The Opioid Crisis

New Threats to Caregivers

July 20, 2017
Webinar Month 104

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Welcome

Charles Denham, MD

Chairman, TMIT

TMIT High Performer Webinar
July 20, 2017
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High Performer Webinar

July 20, 2017, 12:00 pm – 1:30 pm CT / 1:00 pm – 2:30 pm ET

The Opioid Crisis: New Threats to Caregivers

Session Overview

We are interrupting our current Sepsis series to address the Opioid Crisis and new threats to caregivers and patients.

Dr. Gladstone McDowell is one of our nation’s leading pain management experts who has practiced as a urologic oncologist, anesthesiologist, and pain management physician. He frequently speaks to caregivers as well as youth on the dangers of pain medicines and our current opioid crisis. He will address the latest life threatening developments from the introduction of Fentanyl additives to street drugs that are now threatening our first responders, emergency caregivers, and our patients.

A reactor panel of patient advocates and experts will react to the presentations addressing this latest threat.

We offer these online webinars at no cost to our participants.

Webinar Video and Downloads

Speaker Slide Set:

The slide set will be uploaded before the webinar airs.
If you wish to follow us on Twitter, go to: http://twitter.com/TMIT1 or use #safetyleaders hashtag

Also, go to: www.facebook.com/SafetyLeaders and related sites
Our Purpose:
We will measure our success by how we protect and enrich the lives of families…patients AND caregivers.

Our Mission:
To accelerate performance solutions that save lives, save money, and create value in the communities we serve and ventures we undertake.
Disclosure Statement

The following panelists certify:
that unless otherwise noted below, each presenter provided full disclosure information; does not intend to discuss an unapproved/investigative use of a commercial product/device; and has no significant financial relationship(s) to disclose. If unapproved uses of products are discussed, presenters are expected to disclose this to participants.

None of the participants have any relationship medication or device companies discussed in their presentations.

Dr. McDowell is Medical Director of Integrated Pain Solutions. His areas of expertise include urology, anesthesiology, pain management, and patient safety. He has served as an instructor at The University of Ohio for both the Department of Urology and the Department of Surgery. He has also served as the Director of Sabine Urology Outpatient Clinic and the Chief of Urology at Brackenridge Hospital in Austin, TX. Dr. McDowell has been involved in breakthrough research at the Gynecology Clinic of the Southwest Foundation for Research and Development, and at the Department of Cell Biology at The University of Texas’ M.D. Anderson Cancer Center. He has nothing to disclose.

Gregory H. Botz, MD, FCCM, is a professor in the Department of Critical Care at the UT MD Anderson Cancer Center. He received his medical degree from George Washington University School of Medicine in Washington, DC. He completed an internship in internal medicine at Huntington Memorial Hospital and then completed a residency in anesthesiology and a fellowship in critical care medicine at Stanford University in California. He also completed a medical simulation fellowship at Stanford with Dr. David Gaba and the Laboratory for Human Performance in Healthcare. Dr. Botz is board-certified in anesthesiology and critical care medicine. He is a Fellow of the American College of Critical Care Medicine. He has nothing to disclose.

Christopher R. Peabody, MD, MPH is a practicing Emergency Physician in California and Clinical Instructor at the University of California, San Francisco. He is also the Director of the UCSF Acute Care Innovation Center, an initiative of the UCSF Department of Emergency Medicine, which develops novel ways to deliver Emergency and Acute Care reliably and safely by developing new technology and validating best practices. He has a strong commitment to public service and healthcare delivery to vulnerable populations. Dr. Peabody completed his residency at one of the busiest safety-net hospitals in the country, Los Angeles County Hospital, and was the Chief Resident in Emergency Medicine at the University of Southern California. He attended medical school at the University of California San Francisco, and completed an MPH at Harvard University on a Zuckerman Fellowship. Dr. Peabody's current interests lie in quality improvement and patient safety, especially related to underserved populations. He has extensive experience in emergency care and disaster response internationally, having served in Haiti and China. He is a member of the content leadership development team for CareUniversity and applies his expertise in emergency care, public health, and international healthcare performance improvement to meeting the needs of both consumers and caregivers. He has nothing to disclose.

Jennifer Dingman realized, after her mother’s death in 1995 due to errors in medical diagnoses and treatment, that there is little to no help available for patients and their families in similar situations. This life-changing experience left her feeling vulnerable, and she decided to dedicate her life to help prevent medical tragedies from happening to others. She has nothing to disclose.

Charles Denham, MD, is the Chairman of TMIT; a former TMIT education grantee of CareFusion and AORN with co-production by Discovery Channel for Chasing Zero documentary and Toolbox including models; and an education grantee of GE with co-production by Discovery Channel for Surfing the Healthcare Tsunami documentary and Toolbox, including models. HCC is a former contractor for GE and CareFusion, and a former contractor with Siemens and Nanosonics, which produces a sterilization device, Trophon. HCC is a former contractor with Senior Care Centers. HCC is a former contractor for ByoPlanet, a producer of sanitation devices for multiple industries. He does not currently work with any pharmaceutical or device company. His current area of research is in threat management to institutions and continuing professional education and consumer education. Dr. Denham is a collaborator with Professor Christensen.
Speakers and Reactors

Gladstone McDowell
Greg Botz
Christopher Peabody
Arlene Salamendra
Charles Denham
Voice of Patient and Family

Arlene Salamendra

Former Board Member and Staff Coordinator, Families Advocating Injury Reduction (FAIR)
TMIT Patient Advocate Team Member
Plano, IL

TMIT High Performer Webinar
July 20, 2017
In the News and National Survey Highlights:

