



Injury Prevention: Thinking Outside of the Box

Marie Snodgrass

Injury Prevention Program Lead

Pediatric Trauma Program

C.S. Mott Children's Hospital

Michigan's Opioid Problem

- In 2015, 11.4 million prescriptions for painkillers were written in the state of Michigan (Michigan.gov/opioids), significantly more than the 9.3 million residents of the state at the time.
- In 2017, there were 2,033 overdose deaths involving opioids in Michigan—a rate of 21.2 deaths per 100,000 persons, which is higher than the national rate of 14.6 deaths per 100,000 persons (National Institute on Drug Abuse, March 2019)



Medication Safety

We have a need to educate and empower adolescents and teens to understand the dangers and potential consequences associated to opioid use & abuse



What are opioids?



Opioids include both illegal drugs, such as heroin, and prescription pain medicine. Some common opioids are oxycodone, hydrocodone, morphine, fentanyl, and codeine.



Side effects of opioids include sedation, dizziness, nausea, vomiting, constipation, physical dependence, tolerance and respiratory depression.



Opioids are prescribed to treat pain. If you use opioids long-term, their pain-relieving effects may lessen and pain can become worse. In addition, the body can develop dependence.



At low doses, opioids may only make you feel sleepy, but higher doses are dangerous. They can slow your breathing and heart rate, which can be fatal.

Source: www.Michigan.gov/Opioids, 2018

Did you know?

2729

of Michigan deaths were caused by opioid overdoses in 2017, more than the total number of car crashes.

www.Michigan.gov/Opioids, 2018



66%

of people who died from Fentanyl overdoses in Washtenaw in 2016 were between 15 and 24 years old.

Washtenaw County Public Health, 2017

True stories

In 2013, a 15-year-old named Montana went into the emergency room after a tubing accident. In the hospital, doctors provided morphine and hydrocodone to relieve the pain from his injuries. Montana liked the feeling of these painkillers and wanted to try more. Just a short time later, he died of an accidental overdose while experimenting with pills provided by a friend.

Opioids can impact anyone. 1 in 20 young adults who get surgery will continue to use their prescriptions long after medicine is needed.

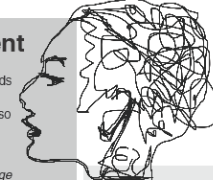
Source: www.GetSmartAboutDrugs.com, 2018



What happens to your brain on opioids?

Changes in brain development

During your teen years, your brain is undergoing major changes. Your **prefrontal cortex**, the part of the brain that aids decision-making, will keep developing until your mid-20s. Opioids can slow brain growth at this important time. They also cause **addiction**, defined as: A chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences. It is a brain disease because drugs can change the brain's structure and how it works (National Institute of Drug Abuse). Once a young person is addicted to a drug, his/her brain changes so that drugs become its **first priority**.



What can opioids do to other organs and systems in your body?



Your heart lining can become infected from contamination, especially in crushed pills.



Chronic opioid abuse affects your nervous system, leading to greater pain sensitivity.



Opioids causing respiratory depression can slow breathing and lead to death.

Source: www.DrugAbuse.com, 2018

How to treat addiction

Recognize the symptoms

You may have an addiction if you can't seem to stop taking drugs or alcohol, even if they are causing harm. Ask yourself: are you able to stop using the drug, or is the urge too strong to control?

Ask for help

Recovery is most successful with the support of others. Tell a trusted adult that you have a problem, and don't wait for addiction to get worse before seeking help.

Begin the recovery process

There are many different types of treatments available. Detox, support groups, medications, and other options can treat addiction, depending on your situation.

Remember: It's never too late. Evidence shows that the tissue in the brain's nervous system and the cortex can recover from addiction after getting treatment.

Sources: www.GetSmartAboutDrugs.com and www.AddictionPolicy.org

Resources

What is an Opioid?

<https://medicine.umich.edu/dept/pain-research/what-opioid>

Opioid Addiction Resources

www.Michigan.gov/Opioids

Addiction Video Series

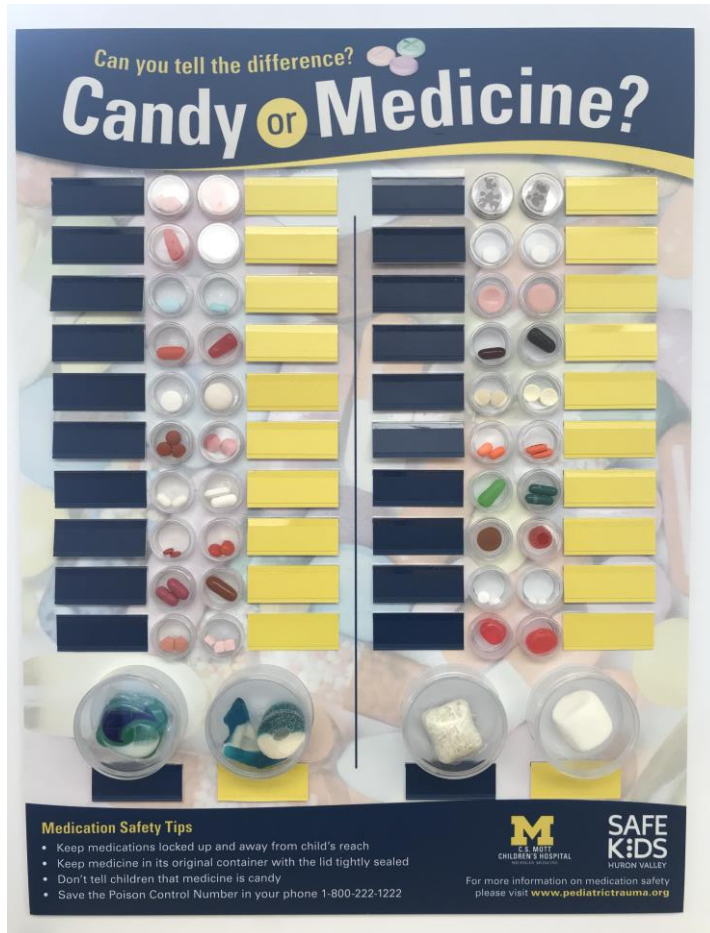
www.addictionpolicy.org/addiction-series-main



Medication Safety

Candy or Medicine?

