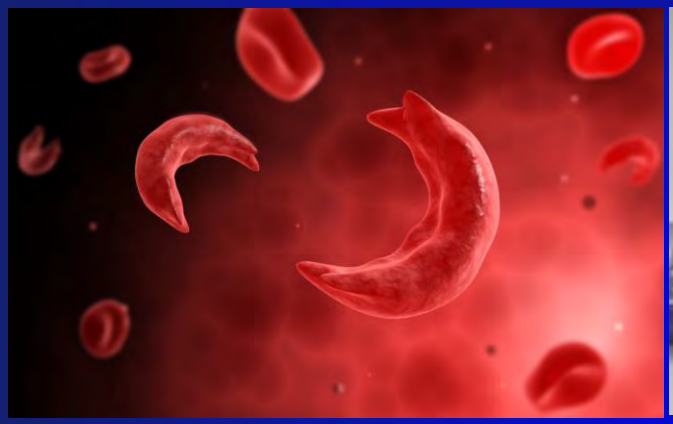
Effective Pain Management in Sickle Cell Disease



Wally R. Smith MD
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Virginia Commonwealth University

VIRGINIA COMMONWEALTH UNIVERSITY

Some slides courtesy Steve Prakken, MD, Deepika Darbari, MD

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- Enhance your advocacy skills and knowledge of sickle cell disease issues

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Outline

- Definitions of Acute and Chronic SCD Pain
- Management of Acute SCD Pain
- Management of Chronic SCD Pain
- Impact of Opioid Epidemic
  - States' Response to Opioid Epidemic
  - Opioid Prescribing Policy

Acute SCD Pain

Chronic SCD Pain

DEFINITIONS

Pain in Sickle Cell Disease

- Hallmark of disease
- Ubiquitous
- Present throughout life
- Variable
- Genotype and biological traits explain only part of these variances

How Do Patients ManageTheir Sickle Cell Pain?

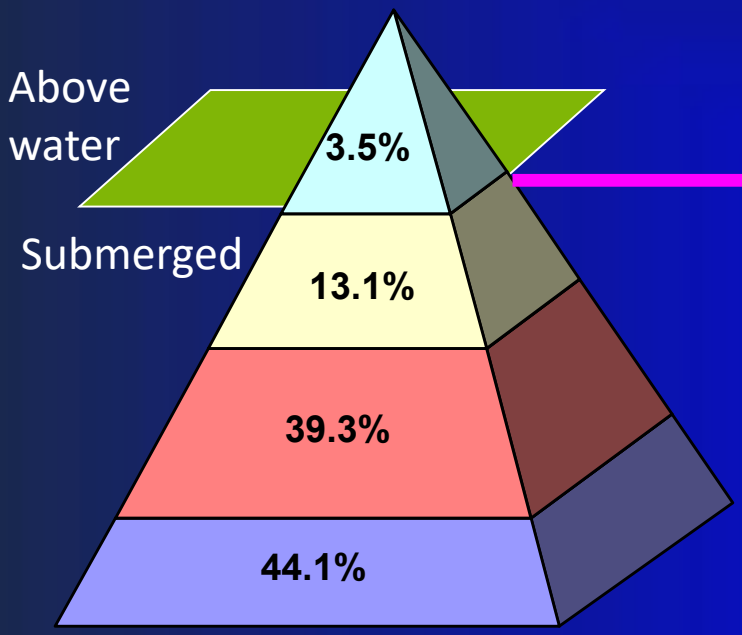
- Relief-seeking behaviors
  - Self
    - Home remedies HEAT, MASSAGE, REST, SLEEP
  - Family and friends
    - For physical and emotional comfor
    - For physical help, treatment at pai sites
    - For instrumental support with activities of daily living
  - Professional
    - Medical contact, prescribed remed ("I give up!")







Pain Intensity On Crisis Vs Non-crisis Vs. Utilization Days



Intensity	Mean	Std Dev
Utilization	**6.5**	**2.3**
Crisis w/o utilization	**5.5**	**2.1**
Pain w/o crisis, util.	**4.2**	**2**
No Pain	**0**	**0**

*Percentage of days. Utilization= utilization with or without crisis or pain; Crisis= crisis without utilization; Pain= pain without crisis or utilization

Adapted from Smith WR, et. al. Ann Intern Med 2008 Jan 15, 148(2):94-101

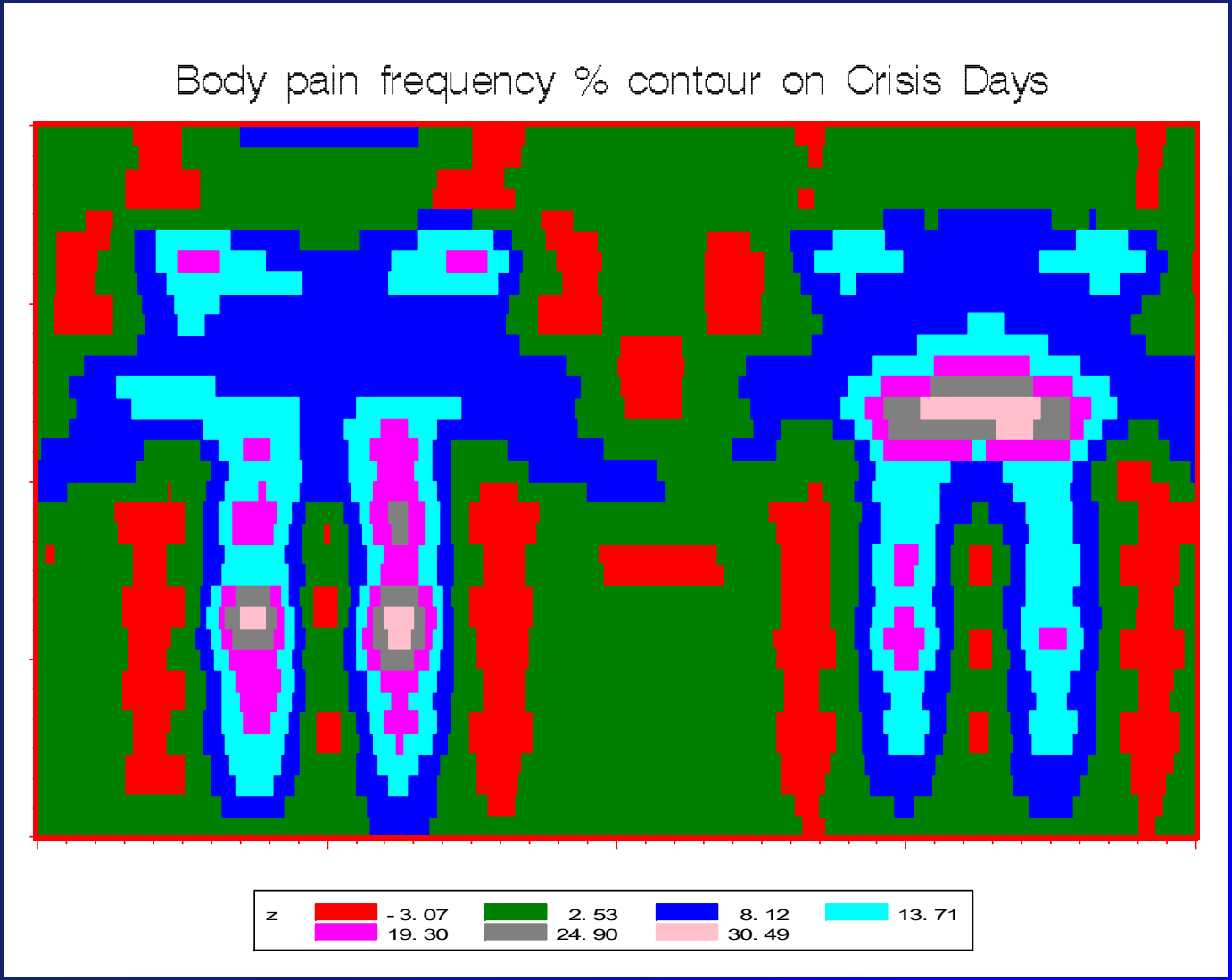
Acute SCD Pain (Tentative Definition, AAAPT)