*News Update and June 2017 Webinar National Survey*

Charles Denham, MD

Chairman, TMIT

TMIT High Performer Webinar
July 20, 2017
Anonymous Survey Questions

I am interested in MORE DETAIL ON Opioid O.D. and Drug Diversion Issues

66% Agreed and 44% Strongly or Very Strongly Agreed, and 26% Very Strongly Agreed

Source: TMIT High Performer Webinar Series; Pragmatic Sepsis Care For Providers: – June 15, 2017
OPIOID OVERDOSE Patient Safety
topics I would like to be covered include:

- Prevention/management
- Keeping staff, patients, visitors safe in the hospital
- Drug diversion in hospitals
- Age range most commonly impacted by opioid overdose.
- Demographics - who are the people overdosing on opioids?
- How to communicate critical issues between op providers and ip providers
- How do we treat patient's pain/ discomfort who are addicted to opioids but also having pain.
- Combo drugs in od patient
- What meds are being used to replace fentanyl and heroin addictions.
- Community partnerships in rural health for opioid overdose, family engagement, workforce support (e.g. Ems)
- Alternate pain modalities while still addressing pain
- Chronic pain options; discussions with patients
- Methods of how to deal with pt using or attempting to us opioids (illegily) while hospitalized for other medical reasons
- How to determine an appropriate dose when opioids are necessary.
- How to implement a training program for people to learn how to recognize and save an overdose victim

- Any and all education appreciated
- What would be a good quality measure for opioid utilization that would decrease adverse events
- More sepsis, opioid overdose
- Use of narcan
- Public awareness
- Hospitals role in controlling the opioid prescriptions being dispensed.
- Older adult addiction vs drug seeking to supplement income

Source: TMIT High Performer Webinar Series; Pragmatic Sepsis Care For Providers: – June 15, 2017
I am interested in MORE DETAIL REGARDING SEPSIS.

66% Agreed and 44% Strongly or Very Strongly Agreed, and 26% Very Strongly Agreed

Source: TMIT High Performer Webinar Series; Pragmatic Sepsis Care For Providers: – June 15, 2017
Specific SEPSIS TOPICS
I would like to be FURTHER covered include:

• Metrics
• Countermeasures for improvement of bundles
• Process metrics - how to get the EMR to provide mindful data to clinicians
• Concurrent methods of abstracting time zero using technology
• Evidence based support for antibiotics within 1 hour and provider discretion in fluid resuscitation
• Identification on inpatient units, treatment outside the ICU and ED
• Engaging medical staff in sepsis care
• Follow up sepsis assessments, including fluids
• Fluid administration
• Perspectives on fluid resuscitation in HF and CKF
• Dynamic fluid status assessment
• Early recognition of sepsis - for ED triage nurses
• Patient coding: using SOFA and new definitions,
• Bridging the divide between ED and critical care providers
• Precoalition use in screening and antibiotic stewardship
• What to abstract from the patient chart. Template to use to collect meaningful data. We struggle with formatting an abstraction tool.
• Data regarding usefulness/outcomes of screening for early identification of screening for inpatients and frequency of these screenings
• Early recognition of sepsis, sepsis screening tools, vit C administration for septic shock
• At-home intervention and recognition
• How to get providers to look at records so that they are not "well it wasn't obvious so we can't criticize" - ingraining the "what if was your mom? "Look to reviews.
• How have other organizations improved their sepsis measures? Are there tools through your EHR you have used, home grown tools, etc.
• How do we tie ABX stewardship in office, urgent care, and ED dealing with earlier dx with sepsis
• We struggle with the most appropriate steps followed to prevent septic shock, in particular fluid management-no so much amount but when in patient presentation
• Fluids vs. Overload
• Best ways to screen for sepsis
• Readmissions and different presentations between young and older, male versus female, nursing home patients.
• Fluids, antimicrobial stewardship
• How to determine sepsis in the older population who do not always have fever, or strong lab values immediately.
• Implementing a sepsis detection and treatment program to identify sepsis early and intervene appropriately.

Source: TMIT High Performer Webinar Series; Pragmatic Sepsis Care For Providers: – June 15, 2017
Specific SEPSIS TOPICS
I would like to be FURTHER covered include:

• Pathophysiology of sepsis
• We have heard from physicians on the sepsis issues, but my program is run by the ACNS and we have the same or better results. How about highlighting that these issues are addressed by other team members.
• Bands
• Supportive information to share with MDs/staff for buy in. How is train being rolled out for MD and staff for pt safety and meeting the CMS/TJC measures SEP-1
• Using predictive analytics for sepsis
• Id sepsis on time
• Documentation of tissue perfusion by providers.
• Role for patients/family members
• EMR tools to help identify sepsis, severe sepsis, or shock
• Any updates, new ideas
• More nursing considerations and advice to get physician buy in regarding sepsis identification and documentation.
• Post operative and readmissions treatment of patients with sepsis. Recognition and reluctance to call the patient sepsis
• Relative importance on saving lives of early identification and initial treatment (this month) vs continued monitoring and recognition of sepsis as infection evolves and may occur later in stay (last month). What is happening to CMS measures for sepsis? What is happening with NQF on sepsis measures? Are these measures going to be simplified? For data abstractors of CMS measures, much effort is being expended on calculating fluids down to the millimeter. Seems nit picky and too much focus on details.
• Failure to rescue-id or system culture?
• Discuss more on the early identification and what is done with that information until the shock needs treatment stage
• Strategies to meet core measure compliance, improving physician buy in with meeting core measures,
When we fully complete our Sepsis Series, The FUTURE NEW WEBINAR TOPICS I WANT COVERED include:

- Stroke
- VTE prevention
- Enhanced recovery in surgery
- Respiratory failure prevention
- Violence in healthcare settings
- Warning systems for early identification of patients who are deteriorating, E.G. Repertory failure, shock, altered mental status. Also- how to address fixation bias.
- Nancy fink looking at the transition from the ED to ICU and how orders are reviewed and carried out when using EMRs. Are colloids better than normal saline? Thanks.
- Care coordination for medical patients and seniors;
- Ingraining cultures of safety
- Above ABX selection and stewardship
- Hypo and hyperglycemia management in hospitalized patient and in the ED
- Opioids, patient/public perception of safe pain management
- System failures and how to solve.
- MDRO's; strokes; OB evidence based care.
- The necessity of having good nutrition for hospitalized patients? How to recognize there is a nutritional problem in the critical ill patient.
- Any topics are appreciated
- Study on high band
- As many as we can get
- Patient safety in relation to EHR use
- OPOID OVERDOSE
- HCAPS - getting to "always" for patient satisfaction scores
- Recovery of patients after surgery, readmissions,
A Medical-Tactical Approach undertaken by clinical and non-clinical people can have enormous impact on loss of life and harm from very common hazards:

- **High Impact Care Hazards** are frequent, severe, preventable, and measurable.
- **Lifeline Behaviors** undertaken by anyone can save lives.

**The Program:**
- Free afterschool courses for grade three and above.
- Courses for Boy and Girl Scouts, Clubs, and Communities.
- Courses for non-clinical staff and families ideal for healthcare institutions.
- Continuing Education for Clinical Caregivers (CME, CEU, and continuing ed for most caregivers)
Meaningful Use is dead. Long live something better!

High Impact Care Hazards to Patients, Students, and Employees

Cardiac Arrest
Choking & Drowning
Opioid OD & Poisoning
Anaphylaxis
Major Trauma
Transportation Accidents
Bullying

The Opportunity for YOU SAFETY LEADERS

High Impact Care Hazards: Opioid Lethal Overdose Comparison

Opioid Lethal Overdose Comparison

- Cardiac Arrest
- Choking & Drowning
- Opioid OD & Poisoning
- Anaphylaxis
- Major Trauma
- Transportation Accidents
- Bullying

Warning: A Greater Threat to All
He said these powerful drugs “are not only killing the people willing to shove it into their own veins, now they’re killing people like me and my family.”


A police officer in East Liverpool, Ohio, collapsed and was rushed to the hospital after he brushed fentanyl residue off his uniform, allowing the drug to enter his system through his hands. The officer had apparently encountered the opioid earlier in the day while making a drug bust.

“This is scary. He could have walked out of the building and left and he could have passed out while he was driving. You don’t even know it’s there on his clothes,” East Liverpool Police Chief John Lane told CNN.

“His wife, kids and his dog could be confronted with it and boom, they’re dead. This could never end.”


“They were able to start working on Officer Green. They had to give him a dose of Narcan here. They transported him to the hospital. They had to give him a few more doses and they were able to save his life,” said Chief Lane.

In The News …

Eleven of the officers were taken to a hospital to be treated for their exposure to the deadly opioid.


May 9, 2017

“Currently, police officers have to handle drugs to test them,” said Ed Sisco, a research chemist at NIST and the lead author of the study. “But with these technologies, they can just swab the outside of a bag to test for fentanyl.” If the test comes back positive, they can take extra precautions.


May 17, 2017

Carfentanil is a synthetic opioid approximately 10,000 times more potent than morphine and 100 times more potent than fentanyl. The presence of carfentanil in illicit U.S. drug markets is cause for concern, as the relative strength of this drug could lead to an increase in overdoses and overdose-related deaths, even among opioid-tolerant users. The presence of carfentanil poses a significant threat to first responders and law enforcement personnel who may come in contact with this substance. In any situation where any fentanyl-related substance, such as carfentanil, might be present, law enforcement should carefully follow safety protocols to avoid accidental exposure.

In The News …

**What You Need to Know About Fentanyl-Laced Heroin**

Hundreds of unsuspecting users are purchasing a deadly new variant of heroin – one that’s laced with fentanyl, an opiate 100 times more powerful than morphine. The dangerous concoction continues to work its way from town to town, leaving a trail of death and broken lives in its wake.


**Officer Overdoses On Fentanyl Just By Brushing It Off Shirt, Police Say**

Fentanyl, a synthetic opioid that is 50 to 100 times more potent than morphine, can enter a person’s body through inhalation and through skin contact, the Centers for Disease Control and Prevention warns.


**Treating a Drug Overdose With Naloxone**

Opioids slow your breathing. If you take too much of one, your breathing may stop and you could die. If given soon enough, naloxone can counter the overdose effects, usually within minutes.

In The News …

TPD To Carry Narcan For Opioid Overdoses

**The Daily Wildcat**

December 5, 2016

Tucson Police Department officers are now carrying Narcan, a treatment that can counteract the effects of opioid overdoses.


Fentanyl: Preventing Occupational Exposure to Emergency Responders

Fentanyl and its analogs pose a potential hazard to law enforcement, public health workers, and first responders who could unknowingly come into contact with these drugs in their different forms. Police working dogs are also at risk of exposure. Possible exposure routes vary based on the source of the fentanyl. While dermal absorption of fentanyl commonly occurs through prescribed use of the drug, inhalation of powder is the most likely exposure route for illicitly-manufactured fentanyl. Inhalation exposure can quickly result in respiratory depression.