- Health and Safety Fairs
- Perfect topic for any age!



Education Within the Hospital

Why is it sometimes so hard to get things done at our own agencies/organizations?



Working in Silos



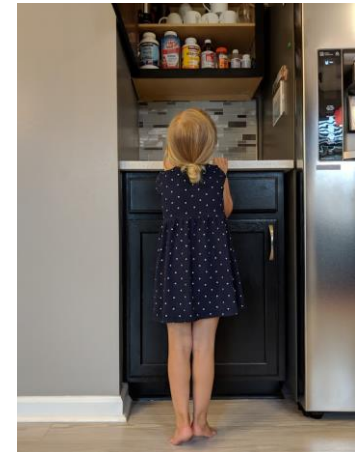
Working in Silos



Working Together

Implementing Best Practices for Pediatric Postoperative Opioid Prescribing at C.S. Mott Children's Hospital -

- Pilot survey initiated March, 2018
- Multidisciplinary task force initiated June, 2018 (meet monthly)
- Pediatric Surgery Discharge Order Set September, 2018
- Medication Safety Discharge Bags in PACU October, 2018
- Pharmacy Worksheets Implemented February, 2019
- Non-Opioid Defaults in Order Sets March, 2019
- Best-Practices Approved March, 2019
- Deterra Bags in Pharmacy May, 2019



Partnering with our PACU

Give Safely



Make sure an adult is using the dosing device that came with the medicine.



Do not give medicine that was prescribed to someone else.



Write a schedule to make sure the right dose is given at the right time.

Keep Safely



Keep medications locked up and away from child's reach.



Keep medicine in its original container with the lid tightly sealed.



Don't tell children that medicine is candy.

Toss Safely



Find an authorized collector or community Take Back Event for unused medicines.



Throw away in a sealed bag, mixed with dirt, used coffee grounds, or cat litter.

-OR-



Throw away in a drug deactivation bag.

Partnering with our PACU

C.S. MOTT CHILDREN'S HOSPITAL
MICHIGAN MEDICINE

Medication Safety Tips for Parents

Give Safely	Keep Safely	Toss Safely
<p>Make sure an adult is using the dosing device that came with the medicine.</p>	<p>Keep medications locked up and away from child's reach.</p>	<p>Find an authorized collector or community Take Back Event for unused medicines.</p>
<p>Do not give medicine that was prescribed to someone else.</p>	<p>Keep medicine in its original container with the lid tightly sealed.</p>	<p>Throw away in a sealed bag, mixed with dirt, used coffee grounds, or cat litter.</p>
<p>Write a schedule to make sure the right dose is given at the right time.</p>	<p>Don't tell children that medicine is candy.</p>	<p>-OR-</p> <p>Throw away in a drug deactivation bag.</p>

For more tips on proper medication storage and disposal, alternative pain management methods for children, and a flushable medication list please visit:
www.PediatricTrauma.org/MedicationSafety

POISON CONTROL HELP CENTER: 1-800-222-1222

- Pediatric surgery patients receive bag post-op, to help carry:
 - prescriptions
 - a pain journal
 - discharge instructions
 - anything else given at discharge
- Messaging on:
 - safe dosing
 - safe storage
 - safe disposal
 - a link to a comprehensive medication safety website (PediatricTrauma.org/MedicationSafety)

Created in partnership with **KOHL'S**♥cares

Translating Materials

Arabic

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نصائح للوالدين
بشأن السلامة الدوائية

توخي السلامة في التخلص منه	توخي السلامة في حفظه	توخي السلامة في إعطائه
لا تترك الأدوية أو الحقن في مكانها. يجب التخلص منها في حاوية التخلص المناسبة.	احفظ الأدوية في مكانها الأصلي. لا تتركها في متناول الأطفال.	أمنس عن أن يلمس طفلك الأدوية. استخدموا قفازات النظافة عند إعطائه الدواء.
لا تترك الأدوية في السيارة أو في مكان مغلق. يجب التخلص منها في حاوية التخلص المناسبة.	لا تترك الأدوية في متناول الأطفال. احفظها في مكانها الأصلي.	لا تعطي الدواء لغيره. استخدموا قفازات النظافة عند إعطائه الدواء.
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لمزيد من النصائح حول التخزين السليم للأدوية والتخلص منها، وطرق بديلة لمعالجة الآلام للأطفال وقائمة بالأدوية التي يمكن التخلص منها برباطية في المرحاض، يرجى زيارة الموقع الإلكتروني التالي:
www.PediatricTrauma.org/MedicationSafety

POISON CONTROL HELP CENTER: 1-800-222-1222
(مركز مكافحة السموم بالسموم)

KOHL'S cares مع المشاركة

Spanish

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Consejos de Seguridad de Medicamentos para Padres

Dar con Seguridad	Mantener Seguros	Botar con Seguridad
Asignar a alguien que no sea usted, cuando el dispositivo de dosificación que vino con el medicamento.	Mantener los medicamentos bajo llave en un lugar de acceso de la casa.	Entregar un contenedor autorizado a un evento de comunidad para recoger medicamentos no seguros. Los medicamentos no deben ser desechados en el drenaje.
No le dé medicamentos que no sean los que le han recomendado el médico.	Mantener medicamentos en su contenedor original con la tapa herméticamente cerrada.	Deschar en una bolsa sellada, mezclada con tierra, café molido usado, o arena para gatos.
Escritas instrucciones para asegurarse que se administran la dosis correcta en el momento adecuado.	No se refiera a los medicamentos como dulces.	Deschar en una bolsa de desactivación de drogas.