- Patient with SCD by lab testing
- Lasts at least 2 hours
- Started in last 10 days
- One physical sign (palpation, movement cause pain, or decreased ROM
- Can't be explained by SCD complication (leg ulcer, priapism, edema, bone infarction, AVN, osteo, hepatobiliary)
- Subtypes
  - 1- No painful comorbidity
  - 2- With painful comorbidity
- May occur with or without chronic SCD pain
  - Joshua J. Field[1], Samir Ballas[2], Claudia M. Campbell[3], Lori E. Crosby[4], Carlton Dampier[5], Deepika S. Darbari[6], Wally R. Smith[7], William T. Zempsky.[8] AAAPT Diagnostic Criteria for Acute Sickle Cell Disease Pain. *Manuscript under review.*

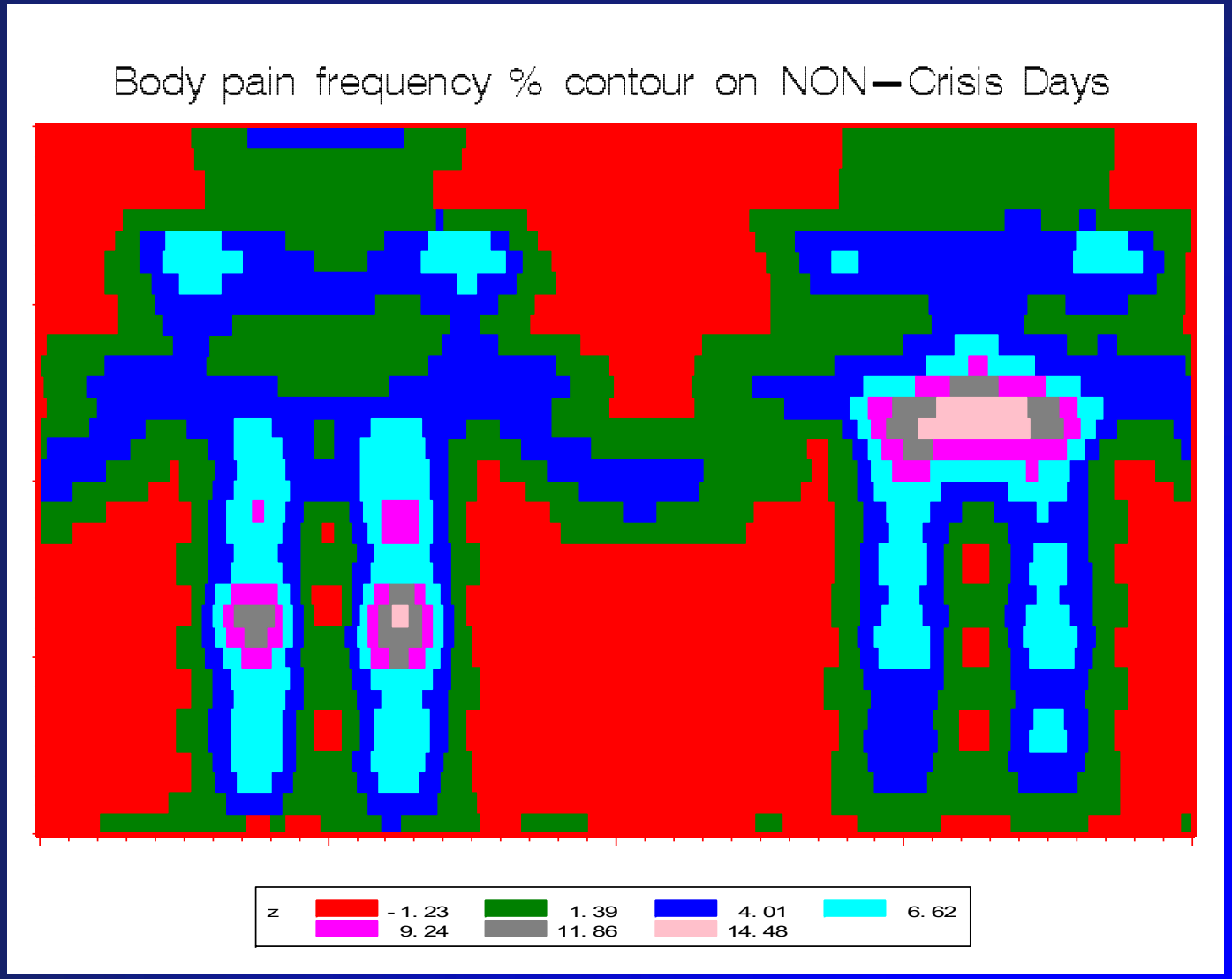
Chronic SCD Pain Definition --AAPT

- Diagnosis of SCD confirmed by laboratory testing, plus
  - Reports of ongoing pain present on most days over the past 6 months either in a single location or in multiple locations, and
  - One sign of pain sensitivity on palpation or with movement of the region of reported pain, decreased range of motion or weakness in the region of reported pain, or evidence of chronic disease complications (eg, skin ulcer, splenic infarct, or bone infarction) associated with the region of reported pain.
  - Three diagnostic modifications allowable
    - Chronic SCD pain without contributory disease complications
    - Chronic SCD pain with contributory disease complications
    - Chronic SCD pain with mixed pain types
      - Analgesic, Anesthetic, and Addiction Clinical Trial Translations Innovations Opportunities and Networks-American Pain Society Pain Taxonomy initiative.
        - Dampier C, Palermo TM, Darbari DS, Hassell K, Smith W, Zempsky W. AAPT Diagnostic Criteria for Chronic Sickle Cell Disease Pain. J Pain. 2017 May;18(5):490-498. doi: 10.1016/j.jpain.2016.12.016. Epub 2017 Jan 5. PubMed PMID: 28065813.

