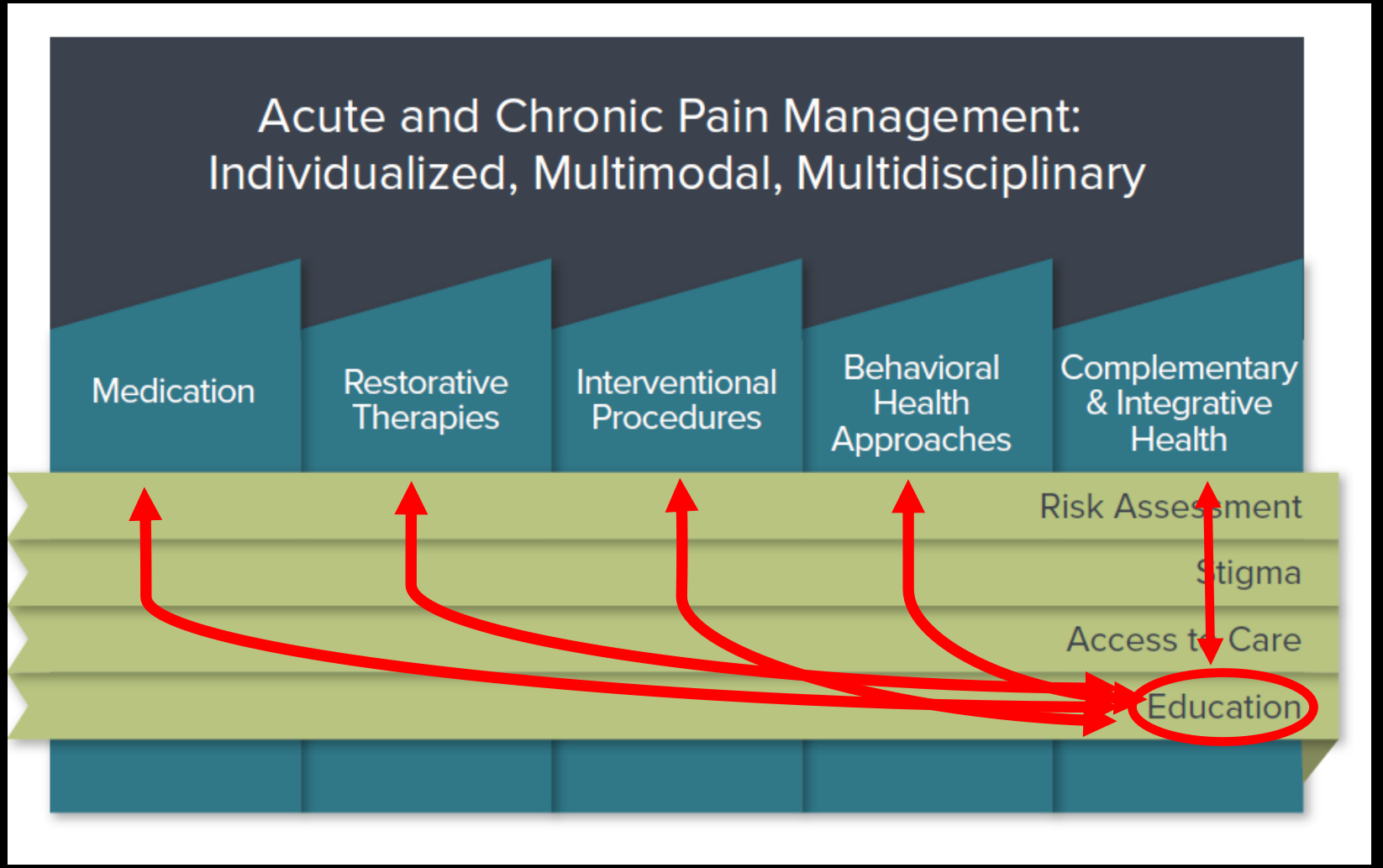
- *Invest in research* to better understand pain and opioid use disorder
- *Consider potential effects of policies and programs* for opioid analgesics on illicit markets
- Improve *reporting*, invest in *data*, provide *transparency*
- *Incorporate public health considerations* into FDA decision-making
- Establish *comprehensive educational materials* for patients and healthcare providers
- *Evaluate impact of patient and public education*
- *Expand medical school education* about pain treatment and opioid use disorder



Pain Management Best Practices Inter-Agency Task Force – 2019

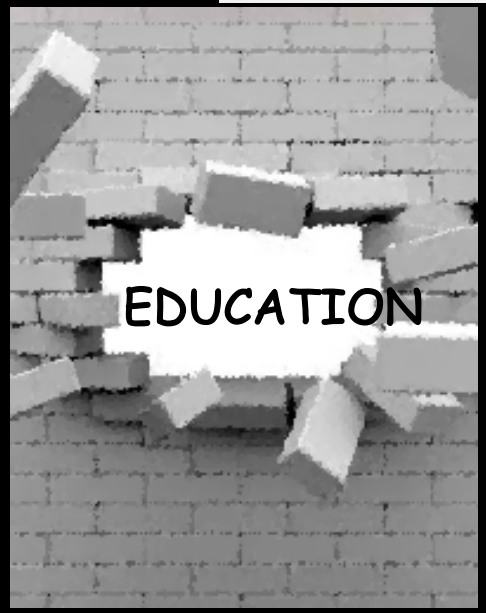
- A patient-centered pain treatment plan must establish a diagnosis and a treatment plan that focuses on measurable outcomes including:
  - Quality of life
  - Functionality
  - Activities of daily living
- Utilizing a multimodal approach
- Utilizing a multidisciplinary approach
  - Restorative
  - Behavioral
  - Interventional
  - Complementary and alternative
- Consider the needs of special patient populations
- Risk Assessment
- Mitigation of stigmatization
- Education at all levels of clinician training – *starting with medical school*
- Access to care for pain *and* substance use disorders
- Research