Para más consejos de seguridad con los medicamentos, disposición, métodos alternativos de dolor para niños y una lista de medicamentos desechable, visite:
www.PediatricTrauma.org/MedicationSafety

CENTRO DE AYUDA DE CONTROL DE VENENO: 1-800-222-1222

En alianza **KOHL'S cares**

Korean

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부모님을 위한 의약품 안전사용 정보

안전복용	안전보관	안전폐기
정확한 용량과 횟수로 복용하십시오. 의사의 지시에 따라 복용하십시오.	어린이의 손이 닿지 않는 곳에 안전하게 보관하십시오.	의약품은 안전용 폐기용 봉투에 넣어 폐기하십시오.
다른 사람과 의약품 공유하지 마십시오. 의약품은 어린이의 손이 닿지 않는 곳에 안전하게 보관하십시오.	의약품은 어린이의 손이 닿지 않는 곳에 안전하게 보관하십시오.	의약품은 안전용 폐기용 봉투에 넣어 폐기하십시오.
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의약품 보관과 폐기, 아동의 통증 완화법에 대한 정보와 번거로움에 버림 수 있는 약품의 목록에 대한 정보는 밑에 웹사이트에서 볼 수 있습니다:
www.PediatricTrauma.org/MedicationSafety

독극물 관리 센터: 1-800-222-1222

협력하여 **KOHL'S cares**

Mandarin

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家长用药安全须知

安全服用	安全保存	安全丢弃
成人请勿给儿童服用任何药物。请仔细阅读药品说明书。	将药物存放在儿童无法触及的地方。	将药物放入密封袋中，并放入指定的药物回收箱。
不要给孩子服用过期药物。	将药物存放在阴凉、干燥、避光的地方。	不要将药物倒入下水道或马桶。
写下医嘱的时间和剂量，并按时服用。	不要给孩子服用他人的药物。	将药物放入密封袋中，并放入指定的药物回收箱。

如需更多药物储存和处置的窍门，其他儿童疼痛管理的方式和可冲洗药物清单，请访问以下网站:
www.PediatricTrauma.org/MedicationSafety

中毒控制中心电话: 1-800-222-1222

合作伙伴 **KOHL'S cares**

French

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Conseils aux les parents sur la sécurité des médicaments

Administrez en toute sécurité	Conservez en toute sécurité	Éliminez en toute sécurité
Ne laissez pas un enfant utiliser le dispositif de dosage qui vient avec le médicament.	Ranger les médicaments dans un endroit sûr, à l'abri des enfants.	Remettre vos médicaments à la pharmacie ou dans un centre officiel de collecte de médicaments non sûrs.
N'administrez pas un médicament prescrit à une autre personne.	Conservez les médicaments dans leur contenant original avec le couvercle bien fermé.	Ne jetez pas à la poubelle vos médicaments dans un sac hermétique avec de la terre, du café usé ou de la litière pour chats.
Établissez un horaire afin que la dose prescrite soit administrée au bon moment.	Ne dites pas à vos enfants que les médicaments sont des bonbons.	Écrivez de vos médicaments dans un sac de neutralisation.

Pour davantage de conseils sur la conservation et l'élimination des médicaments, des méthodes alternatives pour soulager la douleur chez les enfants ainsi qu'une liste de médicaments pouvant être jetés à la toilette, veuillez consulter le site:
www.PediatricTrauma.org/MedicationSafety

CENTRE ANTIPOISON: 1-800-222-1222

En collaboration avec **KOHL'S cares**

Japanese

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親御さんへの医薬品の安全に関する秘訣

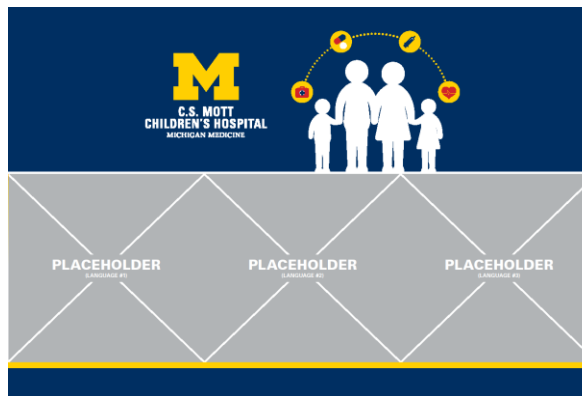
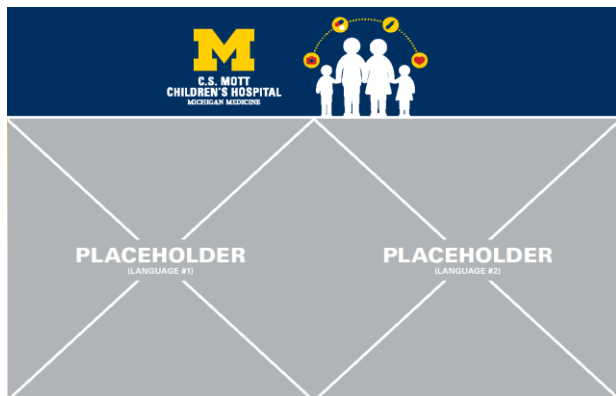
安全に与えよう	安全に保管しよう	安全に捨てよう
大人が子供に薬を服用させることは絶対にしないでください。	薬を子供の手の届かないところに安全に保管してください。	薬を子供が入れないような袋に入れて、指定の回収箱に入れてください。
子供に他人の薬を服用させることはしないでください。	薬は涼しい、乾燥した場所に保管してください。	薬をトイレや排水口、シンクなどに流さないでください。
正しい服用時間と量を記録し、その通りに服用してください。	子供に薬が甘いものだと教えないでください。	薬を子供が入れないような袋に入れて、指定の回収箱に入れてください。