Pain Location Frequency-crises



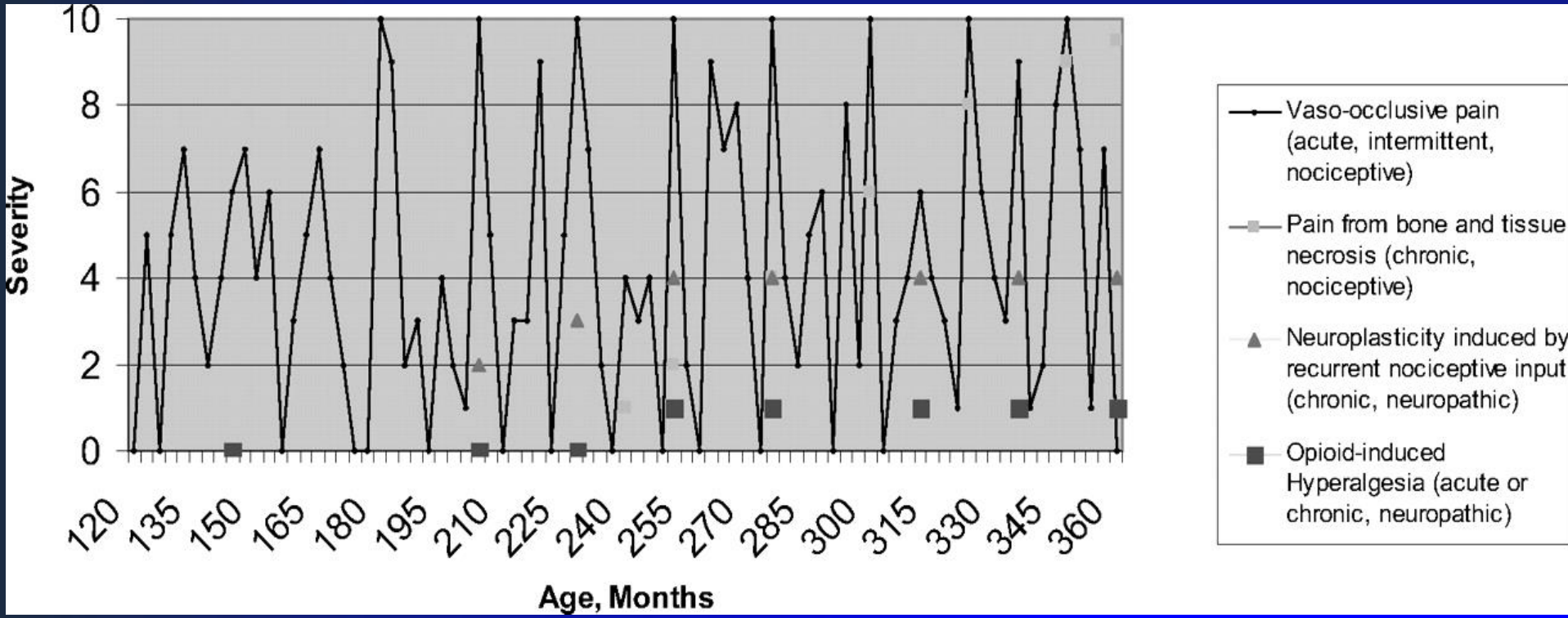
Pain location frequency—non-crisis



The Neuropathic Pain Phenotype

- **After nerve injury maladaptive changes** can occur in injured sensory neurons and along the entire nociceptive pathway within the CNS
  - Leads **to spontaneous pain or pain hypersensitivity**
- The resulting neuropathic pain syndromes present as a complex combination of negative and positive symptoms

Evolution to Chronic Pain in SCD?



Vicious Cycle of SCD Pain

Pain in SCD: Summary, Conceptual Model

- Begins as purely acute-on-chronic, multi-local vaso-occlusive, ischemic and inflammatory pain
- Phenotype transformation to central and/or peripheral neuropathic pain
- Mechanisms of phenotype transformation
  - Summative ischemia on neurons
  - Genetic predisposition (different than 6 beta Hb Val->Glu) , epigenetics
  - Threshold effect
  - Timing
  - Relationship to psychosocial variables
  - Mechanisms shared in common with other syndromes
- Unexplored approaches to Rx (besides HU and transplant)
  - non-opioid chemical
  - Other, including biobehavioral (CBT, neuropsychic)

Current Research

MANAGEMENT OF ACUTE PAIN IN SCD

Relieving Pain in SCD: Whose Job?

- 2/3 of SCD patients are adults
- Relieving SCD pain mostly falls to ambulatory providers
  - Lanzkron, 2013
    - Unfortunately, subduing sickle cell pain often requires high doses of opioids, perhaps due to patients' high morphine clearance rates or because they may simply need more medication than others to reach the same plasma level. None of this negates the need to monitor patients for drug addiction or diversion. Those who provide continuity of care to these patients should shoulder this burden.
- Few adult SCD ambulatory providers
  - Most seen by PCP, ED, hospitalists
  - Pain specialists, other MDs feel unprepared to manage adult SCD

NHLBI Expert Consensus Panel, 2014

- Eligible Studies reviewed
  - 32 RCTs with more than 1,800 people of all ages
  - 34 observational studies
  - 30 case reports
- Highest quality evidence, strongest recommendation for opioids within 30-60 minutes of arrival in the Emergency Department.
  - Evidence from several RCTs and observational studies supports opioids for VOCs.
  - Indirect, high-quality evidence from populations without SCD also supports opioids for VOCs.
- RCTs and observational studies support NSAIDs, were conflicting, but reduced pain decreased LOS
- Several RCTs and observ.'s support the use of around-the-clock dosing vs intermittent for VOCs.

- National Institutes of Health. U.S. Department of Health and Human Services. Evidence-based Management of Sickle Cell Disease. Expert Panel Report. 2014
- Yawn BP, Buchanan GR, Afenyi-Annan AN, Ballas SK, Hassell KL, James AH, Jordan L, Lanzkron SM, Lottenberg R, Savage WJ, Tanabe PJ, Ware RE, Murad MH, Goldsmith JC, Ortiz E, Fulwood R, Horton A, John-Sowah J. Management of sickle cell disease: summary of the 2014 evidence-based report by expert panel members. JAMA. 2014 Sep 10;312(10):1033-48. doi: 10.1001/jama.2014.10517. Review. Erratum in: JAMA. 2015 Feb 17;313(7):729. JAMA. 2014 Nov 12;312(18):1932. PubMed PMID: 25203083.

Individualized Pain Action Plans are Common

- Chronic Back Pain
- Cancer
- Recurrent acute pain
  - Headache
  - Gout
- Rheumatologic conditions
- SCD
  - Frei-Jones, DeBaun, et al (children)
  - Multiple authors (adults)

Impediments to Individualized Pain Action Plans

- Knowledge
  - Patient
  - Physician
  - EDs, hospitals
- Skills
  - Physician
  - Hospitals
- Attitudes
  - Physicians
  - Nurses
  - Family
  - Patients
- Systems Issues
  - Who “owns” plan? How many authors? Role of patient in plan?
  - How to address acute and chronic pain situations?
  - Credibility of plan outside the author(s) of plan?
  - Where to store in medical record to ensure access?
  - Who, How to update continuously?