Source: DEA. Fentanyl: Preventing Occupational Exposure to Emergency Responders. DEA. https://www.cdc.gov/niosh/topics/fentanyl/risk.html

Narcan: Latest Use

NARCAN (naloxone) injection is available as a sterile solution for intravenous, intramuscular and subcutaneous administration in three concentrations: 0.02 mg, 0.4 mg and 1 mg of naloxone hydrochloride per mL. pH is adjusted to 3.5 ± 0.5 with hydrochloric acid.

Fentanyl, according to the Centers for Disease Control and Prevention, is up to 100 times more potent than morphine and many times that of heroin.


Mass. Study: Illicit Fentanyl Involved in Most Opioid Fatalities

The highly-potent, short-acting opiate fentanyl was involved in two-thirds of roughly 200 recent opioid overdose deaths occurring within a six-month period in southeast Massachusetts, researchers report.


Police In The Valley Concerned Over New Drug: Powder Fentanyl

That difference between surviving and overdosing is equal to the size of a pen tip. Grand Forks Police are starting to re-examine old overdose cases dating back to June of last year.

In Philadelphia, Denver and San Francisco young library staff are being armed with first aid kits which contain doses of Naxolone, a vital drug which reverses the deadly effects of heroin and methamphetamine via nasal spray or injection.

Staff have not only had to learn how to give it responsibly to people inside the libraries but they are also now rushing out to save addicts in public parks and spaces.

City workers said the problem was among the worst public health emergencies they had ever seen.

Chera Kowalski, 33, has brought several people back from the brink of death at McPherson Square Library in Philadelphia.
In The News …

More than 650,000 people could die from opioid overdoses in the next decade, according to a worst-case scenario projection developed by an expert panel convened by STAT … STAT asked public health experts specializing in epidemiology, clinical medicine, health economics and pharmaceutical use from 10 universities to forecast the scope of the epidemic over the next 10 years.

1. From OxyContin, to heroin, to the rise of synthetics, the opioid epidemic has steadily evolved and worsened in recent decades.

2. More than 93,000 people would die of an opioid overdose in 2027, according to the health experts' worst-case scenario projection.

3. A middle-of-the-road projection still puts annual death tolls in 2027 at a mark higher than the worst year on record for gun deaths.

4. The best-case scenario depends on physicians prescribing fewer opioids, states implementing prescription drug monitoring programs and insurers increasing access to treatment for opioid use disorder.

5. A consensus emerged among the 10 scenarios put forth by STAT’s expert panel. Fatal overdose deaths will not begin to taper off until after 2020 as it will take time for the federal government's current efforts to boost drug enforcement and reduce the number of prescriptions physicians to take hold. However, there is no guarantee such efforts will be effective, according to STAT.

So many babies are being born dependent on opioids that the local hospital opened a special unit for them. So many people with addictions are getting arrested that the local jail has had to turn away would-be inmates.

Perspective

Addressing the Fentanyl Threat to Public Health

Richard G. Frank, Ph.D., and Harold A. Pollack, Ph.D.

Comments open through February 22, 2017

Fentanyl, a powerful synthetic opioid, poses an increasing public health threat. Low production costs encourage suppliers to "cut" heroin with the drug, particularly white powder heroin sold in the eastern United States. Fentanyl also appears as a prevalent active ingredient in counterfeit OxyContin (oxycodone) tablets. The result is that fentanyl plays a major role in rising mortality due to heroin or opioid overdose. It poses a serious overdose risk because it can rapidly suppress respiration and cause death more quickly than do other opioids.

From 2012 through 2014, the number of reported deaths involving fentanyl more than doubled, from 2628 to 5544. We estimate that 41% of the roughly 7100 heroin-related deaths during this period involved fentanyl. The graph illustrates this calculation, placing heroin and fentanyl at the center of continued growth in opioid-related mortality.
In The News …

![Graph showing the increase in drug overdose deaths per 100,000 population from 2000 to 2014. The graph illustrates the rise in any opioid, heroin, natural and semisynthetic opioids (e.g., oxycodone, hydrocodone), other synthetic opioids (e.g., fentanyl, tramadol), and methadone.]

Attorney General Jeff Sessions and Department of Health and Human Services (HHS) Secretary Tom Price, M.D., announced today the largest ever health care fraud enforcement action by the Medicare Fraud Strike Force, involving 412 charged defendants across 41 federal districts, including 115 doctors, nurses and other licensed medical professionals, for their alleged participation in health care fraud schemes involving approximately $1.3 billion in false billings.

Of those charged, over 120 defendants, including doctors, were charged for their roles in prescribing and distributing opioids and other dangerous narcotics.
The Department of Justice on Thursday announced charges against 412 people in the largest combined health care fraud bust in the department’s history.

Attorney General Jeff Sessions and Secretary of Health and Human Services Tom Price announced the bust in a press conference Thursday morning.

Facing charges are 412 people across 41 federal districts, who the DOJ alleges have extracted $1.3 billion in false billings through a variety of unconnected schemes. The defendants include 115 doctors, nurses, and other licensed medical professionals. HHS has also initiated suspension proceedings against 295 providers, including doctors, nurses, and pharmacists.

Medication Use Process

Where the **Adverse Drug Events** Occur* vs. **Errors****

* Bates et al., JAMA 1995;274:29-34
** Leape et al., JAMA 1995
Classen et al JAMA 1997

**ADEs = 49%**
Prescribing Errors = 39%

**ADEs = 11%**
Transcription Errors = 12%

**ADEs = 14%**
Dispensing Errors = 11%

**ADEs = 26%**
Admin Errors = 38%

Source: Bates et al., JAMA 1995;274:29-34 **Leape et al., JAMA 1995, Classen et al JAMA 1997 AND VHA**
Right Tests: Caregivers and patients need to make sure that the right tests are undertaken to make the right diagnosis of the sources of pain.