正しい薬の保管と処分の方法についての他の秘訣や子供の痛みの代替的な管理方法やトイレに流せる薬剤の一覧表については次のウェブページを参考にして下さい。
www.PediatricTrauma.org/MedicationSafety

ポイズンコントロール・ヘルプセンター (中毒管理サポートセンター): 1-800-222-1222

協力 **KOHL'S cares**

Partnering with our Clinics



ENGLISH

Medication Safety Tips for Parents

Give Safely	Keep Safely	Toss Safely
Make sure an adult is using the dosing device that came with the medicine.	Keep medications locked up and away from child's reach.	Find an authorized collector or community Take Back Event for unused medicines.
Do not give medicine that was prescribed to someone else.	Keep medicine in its original container with the lid tightly sealed.	Throw away in a sealed bag, mixed with dirt, used coffee grounds, or cat litter.
Write a schedule to make sure the right dose is given at the right time.	Don't tell children that medicine is candy.	<p>-OR-</p> Throw away in a drug deactivation bag.

For more tips on proper medication storage and disposal, alternative pain management methods for children, and a flushable medication list please visit:
www.PediatricTrauma.org/MedicationSafety

POISON CONTROL HELP CENTER: 1-800-222-1222

In partnership with **KOHL'S** cares

- ✓ English
- ✓ Spanish
- ✓ French
- ✓ Korean
- ✓ Japanese
- ✓ Chinese
- ✓ Arabic

Partnering with our Pharmacy

- “Mandatory” education was already taking place between Pharmacists and caregivers of children 12 years and under
- Hospital Pharmacy staff were more than willing to partner with our team to deliver education to all families with a pediatric patient filling an opioid prescription prior to discharge, expanding current education to include families with 13-17 year olds
- Standardized the educational delivery process and made it more interactive










Partnering with our Pharmacy



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MICHIGAN MEDICINE

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KOHL'Scares

Medication Safety Tips

Give Safely	Keep Safely	Toss Safely
 Make sure an adult is using the dosing device that came with the medicine.  Write a schedule to make sure the right dose is given at the right time.  Do not give medicine that was prescribed to someone else, and only use medicine for its intended purpose.	 Keep medicine locked up and away from child's reach.  Keep medicine in its original container with the lid tightly sealed.  Don't tell children that medicine is candy.	 Find an authorized collector or community Take Back Event for unused medicine.  Throw away in a sealed bag, mixed with dirt, used coffee grounds, or cat litter.  -OR- Throw away in a drug deactivation bag.

Emergency Numbers

Poison Control Help Center: **1-800-222-1222**

Taubman Center Pharmacy: **734-936-8260**

Your physician's office: _____



Drug disposal station at Michigan Medicine is located on the second floor of Taubman Health Center in the Neurosurgery Clinic, Reception G (Room 2630)
Open Monday to Friday
7:30 am to 5:00 pm

For more tips on proper medication storage, disposal, and alternative pain management strategies, please visit: www.PediatricTrauma.org/MedicationSafety



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The prescription received today is an opoid. Please review this sheet to ensure the opoid is given & stored safely.

Give safely

	Notes																				
Medication overview	Medicine name/brand _____ Dose _____ Circle pain type: Mild / Moderate / Severe																				
Medication Tracking	Use this format for tracking the doses of medicine your child receives and when he/she receives them. <table border="1"> <thead> <tr> <th>Medicine name</th> <th>Last dose</th> <th>Time of last dose</th> <th>Dose</th> <th>Time</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	Medicine name	Last dose	Time of last dose	Dose	Time															
Medicine name	Last dose	Time of last dose	Dose	Time																	
Side effect review	<input type="checkbox"/> Drowsiness <input type="checkbox"/> Upset stomach <input type="checkbox"/> Constipation <input type="checkbox"/> Other _____ Refer to the info sheet provided by the pharmacist to learn more about the side effects of your medication.																				

Keep safely

List some places in your home where medicine can be safely stored out of a child's reach.

	Kitchen
	Bathroom
	Bedroom
	Other

Toss safely

Scan the QR code to find drug disposal information and resources near you, or visit:
michigan-open.org/takebackmap



I will use these steps to safely administer medication prescribed to _____
Name of child

I will safely store this medication in _____
Location in home

I will throw away unused medication when it is no longer needed, using the following safe disposal method: _____
Method



One More Step

- Deterra® Drug Deactivation pouches now provided with education and all pediatric opioid prescriptions in Pharmacy
- An effort to help families safely dispose of unused opioids and other medications in a timely manner



Pedestrian/Wheeled Sport Safety

Roller Buggy!



Pedestrian/Wheeled Sport Safety

To Download Roller Buggy:

<https://itunes.apple.com/gd/app/roller-buggy/id1449150357?mt=8>



https://play.google.com/store/apps/details?id=edu.umich.rollerbuggy&hl=en_US



Distracted Driving & Walking Education



VR Game About Distractions...

...Stay Tuned!