SCD Pain Action Plan Template, Pain Vs. Crisis Vs. Utilization Days

Adapted from WHO Analgesic Pain Ladder

(Pyramid could contain individual patient data)

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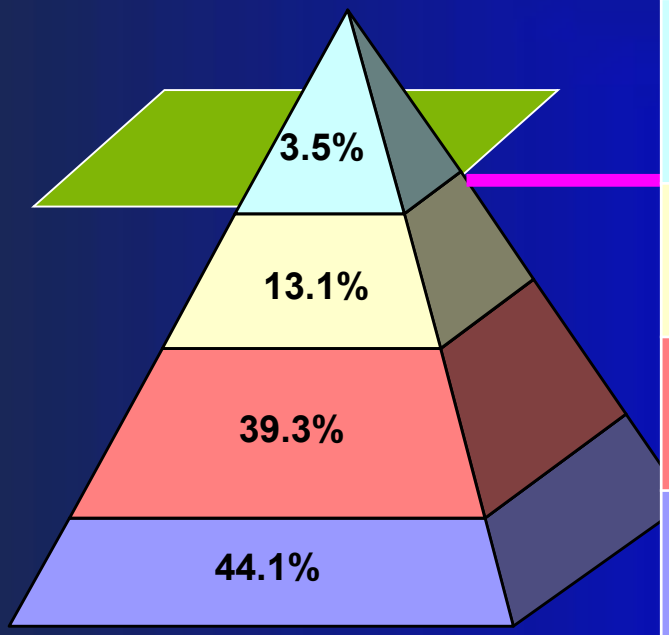


Pain Action Plan Intensity	Intervention(s) 1	Intervention(s) 2	Intervention(s) 3
Utilization Days	• HU • CBT • TENS • LA opioids	• NSAIDS • Parenteral SA Opioids • Adjuvants	• Bedrest • Massage • Distraction • Parenteral Fluid bolus
Crisis Days	• HU • CBT • TENS • LA opioids	• NSAIDS • Oral SA Opioids • Adjuvants	• Bedrest • Massage • Distraction • Oral Fluid bolus
Pain Days	• HU • CBT • TENS • LA opioids	• NSAIDS • Oral SA Opioids • Adjuvants	
Non-pain Days	• HU • CBT • TENS • (LA opioids)		

Data Adapted from Smith WR, et. al. Ann Intern Med 2008 Jan 15, 148(2):94-101

MANAGEMENT OF CHRONIC PAIN IN SCD

PHYSICIAN'S WEEKLY

Opioid Backlash Threatens Sickle Cell Care

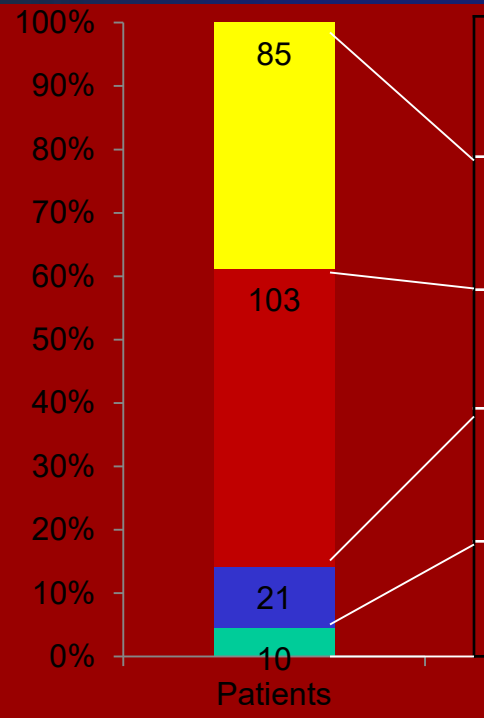
Dec 19, 2013

The well-meaning push to curb opioid prescribing could worsen healthcare for sickle cell patients. Clinicians tend to undertreat the substantial pain experienced by many sickle cell patients and treat them as drug addicts. However, research does not support increased risk of addiction in this patient population…..

Challenging Pain, Few Options

Sophie Lanzkron, MD, MHS

Relationship of Pain to Opioid Use



	Mean Pain Intensity on Pain Days (SD)*	**Percent Pain Days (SD)⁺**
LA opioid (+/- any analgesic)	4.8 (1.5)	81.9 (25.4)
SA opioid (+/- non-opioid)	4.1 (1.4)	51.9 (35.3)
Non-opioid only	3.0 (1.2)	16.8 (23.3)
None	2.8 (2.0)	12.3 (30.9)

- LA=long-acting, SA=Short-acting.
- *Mean pain on pain days, overall ANOVA p<0.0001.
- All paired comparisons statistically significant except none vs non-opioid and none vs SA opioid.
- ⁺ Percent pain days, overall ANOVA p<0.0001.
- All paired comparisons statistically significant except none vs. non-opioid

- Fewer (38.8%) used LA opioids (w or w/o other analg's) than used SA (47.0% w or w/o non-opioids)
- 9.6% only non-opioid, 4.6% none analgesics
- Pain intens, freq higher with LA or higher total opioid

Opioid Use in SCD is Related to Disease Severity

	N	Number (%) of subjects who use opioids (n=188)	Number (%) of subjects who do not use opioids (n=31)	P, opioid users vs non-users
Hydroxyurea user				
Yes	59	58 (98.3)	1 (1.7)	0.0013
No	160	130 (81.2)	30 (18.8)	
Ankle Ulcers				
Yes	26	24 (92.3)	2 (7.7)	0.3385
No	192	164 (85.4)	28 (14.6)	
Avascular Necrosis				
Yes	48	45 (93.7)	3 (6.3)	0.0871
No	170	143 (84.1)	27 (15.9)	
Priapism (males only)				
Yes	15	13 (86.7)	2 (13.3)	0.8912
No	68	58 (85.3)	10 (14.7)	
Lab values		Mean (SD), opioid users	Mean (SD), opioid non-users	
%Fetal Hemoglobin	180	3.9 (7.2)	4.1 (7.3)	0.8955
White Blood Count	158	11.2 (4.5)	10.5 (4.3)	0.4913

ED Use NOT Predictor of Opioid Use in SCD

- High ED utilizers (35% of the sample) *did not use opioids more frequently* than other pts.
  - after controlling for severity and frequency of pain
    - Aisiku IP, Smith WR, McClish DK, Levenson JL, Penberthy LT, Roseff SD, Bovbjerg VE, Roberts JD. Comparisons of High Versus Low Emergency Department Utilizers in Sickle Cell Disease. Ann Emerg Med. 2009 May;53(5):587-93.