Right Diagnosis: Pain often has causes, requiring a thoughtful approach to understanding the pain generators in order to undertake the right treatment.

Right Treatment: Optimal pain relief often requires an integrated strategy of multiple tactics. The right combination with a team-based approach has enormous potential.

Right Monitoring: When caregivers, patients, and families record the impact of pain care, the tactics can be fine-tuned to the patient and an integrated approach can be taken.

Right Prevention: Certain pain scenarios are related to what patients are doing in their daily lives. For instance, back pain can be impacted by safer ways of doing work and exercise can strengthen muscular support and a reduction in pain generation.

Source: Denham, CR; McDowell, GM CareUniversity CME Program
Opioid Crisis
A New Threat to Caregivers

Gladstone C. McDowell, II, MD

Medical Director, Integrated Pain Solutions
Columbus, OH

Director, Task Force and Med Tac Opioid Leader
Texas Medical Institute of Technology (TMIT)
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TMIT High Performer Webinar
July 20, 2017
Drug Overdoses by State

Statistically significant drug overdose death rate increase from 2014 to 2015, US states

Statistically significant increase

Source: CDC
National Overdose Deaths
Number of Deaths from Prescription Opioid Pain Relievers

Source: National Center for Health Statistics, CDC Wonder

Centers for Disease Control.
Available at http://www.cdc.gov/vitalsigns/heroin/infographic.html#responding.
Meaningful Use is dead. Long live something better!

High Impact Care Hazards

Opioid Overdoses

2.6 million people in the US suffer from opioid and/or heroin addiction.21

2.1 million estimated drug abuse-related ED visits annually in US.20

33,000 Opioid OD deaths in US 2015.7

Fact: Opioid OD is Leading Cause Of Accidental Death in US - exceeds gunshot wounds and traffic accidents.8
Fact: Almost 4 Opioid OD Deaths per hour and most are preventable with Naloxone.17
Fact: Opioid related harm has EXPLOSIVE GROWTH with Prescription Pain Meds as the gateway.9,10
Fact: The 55,403 lethal OD’s in 2015, are as many youth as attend 73.5 US high schools.11,12
Fact: Prescription pain relievers cause over 35% of lethal drug overdose deaths.11
Fact: In a typical high school, 25 students are at risk for opioid OD.11,12,13
Fact: 80% of Heroin Users start with Prescription Pain Meds.14
Fact: In 2012, 259 million opioid prescriptions are enough to provide every US adult a bottle of pain medicine.7
Fact: Oxycodone is 40x more addicting heroin, whereas alcohol is 2x marijuana 3x, and cocaine 15x.15
Fact: Patients diagnosed with prescription opioid abuse, dependence, or OD incur $10,989/yr more care cost than non-users.18
Fact: The cost of US prescription opioid epidemic is estimated at $78.5 billion.19
Meaningful Use is dead. Long live something better!

High Impact Care Hazards

Opioid Overdoses

7. American Society of Addiction Medicine, Opioid Addiction 2016 Facts & Figures sheet

8. CDC website: Accidents or Unintentional Injuries. Accessed 02/06/17:
https://www.cdc.gov/nchs/fastats/accidental-injury.htm


10. National Institute on Drug Abuse website:

11. American Society of Addiction Medicine, Opioid Addiction 2016 Facts & Figures sheet

Source: https://nces.ed.gov/pubs2001/overview/table05.asp


14. National Institute on Drug Abuse website:

15. CDC Vital Signs. 2015 July. Available at

16. Health Affairs website, Hospitalizations Related To Opioid Abuse/Dependence And Associated Serious Infections Increased Sharply, 2002–12: May 2016. Source:
http://content.healthaffairs.org/content/35/5/832.full.pdf+

17. CDC website: 2015 Data:
https://www.cdc.gov/drugoverdose/index.html


20. National Institute on Drug Abuse website: revised 2011 May:

http://hub.jhu.edu/magazine/2016/fall/opioid-addiction-pain-management/
• Of the 21.5 million Americans 12 or older that had a substance use disorder in 2014:
  • 1.9 million had a substance use disorder involving prescription pain relievers and 586,000 had a
  substance use disorder involving heroin.

• Overdose Death and Prescriptions – Mirror Upward Trend: From 1999 to 2008, overdose death
  rates, sales and substance use disorder treatment admissions related to prescription pain relievers
  increased in parallel. The overdose death rate in 2008 was nearly four times the 1999 rate; sales of
  prescription pain relievers in 2010 were four times those in 1999; and the substance use disorder
  treatment admission rate in 2009 was six times the 1999 rate.

• One Bottle of Opioids per American: In 2012, 259 million prescriptions were written for opioids, which
  is more than enough to give every American adult their own bottle of pills.

• 80% of Heroin Users Started with Prescription Pain Meds: Four in five new heroin users started out
  misusing prescription painkillers. As a consequence, the rate of heroin overdose deaths nearly
  quadrupled from 2000 to 2013. During this 14-year period, the rate of heroin overdose showed an
  average increase of 6% per year from 2000 to 2010, followed by a larger average increase of 37% per
  year from 2010 to 2013.