Treatment Approaches Informed by Four Critical Topics



Recommendations

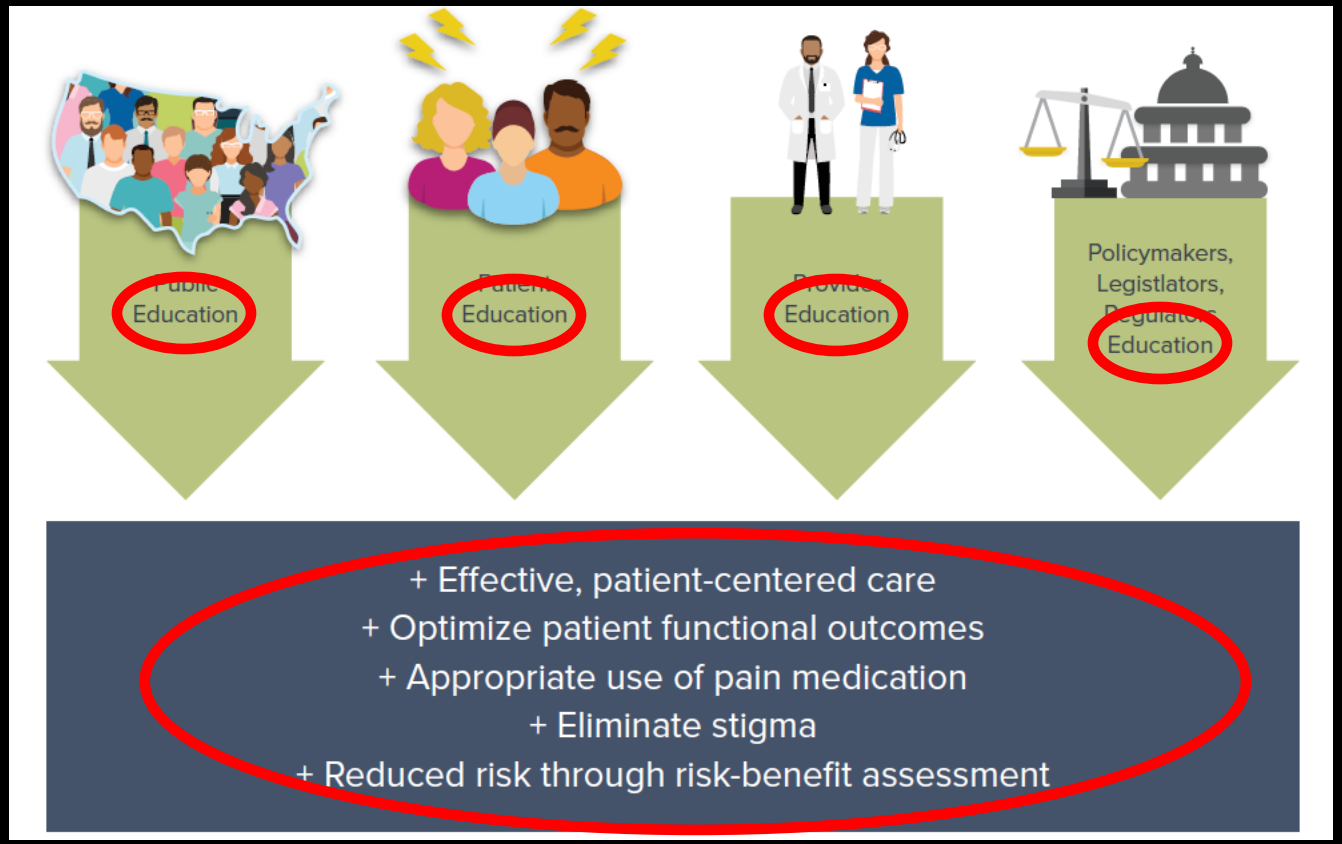
"Increase patient, physician, clinician, non-clinical staff, and societal education on the underlying disease processes of acute and chronic pain to reduce stigma"



Recommendations

"Increase patient, physician, clinician, non-clinical staff, and societal education on the disease of addiction"

Does Education Make a Difference?