Lessons Learned



- Must have patience
- Do your homework – know what's already happening & where
- Identify key stakeholders
 - Cast a wide net!
- Look for win-win's
- Think outside the box
- Evaluate and re-evaluate

Contact Information

Marie Snodgrass

Injury Prevention Program Lead

C.S. Mott Children's Hospital

Pediatric Trauma Program

mhamelin@med.umich.edu

734-232-9448

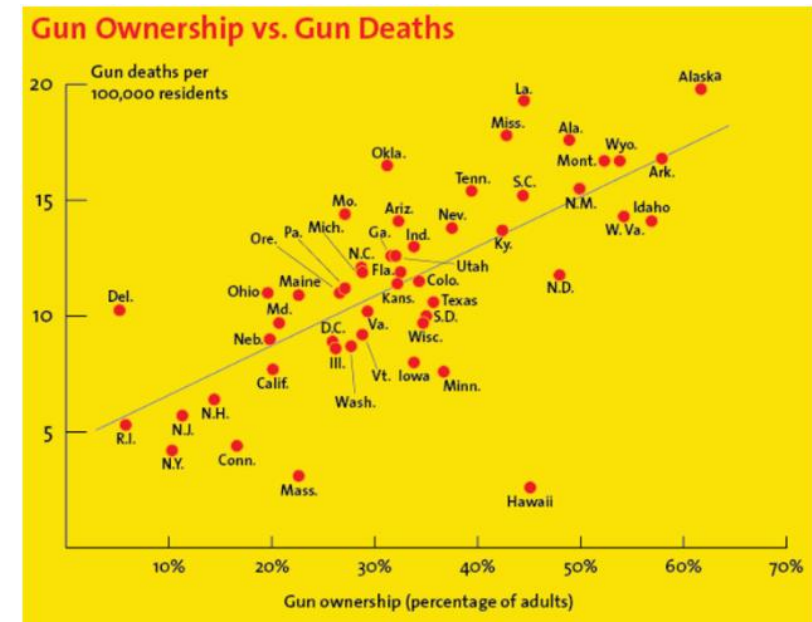
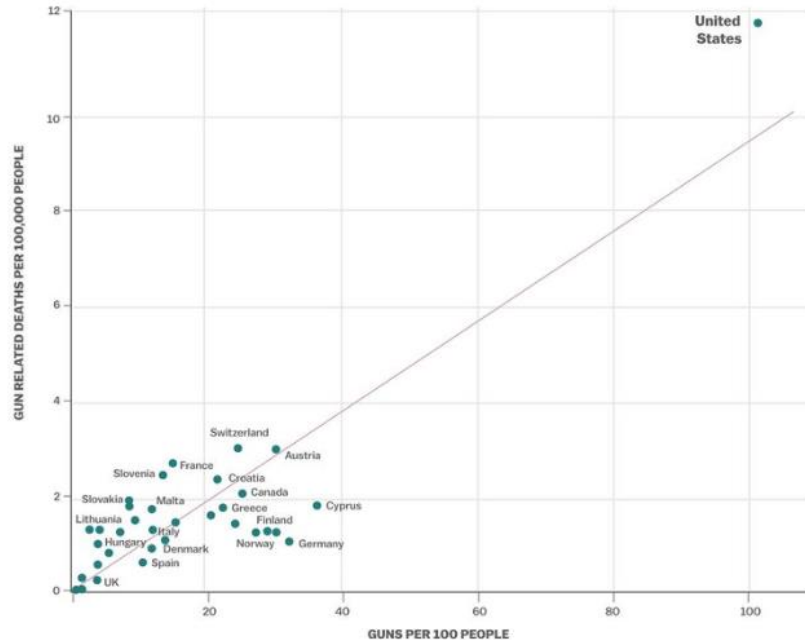
www.pediatrictrauma.org

~~Injury~~ Mortality Prevention

Preparing for the Potential of a
School Shooting in Your Community,
and Why You Should be Involved

Search for a Primary Contributing Factor

- Probability is the likelihood or chance of an event occurring.
- Americans own significantly more guns than citizens of most nations.
- There may be a correlation between gun ownership vs. gun death.



Consequence or Coincidence?

- American civilians own 393 million guns, both legally and otherwise.
- Almost 40,000 people killed in shootings (including suicide and assault by gun) in 2017, according to figures from the CDC.
- There were 340 US mass shootings in 2018, which means there were nearly as many shootings as days in the year.
- In 2018, 373 people died in mass shootings; 1,346 others were injured.
- There were 24 school shootings in 2018.

Hospitals are not immune

- “Let’s not fool ourselves. We live in the most violent industrialized country in the world,” said Alexander L. Eastman, MD, MPH, FACS, with the University of Texas Southwestern Medical Center, Dallas.
- Dr. Eastman refers to hospital shootings as “rare but powerful events” noting the 154 hospital shootings between 2000 and 2011.
- A 2015 study conducted by researchers at Brown University found that of the 241 incidents of hospital shootings from 2000 to 2015

Leading Causes of Child and Adolescent Death

Leading causes of child and adolescent death

In 2016, there were 20,360 deaths of people under the age of 19 in the U.S. Firearms were the second most common cause of death.