Acute Opioid Use in SCD Is Curbed by Rivipansel

Cumulative parenteral opioid use, MME mg/kg	GMI-1070	Placebo (p=.010)
Mean (SD)	12.92(20.8)	57.91 (109.8)

- Telen, et. Al Blood 2015

ORM Not an Issue in SCD

Cause of Death	Total Number of Deaths Due to All Causes	ORM	Percentage
Heart Disease	20,595,492	21,656	0.11
Fibromyalgia	3,282	144	4.4
Low Back Pain	3,758	80	2.1
Migraine	2,286	103	4.5
Sickle Cell Disease	12,261	95	0.77

- Ruta NS, Ballas SK. The Opioid Drug Epidemic and Sickle Cell Disease: Guilt byAssociation. Pain Med. 2016 Oct;17(10):1793-1798. Epub 2016 May 5. PubMed PMID:27152018.

ORM Not an Issue in SCD: Inpatient

- SCD Hosp's from Nat'l Inpt Sample 1998-2013
- Hosps (n=1,755,200) and in-hospital mortality
  - Rates declined annually by 9.9% 1998-2002, not after
  - Age 18-44 increase hosps 3,8%
  - Age >64 inc by 6.5%
  - South inc by 3.5%
  - No inc in-hosp SCD mortality
  - (350% inc SCD ORM from 1999-2013)
    - Akinboro OA, Nwabudike S, Edwards C, Cirstea D, Addo-Tabiri NA, Voisine M, Yameen H, Kassim AA. Blood 2018 132L315ldoi: https://doi.org/10.1182/blood-2018-99-115573.

Weak Evidence of Benefit of LtOT

- Anecdotal reports
  - Many patients report improvement in function, sleep, mood, pain.
  - School and work performance improved
    - Less outages
    - Improved muscle movement, exercise capacity at school and work
- Indirect evidence
- No other safe and effective alternatives
- No new class of analgesics developed more efficacious
    - Ballantyne JC, Sin NS. Efficacy of opioids for chronic pain: A review of the evidence. Clin J Pain 2008;24:469-78.

Opioids and Central Sensitization (CS) in SCD

- Greater non-crisis pain on long-term opioid therapy (LtOT)
  - ?confounding by indication for Rx
- Greater depression on LtOT (? Comorbidity of chronic pain)
- Greater CS on LtOT
- Nociceptive processing in SCD patients on LtOT differs from those who are not
  - If NOT on LtOT, greater CS asso with greater non-crisis clinical pain
  - If on LtOT , no relationship between CS and non-crisis clinical pain
    - Hopkins Study: Temporal summation to measure CS
      - CS index=Z scores for thermal and mechnaical temporal summation, after sensations to temporal summation and hot water
      - CS index on LtOT vs not =0.34 vs -0.10.
      - QST index not significantly different
        - Carroll CP, Lanzkron S, Haywood C Jr, Kiley K, Pejsa M, Moscou-Jackson G, Haythornthwaite JA, Campbell CM. Chronic Opioid Therapy and Central Sensitization in Sickle Cell Disease. Am J Prev Med. 2016 Jul;51(1 Suppl 1):S69-77. doi: 10.1016/j.amepre.2016.02.012. PubMed PMID: 27320469; PubMed Central PMCID: PMC5379857.

Rx for Central Sensitization, Neuropathic Pain in SCD

- Treatment
  - Serotonin and norepinephrine reuptake inhibitors (SSNRIs)
  - Gabapentinoids
- Pregabalin may be effective for pain in SCD as may be gabapentin.
  - Schlaeger JM, Molokie RE, Yao Y, Suarez ML, Golembiewski J, Wilkie DJ, Votta-Velis G. Management of Sickle Cell Pain Using Pregabalin: A Pilot Study. Pain Manag Nurs. 2017 Dec;18(6):391-400. doi: 10.1016/j.pmn.2017.07.003. Epub 2017 Aug 23. PubMed PMID: 28843636.
  - Correia CR, Soares AT, Azurara L, Palaré MJ. Use of gabapentin in the treatment of chronic pain in an adolescent with sickle cell disease. BMJ Case Rep. 2017 Apr 21;2017. pii: bcr-2016-218614. doi: 10.1136/bcr-2016-218614. PubMed PMID: 28432164.
  - Nottage KA, Hankins JS, Faughnan LG, James DM, Richardson J, Christensen R, Kang G, Smeltzer M, Cancio MI, Wang WC, Anghelescu DL. Addressing challenges of clinical trials in acute pain: The Pain Management of Vaso-occlusive Crisis in Children and Young Adults with Sickle Cell Disease Study. Clin Trials. 2016 Aug;13(4):409-16. doi: 10.1177/1740774516636573. Epub 2016 Mar 21. PubMed PMID: 27000103.
  - Tricyclics
    - Darbari DS, Ballas SK, Clauw DJ. Thinking beyond sickling to better understand pain in sickle cell disease. Eur J Haematol. 2014 Aug;93(2):89-95. doi: 10.1111/ejh.12340. Epub 2014 May 16. Review. PubMed PMID: 24735098.
  - Trifluoperazine?
    - Molokie RE, Wilkie DJ, Wittert H, Suarez ML, Yao Y, Zhao Z, He Y, Wang ZJ. Mechanism-driven phase I translational study of trifluoperazine in adults with sickle cell disease. Eur J Pharmacol. 2014 Jan 15;723:419-24. doi: 10.1016/j.ejphar.2013.10.062. Epub 2013 Nov 7. PubMed PMID: 24211787; PubMed Central PMCID: PMC3959657.

Safe Prescribing is not easy

- Primary care vs. specialist(s) job?
- Placing fear of loss of licensure in context with needs of patient
- Monitoring
  - Chemical
  - Survey
  - Vigilance for clues
- Willingness to withhold opioids while continuing to care for patient
- Willingness to prescribe while monitoring

SCD Opioids: Harms and Benefits Summary

- Pain is its own disease
- Acute pain and Chronic Pain in SCD have been defined
- Rapid analgesia for acute pain in SCD is evidence-based and achieves the Triple Aim
- Long-term Opioid Therapy (LtOT) can be safe and effective palliation for chronic pain in SCD, in the absence of alternative Rx, but the evidence is weak
- Determining risks and benefits of LtOT, and which SCD patients are appropriate for LtOT, is difficult

Dilemma

- If opioids were determined to be neither safe nor effective in CNCP, what would we replace them with?
- How would we wean millions of CNCPs off opioids?
- Who would pay for the drug treatment, hospitalizations for pain and withdrawal, loss of income and employment, and defense against the public/press likely to result from this weaning?

How Should we Prescribe Opioids?

One Patient's Perspective

- Should opioid use be based just on instantaneous pain at time of administration?
  - From my perspective as an individual with sickle cell anemia, I would say no...my opioid use shouldn't just be based on my level of pain in the moment in which I am trying to decide whether or not to take something.
  - Obviously I have no empirical evidence to back this up. If you ask me, though, whether or not I think that I prevented or mitigated at least a few episodes of pain in my lifetime by my practice, then I would tell you yes...I have.
  - I guess people could debate whether or not there are different answers to the question based on the setting. For example, we might think that this practice, if it has any merit at all, would have merit for patients practicing self-management at home....while having little to no merit in a clinical setting. Perhaps we would have to parse this even more...is there merit to this at home? In an outpatient setting? In the acute setting?