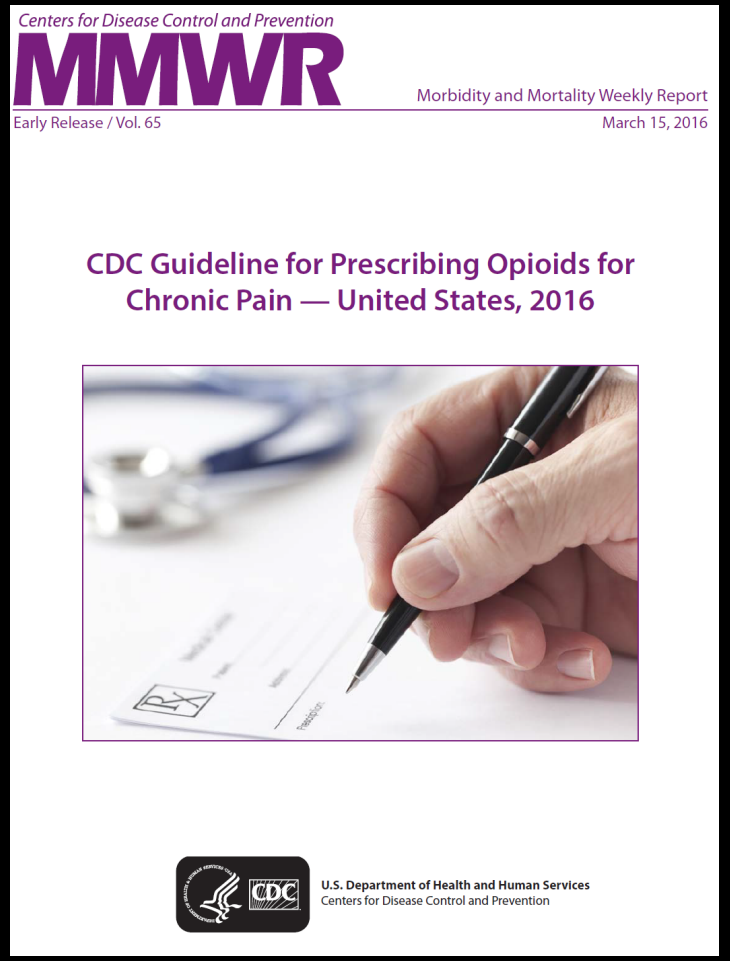
It's all About the Education

- "*Public, patient, provider, and policymaker education is critical to the delivery of effective, patient-centered pain management and necessary for optimizing patient outcomes, promoting appropriate use of pain medication, and reducing the risk associated with prescription opioids*
- *This common theme is underscored across many federal reports… These reports consistently describe the extent to which pain and SUD education is insufficiently covered in medical education and training programs, which has a downstream impact on the extent to which patients are educated about pain and SUD*"

U.S. Department of Health and Human Services (2019, May). Pain Management Best Practices Inter-Agency Task Force Report: Updates, Gaps, Inconsistencies, and Recommendations. Retrieved from U. S. Department of Health and Human Services website: https://www.hhs.gov/ash/advisory-committees/pain/reports/index.html Accessed August 23, 2020.

The CDC Guidelines

- The Center for Disease Control and Prevention (CDC) will also work with partners to support clinician education on pain management options, opioid therapy, and risk mitigation strategies (e.g., urine drug testing)
- These strategies include strengthening the evidence base for pain prevention and treatment strategies, reducing disparities in pain treatment, improving service delivery and reimbursement, supporting professional education and training

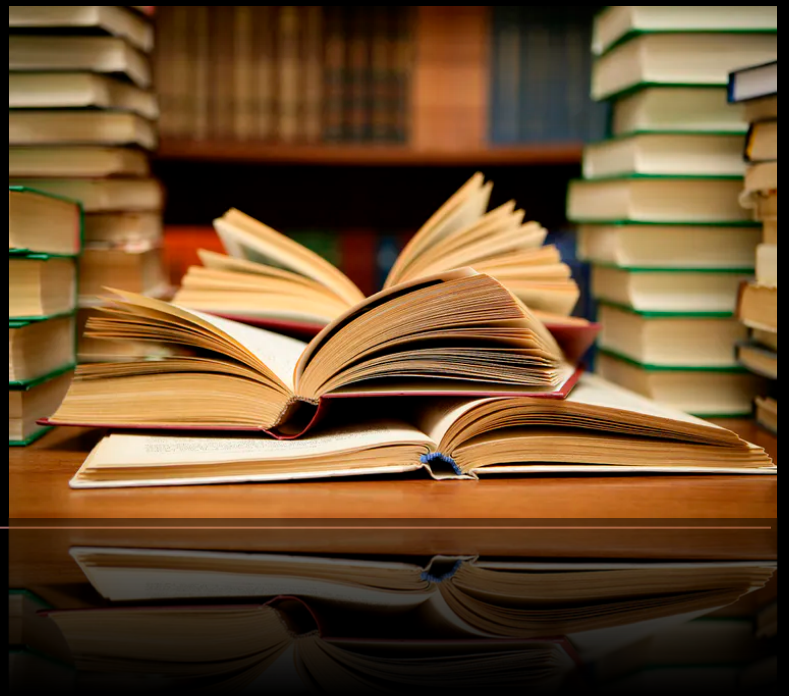


Needs Assessment

- There is little to no training in the areas of:
  - Pain assessment
  - Treatment planning
  - The role of biopsychosocial approaches to managing chronic pain
  - Opioid risk mitigation
  - Aberrant drug-related behaviors
    - Substance Use Disorder
    - Opioid Use Disorder
    - Misuse
    - Abuse
  - Addiction

Is it "***The Best Analgesic***"?

Is it ***Happening*** in Our Training Programs?