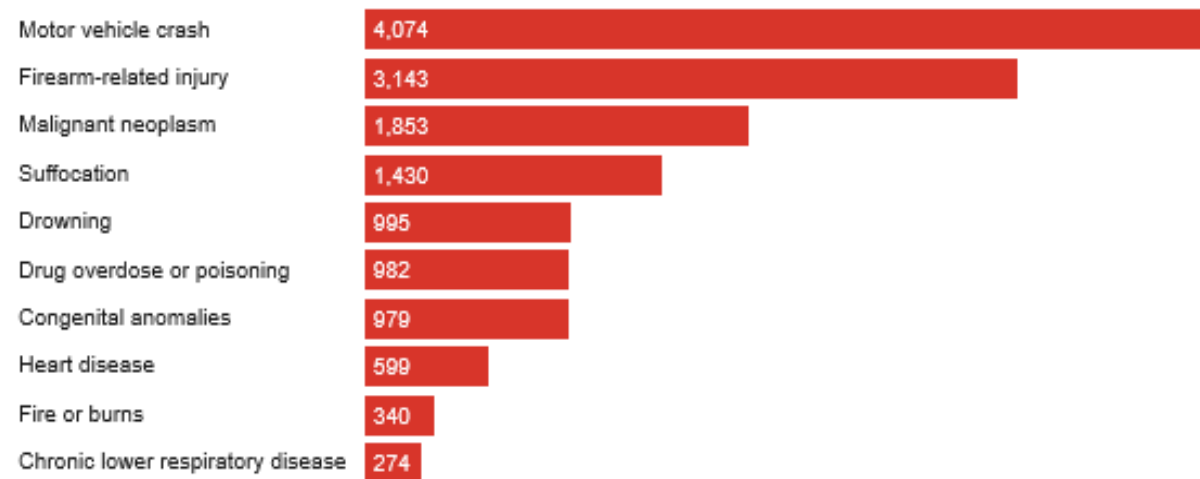


Chart: The Conversation, CC-BY-ND • Source: [New England Journal of Medicine \(2018\)](#) • [Get the data](#)

Save the Children

- Since 2013 fatal firearm injuries for children and teens have risen unabated.
- Rates of death from firearms among ages 14 to 17 are now 22.5% higher than motor vehicle-related death rates.
- U.S middle and high school aged children are more likely to die as the result of a firearm injury than any other single cause of death.

What are the odds?

- School shootings, especially those with multiple casualties, draw significant attention. Despite their impact, they're also statistically rare.
- One expert puts the odds that a K-12 student will be shot and killed at a public school at roughly 1 in 614 million
- Other fatal tragedies, like being struck by lightning, are statistically more likely.

There were 24 school shootings in 2018



24

School shootings with injuries or deaths



114

People killed or injured in a school shooting



35

People killed



79

People injured



28

Students killed



7

School employees or other adults killed

If the average American knows approximately 600 people, then 68,400 lives (114×600) were impacted by school shootings in 2018 alone.

Long odds are less impressive to people effected by an event...

Lightning Strike At PGA Tour Championship Injures Six Spectators



Gabe Fernandez

8/25/19 11:18am • Filed to: LIGHTNING ▾



Fires and Firearms

- Schools guard extensively against fires by using fire drills, sprinkler systems, building codes, etc.
- Excluding dorm fires, no child has died from fire in a U.S. school in more than 25 years, according to a report from the Police Officers Safety Association.
- On the other hand, more than 200 deaths have occurred by shootings in the same period.
- Schools appropriately remain vigilant for an event that hasn't happened in 25 years, while the "odds" are low a need to be prepared remains.

Our charge: the Wisdom of the ACS

- “Optimal Care for the Injured Patient” defines our professional response to the injury phenomena of school shootings
 - Collect objective facts, and use aggregate data to inform action
 - Develop and implement relevant injury prevention strategies
 - Participate in site emergency preparedness planning and response strategies
 - Participate in trauma network data sharing, injury prevention efforts, and regional emergency preparedness planning

Active Shooter Mass Casualty Incident Uniqueness

- Unlike any other “one and done” mass casualty event, the active shooter MCI is a dynamic event with an escalating number of injuries/victims.
- High probability for first responder delays in obtaining access to, and providing hospital transport for, the injured.
- Unprecedented inter-agency communication and coordinated effort is required to ensure a safe and effective response.
- An effective response plan for the active shooter mass casualty event provides an effective foundation for response to *all other MCI*.

Lessons learned from mass casualty shooting: **More can come than you expect – or have room for...**

Pulse Nightclub shooting

- Orlando Regional Medical Center received 44 gunshot victims in total
- Thirty-six gunshot victims arrived in 36 minutes
- A third of the victims were brought by police, not ambulance.

Lessons learned from mass casualty shooting: **More can come than you expect – or have room for...**

Las Vegas

- In the Las Vegas tragedy the shooter killed 58 people, and injured more than 800 other people. The majority of injured self-transported.
- Sunrise hospital saw 212 patients and performed 58 surgeries.
- Desert Springs Hospital - Gunshot wound victims poured into the ER at a rapid pace. They came by Uber, buses, taxis, private vehicles, police escort, ambulances, and even on a stolen truck.

Lessons learned from mass casualty shooting: **More can come than you expect – or have room for...**

- Aurora theatre shooting
- The first patients, a mother and her 4-month-old child, arrived at the University of Colorado Hospital by private vehicle.
- Within five minutes of the first patients' arrival, police officers began bringing more victims to the hospital for treatment.
- Within about 15 minutes, nine Aurora police patrol cars each transported between one and three patients to UCH.
- In total, UCH received 23 patients, only 3 victims arrived by ambulance

Lessons learned from mass casualty shooting:
There may be no notice, and your ER may already be full.

Desert Springs Hospital (Las Vegas)

- The hospital did not have time to set up the labor pool, implement the triage telephone tree, or set up an official Incident Command.
- DSH was notified to expect no more than 50 victims.
- DSH had received a total of 105, more than any Level 1 Trauma Center in the Valley had received.

Lessons learned from mass casualty shooting: A “Second Surge” will arrive almost immediately

- A “Second Surge” of family and friends will arrive almost immediately.
- Anticipate an average of 6 – 7 family members/friends for each victim
- “One thing the hospital wasn’t ready for? Hundreds of loved ones gathering at the hospital, desperate for news.”
- Hospitals weren’t as ready for the swarms of media that showed up at their doorsteps, along with victims’ family members.

Other lessons learned...

- Rapid arrival and volume of patients may overwhelm your triage plan.
- Infection control and contamination is a serious concern due to the amount of blood being spread everywhere. Blood contaminated everything – requiring additional supplies and reprocessing of equipment. Environmental cleaning was continuous.
- Electronic patient registration may not be able to keep up with speed of patient arrival.