SCD Pain Management: SUMMARY

- Acute pain
  - There is high-quality evidence for the use of opioids for pain in sickle cell patients within 30-60 minutes of their arrival in the ED
- Chronic pain
  - There is weak evidence of efficacy of long-term opioids for chronic non-cancer pain, related to 12 weeks of treatment or less.
  - There is weak evidence of dose-dependent risk for serious harms of high-dose long-term opioids in chronic non-cancer pain
  - The tolerance of most SCD patients to opioids makes the CDC prescribing recommendation of <90 MME/day mostly ineffective for SCD pain.
- Safe Prescribing
  - Safe prescribing recommendations apply to SCD patients and providers
- Opioid-related mortality
  - US Opioid related deaths in SCD have been 10 or less/year and have not risen over 15 years
  - In US SCD, the ratio of opioid related mortality / all-cause mortality is 0.77%

States’ Response to Opioid Epidemic

Opioid Prescribing Policy

IMPACT OF OPIOID EPIDEMIC ON PAIN MANAGEMENT IN SCD

“Trump says opioids are a national emergency. Here’s what happens next.”

- “The opioid crisis is an emergency, and I'm saying officially right now it is an emergency,” Trump told reporters at his golf club in Bedminster, N.J.
  - Washington Post, August 10, 2017

Definitions: American Society of Addiction Medicine

- *Tolerance* = Decreased analgesic response to same dose of drug
  - *may be perceived as true addiction*
  - Earliest symptom is shortening of duration of effective analgesia
- *Physical dependence* = Production of withdrawal upon abrupt discontinuation, antagonist
- *Addiction* = Psychological dependence
  - manifested by dose escalation, use of opioids for purposes other than pain relief

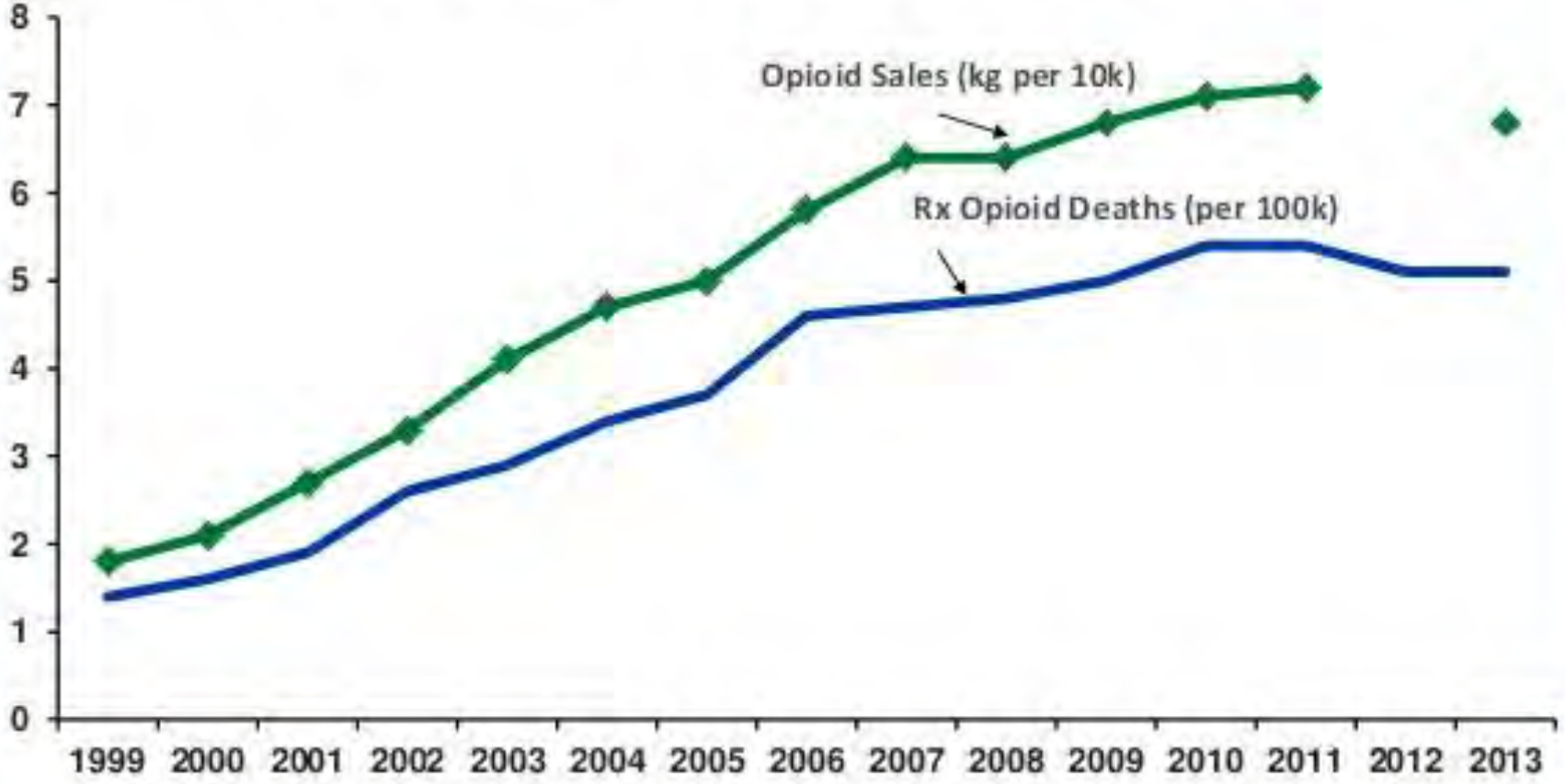
SCD Opioid Addiction: Reality

- High rate of TOLERANCE
- Lower, but significant rate of PHYSICAL DEPENDENCE in daily opioid users
- Low rate of ADDICTION