The Burning Question: Pain Education

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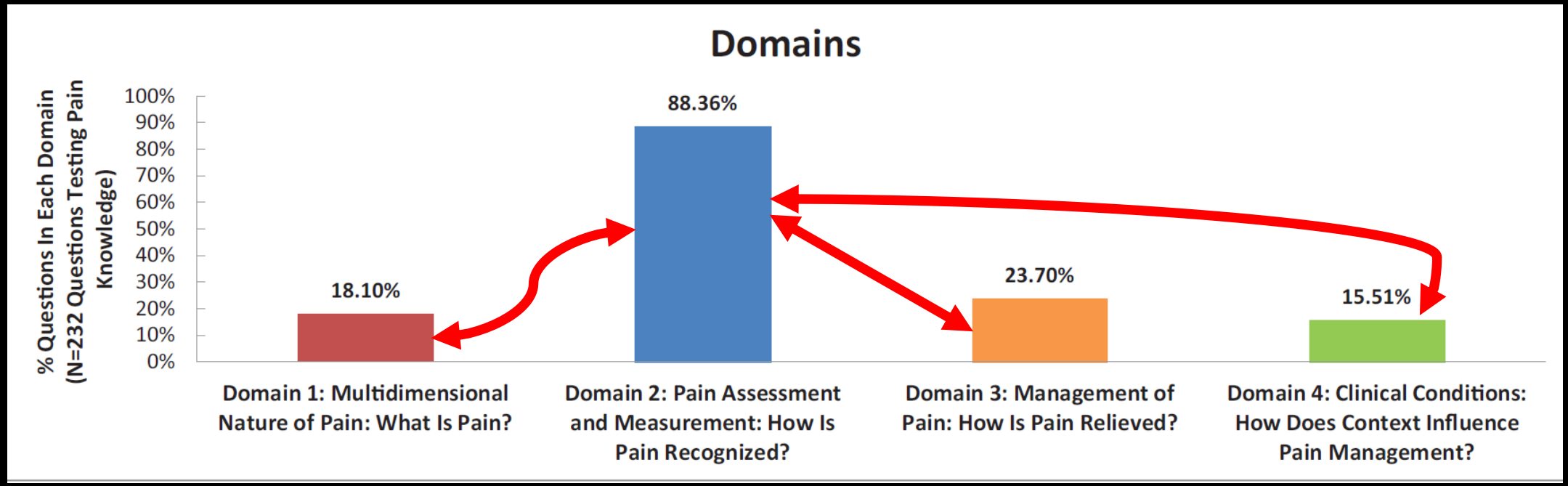
The Need to Educate Future Clinicians

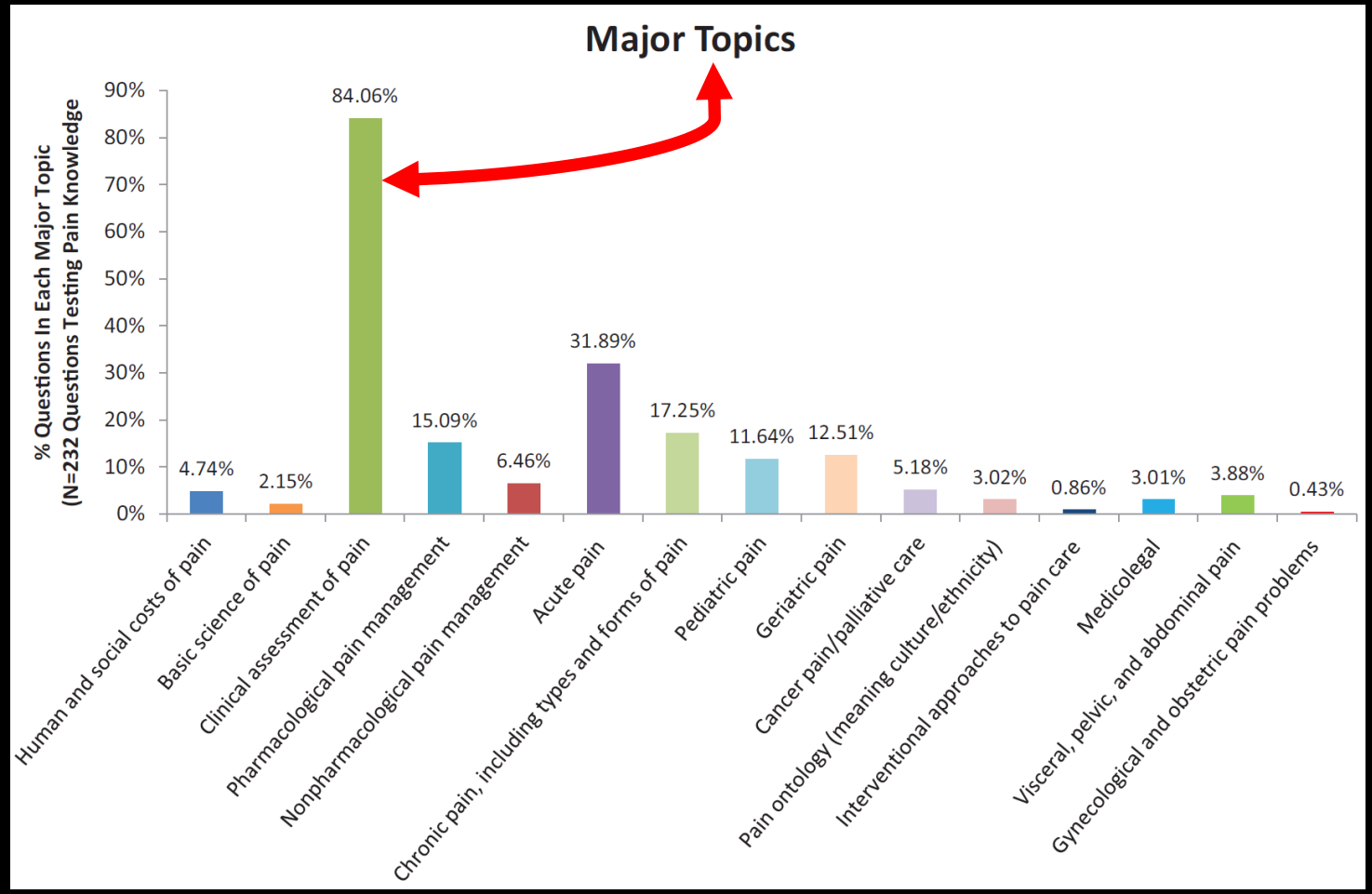
- **An assessment of United States Medical Licensing Examination (USMLE) questions: 15.4% of 1,506 questions reviewed (*232*) were related to pain**
  - The majority (88%) focused on assessment rather than safe and effective pain management of the context of pain