• 94% of Heroin Users Moved to Needle due to Expense: Of patients in rehab surveyed chose to use
  heroin because prescription opioids were “far more expensive and harder to obtain.”
Adolescents (12 to 17 years old)

- **Almost Half Million Prescription Users:** In 2014, 467,000 adolescents were current nonmedical users of pain reliever, with 168,000 having an addiction to prescription pain relievers.

- **Heroin Use High and Growing:** In 2014, an estimated 28,000 adolescents had used heroin in the past year, and an estimated 16,000 were current heroin users. Additionally, an estimated 18,000 adolescents had a heroin use disorder in 2014.

- **Prescription Meds Given to Them:** People often share their unused pain relievers, unaware of the dangers of nonmedical opioid use. Most adolescents who misuse prescription pain relievers are given them for free by a friend or relative.

- **Prescription Med Use Doubling:** The prescribing rates for prescription opioids among adolescents and young adults nearly doubled from 1994 to 2007.
Women

- **More Likely to Have Chronic Pain:** Women are more likely to have chronic pain, be prescribed prescription pain relievers.

- **Given Higher Doses and Longer:** Likely to be given higher doses, and use them for longer time periods than men.

- **Higher Dependency Rate:** Women may become dependent on prescription pain relievers more quickly than men.

- **High Death Rate:** 48,000 women died of prescription pain reliever overdoses between 1999 and 2010.

- **Death Rate Doubling Time > Than Men:** Prescription pain reliever overdose deaths among women increased more than 400% from 1999 to 2010, compared to 237% among men. Heroin overdose deaths among women have tripled in the last few years. From 2010 through 2013, female heroin overdoses increased from 0.4 to 1.2 per 100,000.
Drug related deaths in the United States 2000-2014

2010-2013: heroin use increased 37% per year
Heroin Addiction and Deaths 2002-2013

2010-2013: heroin-related overdose deaths increased 270%
Opioid Addiction Facts and Figures

• **Prescribed medications, account for nearly all overdose incidents caused by prescription pain medications.** Opiate addiction statistics show as many as three out of four people abusing prescription drugs obtained them from a friend or family member.

• **80% Prescriptions by 20% Of Prescribers:**
  The majority of scripts come from primary care and internal medicine physicians. Very few pain prescriptions originate from physician specialists. 1 pain specialist for every 33,000 Americans.

• **Medicaid Prescriptions 2X non-Medicaid Pt:**
  Results from a Washington state study show Medicaid enrollees accounted for 45 percent of overdose fatalities in the state.

• **Highest OD Deaths New Mexico West Virginia:**
  Opiate addiction statistics rates in these two states were five times more than in Nebraska, the state with the lowest rate in 2008.

• **Since 1999, the number of overdose deaths from pain medications has increased by 300%**
  In 2008, opiate addiction statistics deaths resulting from prescription pain meds totaled 14,800. This number amounts to over and above the combined total for heroin and cocaine-related deaths.

4 Million Used Heroin Once in Life: Data collected by the National Institute on Drug Abuse show as many as 4.2 million Americans reported using heroin at least once in their lives. Of this number, an estimated 23 percent become addicted to the drug.

From 1999 and 2010, sales for prescription painkillers to hospitals, doctors and pharmacies increased fourfold. By 2010, the number of pain medications prescribed was enough to keep every single American medicated for one month’s time.

In 2009, the abuse of prescription painkiller drugs accounted for > 475,000 ED visits: This number represents a twofold increase in drug-related emergency room visits since 2005.

12 Million Use Pain Meds for Other Purposes: As of 2010, opiate addiction statistics show over 12 million Americans reported using prescription pain medications for non-medical purposes without having obtained an actual prescription.

First Time Abusers – 2M In 2010 – 5,500/Day: an estimated two million people reported abusing prescription pain medication for the first time within the previous 12 month period. This number amounts to 5,500 people a day abusing prescription pain meds for the first time.

Source: http://www.addictions.com/opiate/10-opiate-addiction-statistics/
Heroin use is part of a larger substance abuse problem.

Nearly all people who used heroin also used at least 1 other drug.

Most used at least 3 other drugs.

Heroin is a highly addictive opioid drug with a high risk of overdose and death for users.

People who are addicted to...

- Alcohol
- Marijuana
- Cocaine
- Rx Opioid Painkillers

are 2x 3x 15x 40x ...

more likely to be addicted to heroin.

Responding to the Heroin Epidemic

**PREVENT**
People From Starting Heroin
Reduce prescription opioid painkiller abuse.
Improve opioid painkiller prescribing practices and identify high-risk individuals early.

**REDUCE**
Heroin Addiction
Ensure access to Medication-Assisted Treatment (MAT).
Treat people addicted to heroin or prescription opioid painkillers with MAT which combines the use of medications (methadone, buprenorphine, or naltrexone) with counseling and behavioral therapies.

**REVERSE**
Heroin Overdose
Expand the use of naloxone.
Use naloxone, a life-saving drug that can reverse the effects of an opioid overdose when administered in time.