Prevalence, Predictors Of Opioid Misuse In Chronic, Non-cancer Pain

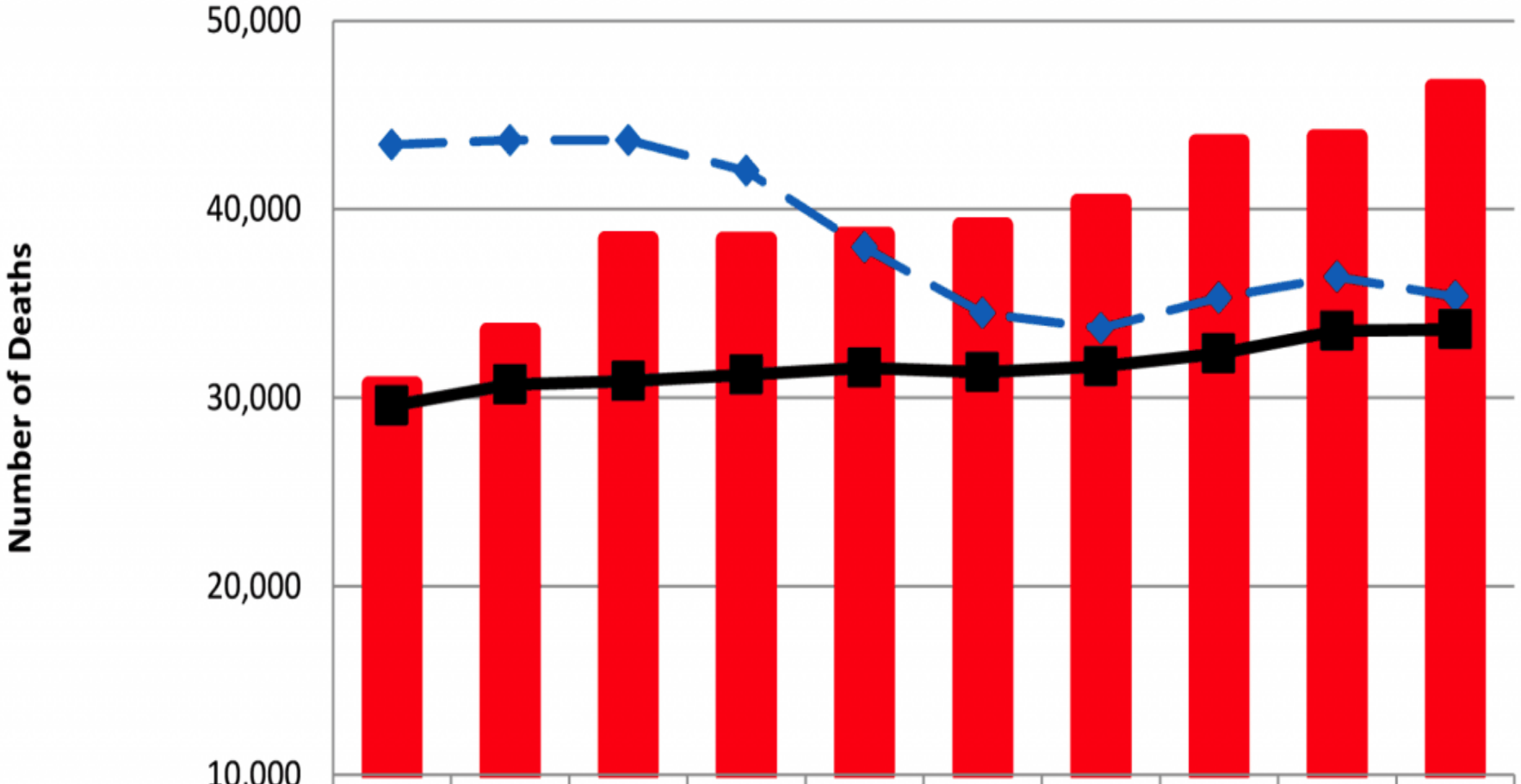
- 62/196 (32%) w/ opioid misuse (N=196)
  - cocaine/amphet's UTS most common (40.3%)
  - misusers younger ($p<0.001$), male ($p=0.023$), past alcohol abuse ($p=0.004$), past cocaine abuse ($p<0.001$), past drug/DUI convict ($p<0.001$%).
- Multivariate: age, past cocaine (OR, 4.3), drug or DUI conviction (OR, 2.6), past alcohol abuse (OR, 2.6) = predictors of misuse.
- Race, income, education, depression score, disability score, pain score, and literacy not asso w/ misuse.
- No relationship between pain scores and misuse

Sharp increases in opioid prescribing coincides with sharp increases in Rx opioid deaths



National Vital Statistics System, DEA's Automation of Reports and Consolidated Orders System.

(U) Chart 1. Number of Drug Induced Deaths Compared to the Number of Motor Vehicle and Firearm Deaths, 2004 - 2013



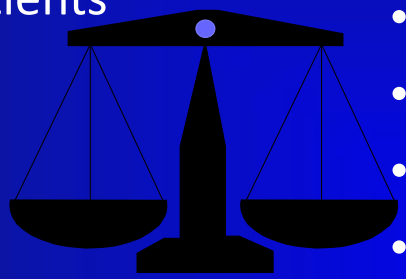
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Drug-Induced	30,711	33,541	38,396	38,371	38,649	39,147	40,393	43,544	43,819	46,471
Motor Vehicle	43,432	43,667	43,664	42,031	37,985	34,485	33,687	35,303	36,415	35,369
Firearms	29,569	30,694	30,896	31,224	31,593	31,347	31,672	32,351	33,563	33,636

Physician, Nurse, Hospital Attitudes, Behavior, SCD Pain:

Forces Impacting Opioids, Pain Action Plan Use

Don't prescribe (or prescribe less)

- Legal Danger (from patients diverting or using recreationally)
- Biological "risk" (from tolerance, physical dependence, addiction, overdose)
- Requires high trust of patient to doctor, doctor to patient



Prescribe (or Prescribe more)

- Unmet need
- Pain subjective,
- Pain difficult to measure
- Pain is it's own disease
- Abuse and misuse alone don't's disqualify opioids as valid Rx

CDC Guideline Negative Impacts

- For the sickle cell community, the most egregious CDC guideline relates to morphine milligram equivalents (MME)/day of prescribed opioid.
  - Lifetime of Rx, high tolerant, no evidence of high opioid-related mortality

Most Egregious CDC Guideline—Dose Limitation

- **When opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should carefully reassess evidence of individual benefits and risks when considering increasing dosage to ≥50 morphine milligram equivalents (MME)/day, and should avoid increasing dosage to ≥90 MME/day or carefully justify a decision to titrate dosage to ≥90 MME/day (recommendation category: A, evidence type: 3).**