Fishman SM, Carr DB, Hogans B, et al. Scope and Nature of Pain and Analgesia-Related Content of the United States Medical Licensing Examination (USMLE). *Pain Medicine*. 2018;19(3):449-459. doi:10.1093/pm/pnx336

Translation… Pain *is* the 5th Vital Sign

Questions on the USMLE about how pain is recognized vastly outnumbered those appraising the fundamental understanding of pain as a biopsychosocial process or safe and effective pain management



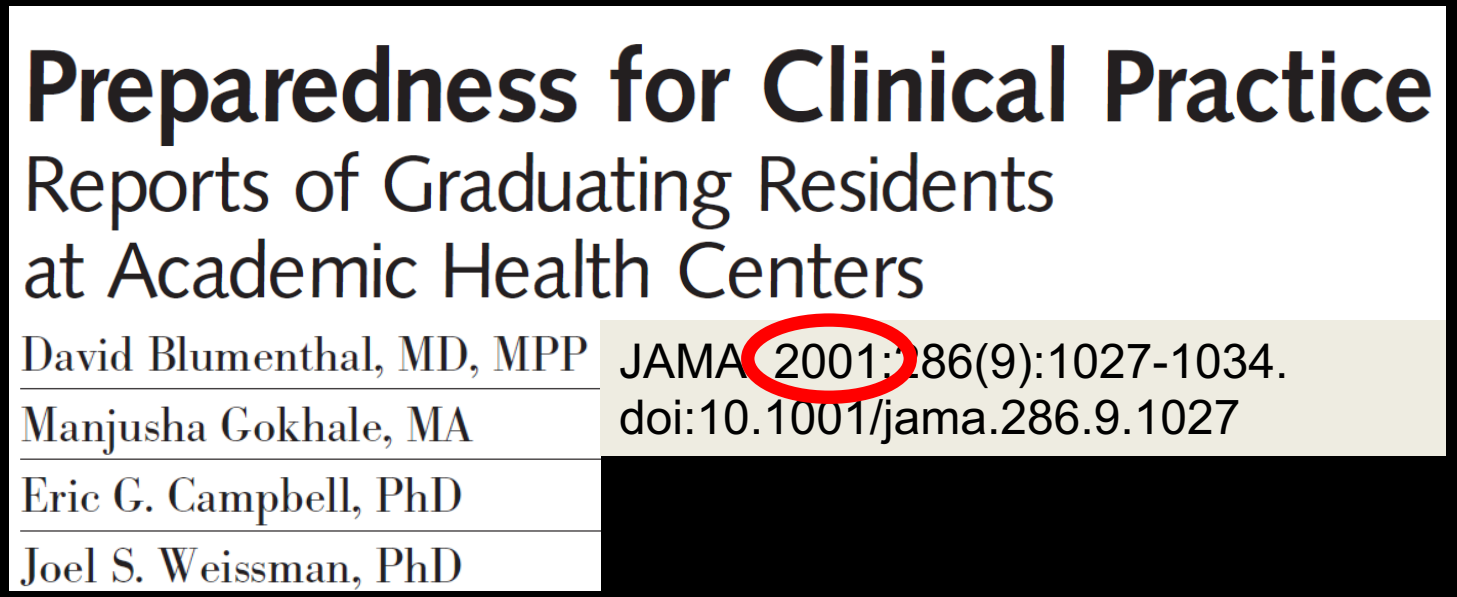
Fishman SM, Carr DB, Hogans B, et al. Scope and Nature of Pain and Analgesia-Related Content of the United States Medical Licensing Examination (USMLE). *Pain Medicine*. 2018;19(3):449-459. doi:10.1093/pm/pnx336

The Consequences of Educational Deficits

- Clinicians may find it challenging learning how to develop effective pain management treatment plans
- Even fewer will know how to assess and treat co-morbid pain and Substance Use Disorder (SUD)
- Stigma – potential to treat everyone who is prescribed opioid analgesics as if they have a problematic relationship with pain medications
- Even though ongoing pain and SUD training is more prevalent, much more needs to be done *especially* in the undergraduate medical education curriculum

Caught Unprepared?

- A national survey of 2,626 US medical residents completing training in specialties where pain management is an essential component reported that approximately 50% felt only “somewhat prepared” to counsel patients about pain management and approximately 25% felt “somewhat unprepared” or “very unprepared”