SOURCE: CDC Vitalsigns, July 2015

Centers for Disease Control.
Available at http://www.cdc.gov/vitalsigns/heroin/infographic.html#responding.
Opioids-Classification

- **Natural opium alkaloids:** Morphine, codeine
- **Semisynthetic opiates:** Hydromorphone, oxycodone, hydrocodone, oxymorphone
- **Synthetic opioids:** meperidine, fentanyl, methadone, tramadol. Tadapentadol, Levorphanol
- **Agonist-antagonist: (κ-analgesics)** Nalorphine, pentazocine, butorphanol
- **Partial/weak μ-agonist + κ-antagonist:** Buprenorphine
Fentanyl Therapeutic Uses

- Fentanyl is approximately **100 times more potent than morphine**
- Sufentanil is approximately **1000 times more potent than morphine**.
- Time to peak analgesic effect after intravenous administration of fentanyl and sufentanil (approx 5 minutes)
- **Transdermal patches** - sustained release of fentanyl for 48-72hrs
- **Buccal absorption** with the use of sublingual spray, buccal tablets, soluble buccal film, and Swab lozenges permits rapid absorption
Fentanyl Pharmacokinetics

- Highly lipid soluble and rapidly cross the blood-brain barrier.
- $t_{1/2}$, 3-4 hours. Fentanyl and Sufentanil
- Hepatic metabolism and renal excretion.
Analogues of Fentanyl

Analogues of Fentanyl such as Ohmefentanyl, Acryfentanyl, and Carfentanil (only used legitimately as tranquilizer for large animals such as elephants) are significantly more potent than Fentanyl.

Carfentanil is approximately 10,000 times more powerful than a comparable dose of morphine versus Fentanyl at 100 times.

source: US Department of Justice Drug Enforcement Administration
The extremely low volume of Fentanyl and Carfentanil required for a life threatening overdose poses an enormous threat to the public and caregivers.
Illegal Non-medical Fentanyl

- The rapid rise of illegal non-medical fentanyl has forced police and investigators to change how they work.

- Protective gear like Tyvek suits and air purifying respirators or at least filtration masks (N95 or HEPA) should be used when contact with street fentanyl is suspected.
Illegal Non-medial Fentanyl

• Naloxone, the drug that reverses overdoses should be readily available and all responders trained on how and when to use it.

• Be aware that this drug will only TEMPORARILY reverse the dangerous adverse effects and further medical attention should be obtained immediately.
Best Practices: Care of the Opioid OD

When responding to an overdose, response personnel should remember the following best practices:

- **Exercise extreme caution with any suspected opioid delivery method.** Wear gloves and masks when responding to any situation where carfentanil or fentanyl is suspected. If possible, cover as much of the skin as possible when responding to a potential overdose situation.

Source: Department of Homeland Security Indiana
Best Practices: Care of the Opioid OD

- Be aware of any sign of exposure. Symptoms include: respiratory depression or arrest, drowsiness or profound exhaustion, disorientation, sedation, pinpoint pupils and clammy skin. The onset of these symptoms may occur within minutes of exposure.

Source: Department of Homeland Security Indiana
Best Practices: Care of the Opioid OD

- **Seek immediate medical attention.** Carfentanil and other fentanyl-related substances can work very quickly, so in cases of suspected exposure, it is important to seek medical attention immediately. Any needle stick should be medically evaluated as soon as possible.

Source: Department of Homeland Security Indiana
Best Practices: Care of the Opioid OD

• **Do not touch any potential drug materials or paraphernalia.** Carfentanil can be absorbed through the skin or accidental inhalation of airborne powder. Avoid coming into contact with needles, bags or other paraphernalia. Do not come into contact or disturb any powder that may be in the area.

Source: Department of Homeland Security Indiana
Best Practices: Care of the Opioid OD

• **Be ready to manage the victim’s airway in the event of exposure.** Opioids are especially dangerous because they override the body’s breathing reflex, causing victims to suffocate. While naloxone is an antidote for opioid overdose, it might not be available. Providing breathing assistance could help prolong the victim’s life while waiting for emergency medical services to arrive. Even if naloxone is available, always send an overdose victim to the hospital for monitoring. Naloxone may wear off before the effects of the opioid, making it possible for the victim to stop breathing again.

*Source: Department of Homeland Security Indiana*
**Right Tests:** Caregivers and patients need to make sure that the right tests are undertaken to make the right diagnosis of the sources of pain.

**Right Diagnosis:** Pain often has causes, requiring a thoughtful approach to understanding the pain generators in order to undertake the right treatment.

**Right Treatment:** Optimal pain relief often requires an integrated strategy of multiple tactics. The right combination with a team-based approach has enormous potential.

**Right Monitoring:** When caregivers, patients, and families record the impact of pain care, the tactics can be fine-tuned to the patient and an integrated approach can be taken.

**Right Prevention:** Certain pain scenarios are related to what patients are doing in their daily lives. For instance, back pain can be impacted by safer ways of doing work and exercise can strengthen muscular support and a reduction in pain generation.

**Source:** Denham, CR; McDowell, GM CareUniversity CME Program
• Severe Opioid OD in San Francisco caused by Fentanyl in “Xanax Pill”
• Checklist for Prescribing Opioids for Chronic Pain – Check Databases
• Opioid-Prescribing Patterns of Emergency Physicians and Risk of Long-Term Use
• Tackling the opioid crisis with compassion, new ways to reduce use and treatment
• Amid Finger-Pointing for an Overdose Epidemic, Emergency Physicians Seek Pain Control Alternatives
• Alternatives to Opioids for Acute Pain Management in the Emergency Department: Part II
• Opioid OD ToolKit: Info for Prescribers
Actions requested of SF clinicians:

1. **Discourage** patients from purchasing pills on the street.
2. **Refer** patients with opioid use disorder to treatment. San Francisco has treatment-on-demand at BAART Turk Street and BAART Market Street methadone clinics close to Civic Center area.
3. **Ensure** patients who may access opioids from the street have naloxone. Either direct patients to the DOPE Project or prescribe naloxone directly.

We found variation by a factor of more than three in rates of opioid prescribing by emergency physicians within the same hospital and increased rates of long-term opioid use among patients treated by high-intensity opioid prescribers.