Preparing for the potential shooting MCI

- Hope for the best, prepare for the worst.
- Support a mindset that lightening *does* strike, and it can strike where you are. A mindset that - *it's not a matter of if, it's a matter of when*.
- It is evidenced-based fact that preparation, collaboration and regular disaster drills within trauma systems will save lives.
- Preparedness to respond to a mass casualty shooting MCI, is comprehensive preparation for virtually all other MCI.

Hospital and Community Planning

- Involvement in both site, and community, preparation is necessary.
- A well-designed hospital disaster plan should anticipate a large number of patients, but be generic enough that it can be adjusted to the event. The plan should clearly lay out how operations need to change to ensure there are adequate resources (personnel and supplies) as well as adequate room to expand services quickly.

Hospital and Community Planning

- Involvement in both site, and community, preparation is necessary.
 - Community preparation requires that responders have a clear idea of response strategies and actions before the incident occurs.
 - The first step of preparation is a review of jurisdiction guidelines and procedures - if they exist - for responding to a mass shooting. Seek out the local, county, and/or regional hazard mitigation plan.
 - The next step is to participate in planning with all of the key agencies together: law enforcement, fire, EMS, Dispatch, City and Emergency Managers, regional Medical Control Authority (MCA), hospitals, and school systems.

What my school “backyard” looked like

- Two facilities: Level 3 trauma hospital, and a 7-bed free-standing ED
- High schools A:
 - 1749 students
 - < 2 miles from Level 3 hospital
 - Accessible via 25 mph residential streets from 2 directions
 - Fully cut off from 1 direction by a park and river
- High school B:
 - 7000 students
 - < 2 miles from free standing ED
 - 9.5 miles from nearest trauma center

Planning with key agencies – one way to start

- Acknowledge the potential for a local school shooting.
- Select a potential casualty count. 12 to 20 victims was selected to represent a plausible but significant number of casualties.
- Develop a basic profile for the school being planned for.
- Initiate development of a school shooting scenario response plan with your hospital emergency ,management committee.
- Facilitate a meeting with local fire and police chief representatives.
- Facilitate expanded planning meetings with all key agencies.

High School “A” Profile

1. Number of students: 1749
2. Map it



3. Calculate distance from school to regional hospital resources

Starting point	Hospital	Time/Distance	Trauma Capability
WM HS to:	BH-Wayne	7 min; 1.9 miles	III
WM HS to:	Garden City	18 min; 6.5 miles	III
WM HS to:	St .Mary	21 min; 13.6 miles	II
WM HS to:	BH-Dearborn	23 min; 10 miles	II
WM HS to:	BH-FH	31 min; 24 miles	II
WM HS to:	St. Joseph Ypsilanti	32 min; 22 miles	I
WM HS to:	U of M	39 min; 19 miles	I
WM HS to:	U of M - Mott	38 min; 23 miles	I

High School “B” Profile

1. Number of students: 7000
2. Map it



3. Calculate distance from school to regional hospital resources

Starting point High School	Hospital	Time/Distance	Trauma Capability
PCEP	St. Mary Livonia	9.5 mile =17 min	II
PCEP	U of M Hospitals	17.1 mile = 25 min	I
PCEP	St. Joseph Ypsilanti	14.1 mile = 25 min	I
PCEP	BH-Wayne	14.1 mile = 25 min	III
PCEP	BH-Canton	1.8 mile = 5 min	NA

4. Remember that EMS transport to trauma-center time is doubled (+ drop off time) for return to scene availability.
5. Consider – Should some casualties be transported to a safe site for stabilization, then secondary transfer to definitive care? Multiple patients/ambulance? Hand-off from municipal EMS to private ambulance for long distance transport to hospital?

Evolution of a “template”

Basic Planning Information and Questions

Name of School

1. Determine total number of Students: XXXX. Consider premise of 12 – 20 GSW victims.
2. Insert map to provide perspective, evaluate access routes, egress routes, geographic barriers



3. Calculate transport times to regional trauma center resources:

Starting point High School	Hospital	Time/Distance	Via route	Trauma Capability
				III
				II
				II
				I
				I

Consider that EMS transport to trauma center time is doubled (+ drop off time) for return to scene availability. Often the time involved in a full transport and return to scene will effectively remove that ambulance from service for the duration of the incident. Would it be better for some casualties to be transported to nearby safe site for stabilization, followed by secondary transfer to definitive care?