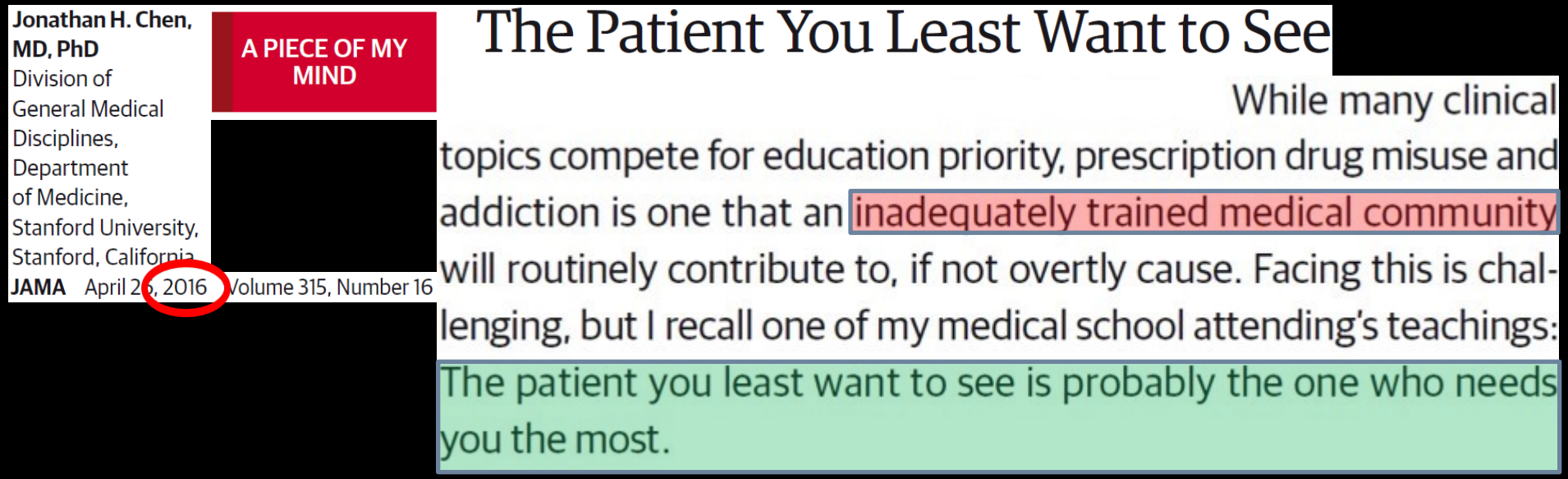
Preparedness for Clinical Practice

Reports of Graduating Residents at Academic Health Centers

David Blumenthal, MD, MPP
Manjusha Gokhale, MA
Eric G. Campbell, PhD
Joel S. Weissman, PhD

JAMA. 2001;286(9):1027-1034.
doi:10.1001/jama.286.9.1027

Does Lack of Education Lead to Avoidance?



Jonathan H. Chen, MD, PhD
Division of General Medical Disciplines, Department of Medicine, Stanford University, Stanford, California

JAMA April 26, 2016 Volume 315, Number 16

A PIECE OF MY MIND

The Patient You Least Want to See

While many clinical topics compete for education priority, prescription drug misuse and addiction is one that an inadequately trained medical community will routinely contribute to, if not overtly cause. Facing this is challenging, but I recall one of my medical school attending's teachings:

The patient you least want to see is probably the one who needs you the most.

"[A] Lack of consistency existed in practice patterns across (and sometimes within) different physicians [and practices]…"

The U.S. Doesn't Own Educational Deficits

- *"96% of medical schools in the UK and USA and nearly 80% of medical schools in Europe had no compulsory dedicated teaching in pain medicine"*
- *"This systematic review has revealed that pain medicine education at medical schools internationally does not adequately respond to societal needs in terms of the prevalence and public health impact of inadequately managed pain"*

Pain Ther (2018) 7:139–161
https://doi.org/10.1007/s40122-018-0103-z

CrossMark

REVIEW

Systematic Review of Pain Medicine Content, Teaching, and Assessment in Medical School Curricula Internationally

Elspeth E. Shipton · Frank Bate · Raymond Garrick · Carole Steketee · Edward A. Shipton · Eric J. Visser

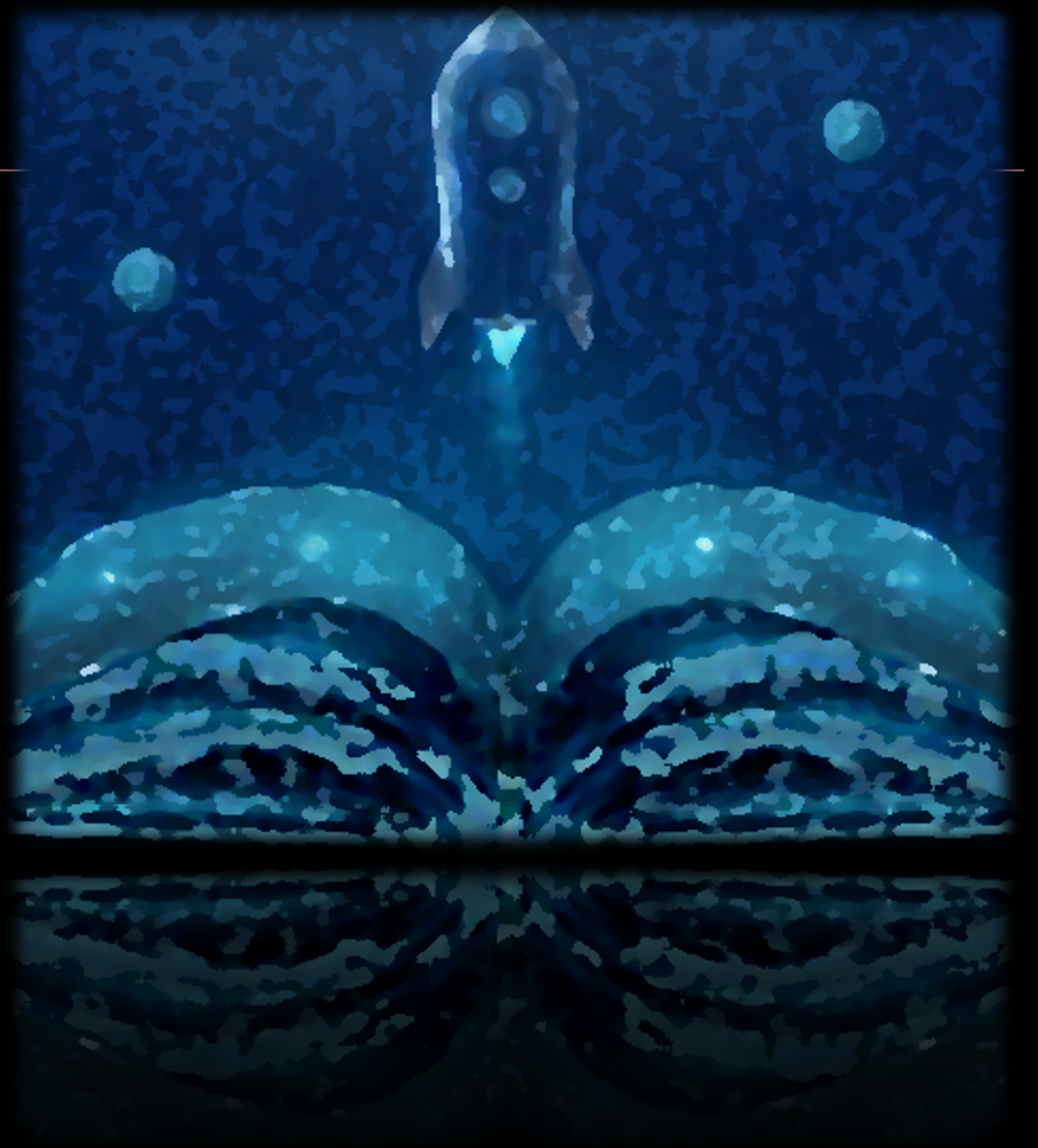
"A framework is needed to assist medical schools implement defined pain medicine curricula with specified learning objectives that focus on connecting scientific content and activity with professional practice using transformative teaching and assessment methods"