These results suggest that an increased likelihood of receiving an opioid for even one encounter could drive clinically significant future long-term opioid use and potentially increased adverse outcomes among the elderly. Future research may explore whether this variation reflects over prescription by some prescribers and whether it is amenable to intervention.

When **CONSIDERING** long-term opioid therapy:
- Set realistic goals for pain and function based on diagnosis (eg, walk around the block).
- Check that non-opioid therapies tried and optimized.
- Discuss benefits and risks (eg, addiction, overdose) with patient.
- Evaluate risk of harm or misuse.
  - Discuss risk factors with patient.
  - Check prescription drug monitoring program (PDMP) data.
  - Check urine drug screen.
- Set criteria for stopping or continuing opioids.
- Assess baseline pain and function (eg, PEG scale).
- Schedule initial reassessment within 1-4 weeks.
- Prescribe short-acting opioids using lowest dosage on product labeling; match duration to scheduled reassessment.

If **RENEWING** without patient visit
- Check that return visit is scheduled; 3 months from last visit.

When **REASSESSING** at return visit
- Continue opioids only after confirming clinically meaningful improvements in pain and function without significant risks or harm.
- Assess pain and function (eg, PEG); compare results to baseline.

When this crisis resolves, one won’t be able to point to a particular person who didn’t become addicted to opioids or who didn’t die because their doctor was a judicious prescriber — and this is part of what makes ending the crisis so difficult.

Unlike treating pain, there is no identifiable beneficiary when opioids are used with caution. Tolerance to opioids, withdrawal, as well as misuse, suggests that high rates of past consumption affect present consumption of the drug. To deal effectively with the crisis will require reducing consumption to prevent future problems. To treat current persons with opioid use disorder or problematic use who do not meet the full diagnostic criteria will require use of medication assisted therapy. Other approaches to pain management that do not involve drugs are safer and as, if not more, effective.

The public image of emergency medicine’s role in the opioid crisis is affected by articles such as an op-ed in the New York Times on March 25 by Helen Ouyang, MD, an emergency physician at New York–Presbyterian Hospital. She wrote about the ease with which some of her ED colleagues would send aggressively drug-seeking patients home with a prescription to save time and irritation. “This sometimes results in my colleagues asking if I could simply prescribe a couple of pills so the patients would leave,” she wrote.

Dr. Weiner said he was “saddened” by the op-ed and hoped most emergency physicians are not handing out opioids for convenience. “I think she left that perception. I hope with all this attention [on the opioid epidemic], physicians are realizing that’s not the right thing to do.”

Knowledge of alternative therapies empowers emergency physicians to choose from a host of pain-specific interventions, leaving opioids as a rescue or second-line agent. It is hoped that continued research and education regarding alternative modalities for pain management will shift the paradigm of acute pain management away from reliance on opioids by decreasing exposure and, ultimately, the potential for addiction.

Additional safeguards are recommended before prescribing an opioid analgesic. For example, even when sound medical indications have been established, physicians typically consider three additional factors before deciding to prescribe [3,6]:

1. The severity of symptoms, in terms of the patient’s ability to accommodate them. Relief of symptoms is a legitimate goal of medical practice, but using opioid analgesics requires caution.

2. **The patient’s reliability in taking medications**, noted through observation and careful history-taking. The physician should assess a patient’s history of and risk factors for drug abuse before prescribing any psychoactive drug and weigh the benefits against the risks. The likely development of physical dependence in patients on long-term opioid therapy should be monitored through periodic check-ups.

3. The dependence-producing potential of the medication. The physician should consider whether a product with less potential for abuse, or even a non-drug therapy, would provide equivalent benefits. Patients should be warned about possible adverse effects caused by interactions between opioids and other medications or illicit substances, including alcohol.

At the time a drug is prescribed, patients should be informed that it is illegal to sell, give away, or otherwise share their medication with others, including family members. The patient’s obligation extends to keeping the medication in a locked cabinet or otherwise restricting access to it and to safely disposing of any unused supply (visit http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm101653.htm for advice from the FDA on how to safely dispose of unused medications).

• As the Medical Director for the UT Police Department – threats and risk to first responders.

• Increased threat and risk of drug diversion in Healthcare Institutions – diversion and illicit drug access often associated.

• Increased threat and risk from exposure to patients and opioids in pre-hospital and emergency situations.

• Increased threat from evolution of the opioids – highly potent and some refractory to Naloxone.

• THC and edibles – new threats and risk.

Dr. Greg Botz
Professor MD Anderson Cancer Center & Medical Director of UT Police Department Adjunct Stanford University
National Survey Questions

I am interested in MORE DETAIL REGARDING OPIOID RELATED BEST PRACTICES.

10
Very
Strongly
Agree
9
Strongly
Agree
8
Agree
7
Neutral
6
Neutral
5
Negative to Neutral
4
Disagree
3
Strongly Disagree
2
Very
Strongly
Disagree
1

Specific OPIOID RELATED BEST PRACTICES TOPICS
I would like to be FURTHER covered include:
National Survey Questions

I am interested in MORE DETAIL REGARDING CAREGIVER DIVERSION.

Specific CAREGIVER DRUG DIVERSION TOPICS
I would like to be FURTHER covered include:
Speakers and Reactors

Gladstone McDowell  
Greg Botz  
Christopher Peabody  
Arlene Salamendra  
Charles Denham
Voice of Patient and Family

Arlene Salamendra

Former Board Member and Staff Coordinator, Families Advocating Injury Reduction (FAIR)
TMIT Patient Advocate Team Member
Plano, IL

TMIT High Performer Webinar
July 20, 2017