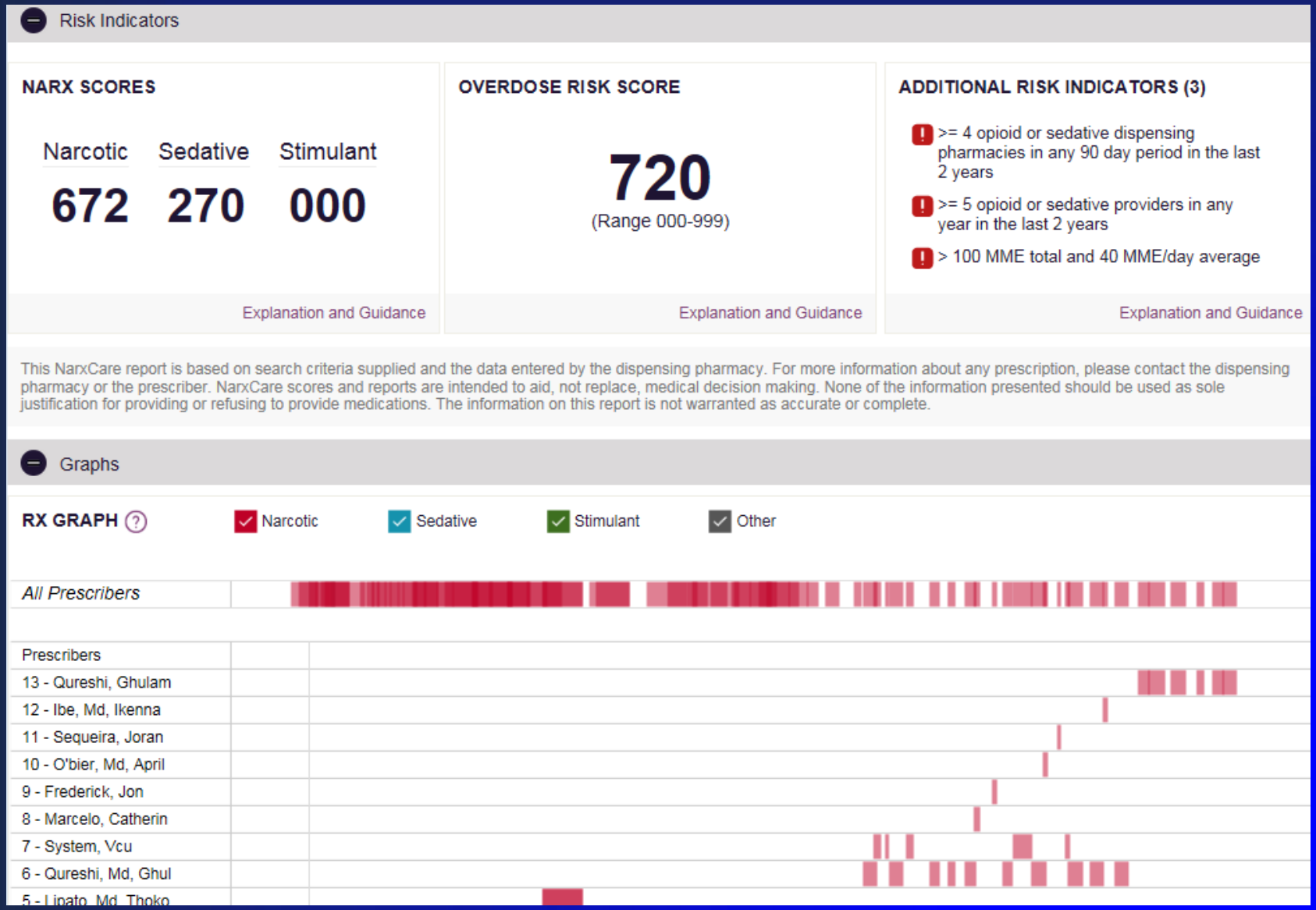
New York Times:

Insurers' Denials of Opioid Coverage Spurs CDC to Clarify Guidelines

- **New York Times**
  - **Amy Norton** *HealthDay Reporter*
  - *https://www.usnews.com/news/health-news/articles/2019-04-09/insurers-denials-of-opioid-coverage-spurs-cdc-to-clarify-guidelines*

- In a new commentary in the *New England Journal of Medicine (NEJM)*, authors of the 2016 *CDC Guideline for Prescribing Opioids for Chronic Pain*(Guideline) advise against misapplication of the Guideline that can risk patient health and safety.

Prescription Monitoring Program



“War on Opioids Hurts Sickle cell Disease Patients”

- Sickle Cell Disease Sufferers Trapped in Fight Against Opioid Scourge
  - Dallas Weekly, July 19, 2017
  - http://www.dallasweekly.com/health/article_786129b4-7918-11e7-899b-ef54de21cbf7.html


Judy Anderson is the executive director of the Sickle Cell Anemia Association of Hampton Roads, the leading advocacy group in southeastern Virginia for people suffering from the disease.
Photo Credit: The New Journal and Guide

- “According to Judy Anderson, the executive Director of the Sickle Cell anemia Association of Hampton Roads, VA, … ‘One lady who called the office Monday, July 10th, told me she took her last pain pill the previous Friday. Her doctor is reviewing her case and has not written her a new prescription. Unable to get her pain meds, I am sure she will end up in a hospital, because she went to the emergency room to have her pain treated.’”

Sickle cell sufferer fears opioid crisis could leave more patients suffering

- RICHMOND, Va., Nov 21, 2017 (WRIC, Morgan Dean) -- President Donald Trump has called the opioid epidemic a national health crisis. As the government tries to curb the numbers of pills and drugs out there, sickle cell patients are afraid they could be left to suffer in pain.
- George Carter, an administrator of **Sickle Cell Chapters of Virginia and a sickle cell sufferer himself, told 8News Anchor Morgan Dean the only thing that can take away the pain is powerful pain killers.**
- "That pain can be excruciating," Carter said. "Three times in my life, that pain was so great, I prayed to God to let me die because I didn't think I could stand it anymore."

- Those pain relievers are now in the governments crosshairs in the war on drugs.
- CVS announced this fall that it will only fill opioid prescription for seven days and insurer Cigna announced it won't cover OxyContin in the future, but only generics of the drug.

Sickle Cell Advocate Wins Fight for High-Dose Opioids in Virginia

- George H. Carter
  - Administrator, lobbyist for Sickle Cell –Virginia
  - Pushed through regulation change to allow SCD physicians to provide higher levels of opioids without forced justification
    - Effective Aug 8, 2018
    - SCD joins cancer and terminal conditions in hospice or palliative care

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Sickle cell advocate wins fight for high-dose opioids

Jeremy Lazarus | 7/8/2018, 12:31 p.m.

Helping to End Addiction Long-term (HEAL)

- NIH Multi-Disciplinary Working Group
  - Francis Collins, MD, PhD, Director, National Institutes of Health
  - Nora Volkow, MD, Director, National Institute on Drug Abuse
  - Walter Koroshetz, MD, Director, National Institute of Neurological Disorders and Stroke

Trans-NIH Research initiative to:

  - Improve prevention and treatment strategies for opioid misuse and addiction
  - Enhance Pain management

- Goal
  - Scientific solution to the opioid crisis
- Coordinating with:
  - HHS Secretary
  - Surgeon General
  - Federal partners
  - local government officials
  - Communities

Helping to End Addiction Long-term (HEAL) Initiative

Priority Research Areas:

Expand Therapeutic Options	Optimize Effective Treatments	Develop New/Improved Prevention & Treatment Strategies	Enhance Treatments for Infants with NAS/NOWS

Research Opportunities:

• New formulations • Longer duration • Respiratory depression • Immunotherapy • New targets and approaches	• Clinical trials expansion • Criminal justice innovation • Behavioral interventions • HEALing Communities Study	• Transition to adulthood • Sleep dysfunction • Early/moderate OUD • Optimal length of Tx • Collaborative care	• Advancing Clinical Trials for NOWS (ACT NOW) • HEAL BCD Study