What We Were Hoping to Accomplish

- Explore how the opioid epidemic developed and resulted in part from a perpetuation of over-reliance on opioid pain medications or undertreated pain
- Provide education about pain and addiction and neurobiological mechanisms that drive addictive behaviors
- Contrast the biomedical and biopsychosocial models of pain management
- Develop awareness and sensitivity for vulnerable populations
- Develop tools to communicate with patients who experience chronic pain

Underlying Goals

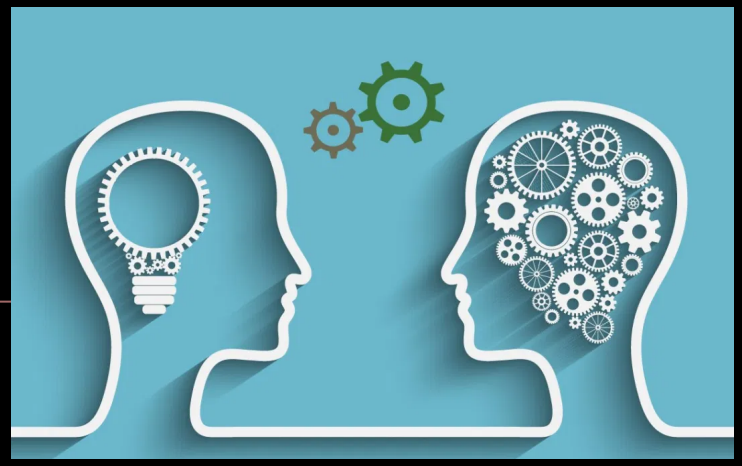
- Present students with an interprofessional clinical perspective devoted to helping understand:
  - The value of and importance of a team-based approach
  - Utilization of both biomedical and biopsychosocial approaches to pain management
  - Specific social contexts of pain, substance use disorder, and addiction



Course Development

- Meetings to establish goals, instructional strategies, class format, and topics covered
- Interprofessional component identified as key
- Faculty/Director of Assessment and Education/Student Meetings
  - Needs assessment
  - Goals and expectations
  - Practical considerations
    - Course length
    - Teaching methods
    - Faculty
    - Resource Material Selection
    - Class size
    - Etc.
  - Proposal submission to Curriculum Committee

Approach



Comprehensive Review of Existing Pain curricula in U.S. and Canadian Medical Schools

Examined the Existing Stony Brook Medicine Curriculum to Identify Coverage of Pain and Addiction Topics

Collaborated with an Interprofessional Team to Create a 4-week Course Titled *Addiction and Pain*

Three Distinct Phases of "Potential" Education

Phase I
Foundational Phase

- Biochemistry
- Intro to Clinical Medicine
- Mind, Brain, and Behavior

Phase II
Primary Clinical Phase

- Anesthesiology
- Internal Medicine
- Psychiatry

Phase III
Advanced Clinical Phase

- Addiction and Pain Elective

Existing Curriculum Analysis

- Students had minimal exposure to topics related to pain and addiction throughout existing curriculum of preclinical and clinical education in Phases I and II
- **LEARN** Curriculum:
  - ***L****earning focused*
  - ***E****xperiential*
  - ***A****daptive*
  - ***Ri****gorous*
  - ***N****ovel*)

The Course – Pain and Addiction

- Four-week course for Phase III/MS4 students
- Total course length - 32 hours
  - 8 hours of class each week consisting of two 3-hour didactic sessions and one 2-hour session of interactive clinical case-related content
  - Clinical cases facilitated by students
- Expertise was drawn primarily from Pain Medicine, Psychiatry, and Pain Psychology
- 4th – year student input
- ADDIE Course Development Model©
  - ***A***nalysis
  - ***D***esign
  - ***D***evelopment
  - ***I***mplementation
  - ***E***valuation

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Course Structure and Organization

- **Overarching Course Objectives**
  - **Patient Care**
    - Apply clinical problem-solving skills in order to appropriately assess and manage patients with pain and/or substance use disorder
  - **Medical Knowledge**
    - Integrate clinical knowledge of both biomedical and biopsychosocial approaches to the assessment and treatment of chronic pain and opioid use disorders
  - **Interpersonal and Communication Skills**
    - Communicate clearly and professionally to patients and other members of the health care team in both oral and written formats, ways to successfully assess and treat pain and substance use disorders
  - **Professionalism**
    - Demonstrate professionalism in behavior, integrity, compassion, respect, altruism, responsibility, and cultural sensitivity

Syllabus

1. The Basics of Chronic Pain
2. The Role and Process of Patient/Caregiver Education in Safe and Effective Utilization of Opioid Analgesic Therapy
3. Non-Medical Substance Use, Substance Use Disorders, and Addiction
4. The Opioid Overdose Epidemic
5. Screening for Substance Use Disorders and Risk Assessment for use of Opioid Analgesics in the Treatment of Chronic Non-Cancer Pain
6. Criteria for the Appropriate use of Opioid Analgesics for the Treatment of Acute Pain
7. The Role of Multimodal and Multidisciplinary Treatment Options in the Treatment of Acute and Chronic pain
8. Restorative Therapies and Behavioral Health Approaches to Chronic Pain Treatment
9. Criteria for the Appropriate use of Opioid Analgesics for the Treatment of Chronic Non-Cancer Pain
10. Special Patient Populations
11. Interpersonal Skills and a Collaborative Physician-Patient Relationship
12. Best Practices

Assessment of Student Learning

- **Pre/Post Survey – 32 items**
  - Developed from existing validated tools to assess knowledge, attitudes and behavior in Primary Care Clinicians
    - KnowPain-50[1]
      - Assesses physician knowledge, attitudes, and beliefs in: 1) initial pain assessment; 2) defining goals and expectations; 3) development of a treatment plan; 4) implementation of a treatment plan; 5) reassessment and management of longitudinal care; and 6) management of environmental issues
    - Clinicians' Attitudes and Beliefs About Opioids Survey (CAOS)[2]
      - Assesses current and evolving beliefs regarding opioids and opioid use in patients with chronic pain using a nationally representative sample of providers from multiple medical specialties, e.g. orthopedics, physical medicine and rehabilitation, throughout the U.S.
    - Pain Practice Behavior Scale[3]
      - Measures the behaviors of pain practitioners who have experience working with chronic noncancer pain patients who are appropriate candidates for or are currently being treated with opioid therapy

1. Harris JM Jr1, Fulginiti JV, Gordon PR, Elliott TE, Davis BE, Chabal C, Kutob RM. KnowPain-50: a tool for assessing physician pain management education. *Pain Medicine*. 2008 Jul-Aug;9(5): Pages 542-54.
2. Hilary D. Wilson, Elizabeth J. Dansie, Myoung S. Kim, Bruce L. Moskovitz, Wing Chow, Dennis C. Turk. Clinicians' Attitudes and Beliefs About Opioids Survey (CAOS): Instrument Development and Results of a National Physician Survey. *The Journal of Pain.* Volume 14, Issue 6, June 2013, Pages 613-627.
3. Kimberlee J. Trudeau, Cristina Hildebrand, Priyanka Garg, Emil Chiauzzi, Kevin L. Zacharoff. A Randomized Controlled Trial of the Effects of Online Pain Management Education on Primary Care Providers. *Pain Medicine*. Volume 18, Issue 4, April 2017, Pages 680–692.

Where We Stand

- **Overall Positive Student Feedback**
- **Overall course evaluation results were consistent**
  - *Strongly Agree or Excellent* for all questions asked except for mid-course feedback
- **One recommendation for improvement:**
  - Less didactic, passive teaching for earlier sessions that could include more case-based learning

Where We Stand

- **Student Comments**
  - *“It was a really interesting and relevant topic and all the directors kept us engaged and touched on crucial topics. I think that it was well- structured and encouraged participating, which made it more enjoyable”*
  - *“The lectures were informative and often opened up to the students to discuss. Each day the Faculty prepared very interesting and important cases for the students to discuss.”*
  - *“Overall, I loved this class. As someone starting intern year in a few months, I KNOW I will use the tools, tips, and information I learned in this class.”*
  - *“This Course was outstanding and sorely needed, especially in today's climate. All 3 of the course directors were outstanding, bringing an integral piece of the puzzle to the table each day. I feel that this course should be mandatory for all students in medical school, not just the 8 or so who are lucky enough to get into this selective.”*

Final Thoughts

- *"Introducing pain education early in the preparation of health professionals emphasizes the value of improving quality of life and creates the potential to instill critical competencies that support the humanistic aspects of health care"*
- *"Moreover, early education related to pain offers the opportunity to reverse the disparity between what students are taught and what they face in practice related to pain"*
- *"Continuing to ignore pain as a substantial and critical part of the curriculum for health professionals stands in stark contrast to the importance of pain in society:*
  - *That pain is the most common reason a person seeks clinical care*
  - *That undertreated, over-treated, or ineffectively treated pain greatly impacts major public health problems such as disability, prescription drug abuse, or the overall cost of health care*
  - *That the cost of pain in terms of suffering is vast but immeasurable"*

Fishman, S. M., Young, H. M., Arwood, E. L., Chou, R., Herr, K., Murinson, B. B., Watt-Watson, J., Carr, D. B., Gordon, D. B., Stevens, B. J., Bakerjian, D., Ballantyne, J. C., Courtenay, M., Djukic, M., Koebner, I. J., Mongoven, J. M., Paice, J. A., Prasad, R., Singh, N., Sluka, K. A., St. Marie, B., Strassels, S. A. Core Competencies for Pain Management: Results of an Interprofessional Consensus Summit. *Pain Medicine*. Volume 14, 2013, p971-981.

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We Did It…

You Can Do Too!

Make Education the Solution