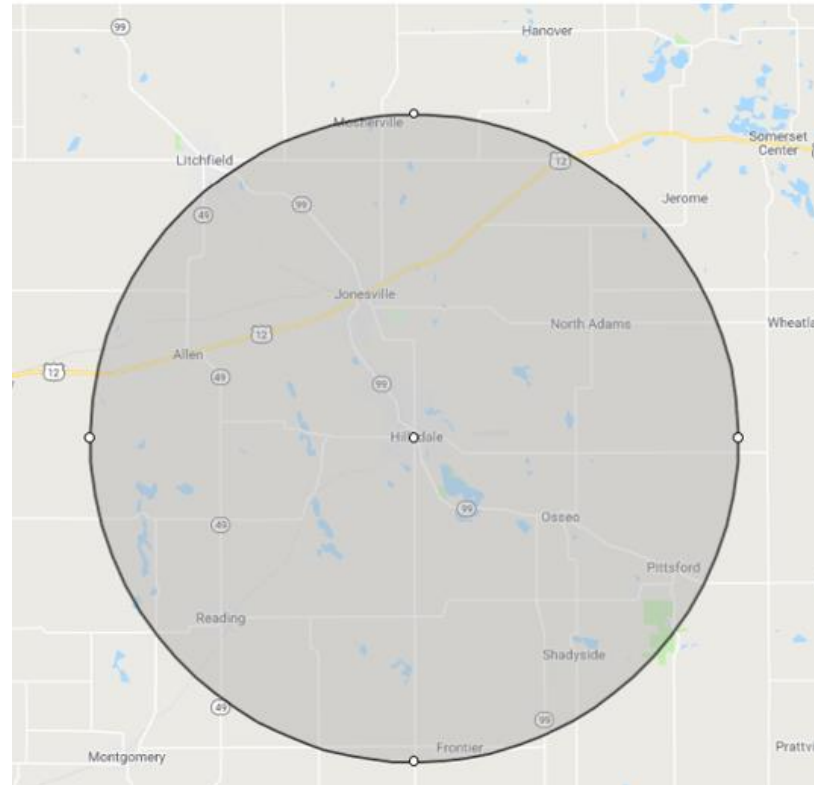
4. Consider variables that will effect planning:
 - a) Number of casualties
 - b) Accessibility of path to and from address
 - c) Active shooting versus shooting cessation. Accessibility of safe path to and from victims.
 - d) Transport availability and distance to treatment centers.
 - e) Safety of air transport helicopter at MCI scene
 - f) Consider whether definitive on-scene triage, emergency intervention, and direct ambulance routing to trauma center is appropriate or whether transfer to safe secondary site for re-triage, emergency intervention, secondary ambulance routing to definitive care, is appropriate for some or all of victims.

Additional Planning Variables

- Number of casualties
- Accessibility of path to and from school grounds
- Active shooting versus shooting cessation. Accessibility of safe path to-and-from victims.
- Transport availability and distance to treatment centers.
- Safety of air transport helicopter at MCI scene

Looking out: Radius Planning

School MCI Planning
10-mile radius surrounding Hillsdale Hospital



Planning by school

Jonesville Community Schools. Jonesville High (9-12). (Jonesville Alternate High (9-12).
Virtual 57 students)

Address: 460 Adrian St, Jonesville, MI 49250

District: Jonesville Community Schools

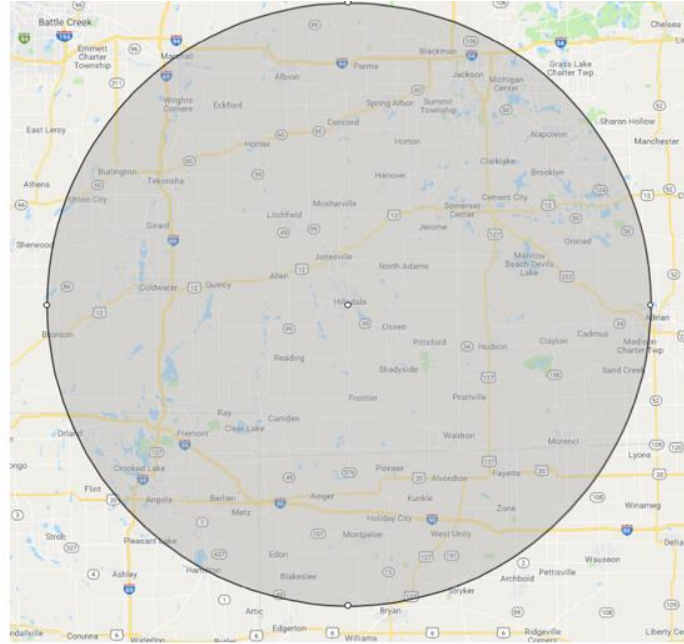
Phone: (517) 849-9934

Profile census: 422 students

Hospital	Address	Time/Distance	ED capability
Hillsdale Hospital	168 S. Howell St. Hillsdale MI	12 min / 5.8 miles	14 ED, yes OR
Promedica Coldwater	274 E Chicago St, Coldwater, MI 49036	28 min / 18.2 miles	17 ED, yes OR
Oaklawn Hospital Marshall	200 N Madison St, Marshall, MI 49068	43 min / 30.3 miles	13 ED (+6), yes OR
Promedica Bixby	818 Riverside Ave, Adrian, MI 49221	47 min / 38.5 miles	14 ED + FT, yes OR
HF Allegiance	205 N East Ave, Jackson, MI 49201	43 min / 33.6 miles	60 ED, full OR
U of M	1500 E. Medical Center Drive Ann Arbor MI 48109	1 hour 15 min / 69 miles	Full capacity
Bronson Battle Creek	300 North Avenue Battle Creek MI 49017	57 min / 53.6 miles	40 ED, yes OR
CHWC Montpelier, Ohio	909 E Snyder St, Montpelier, OH 43543	45 min / 30.4 miles	5 ED, no OR
CHWC Bryan, Ohio	433 W High St, Bryan, OH 43506	54 min / 39.5 miles	13 ED, yes OR
Cameron Memorial Hospital	416 E Maumee St, Angola, IN 46703	51 min / 39.3 miles	12 ED + overflow, yes OR



Planning with partners



Hospitals in 30 Mile Radius of Hillsdale MI

Hillsdale Hospital	168 S. Howell St. Hillsdale MI	To hospitals in 30 + mile radius	ED/OR attributes	Trauma level/ pediatric status
Promedica Coldwater	274 E Chicago St, Coldwater, MI 49036 517- 279- 5400	33 min / 21.4 miles	17 ED, yes OR	
Oaklawn Hospital Marshall	200 N Madison St, Marshall, MI 49068 269-789-7040	52 min / 44 miles	13 ED (+6), yes OR	
Promedica Bixby	818 Riverside Ave, Adrian, MI 49221 517-265-0900	45 min / 35.4 miles	14 ED + FT, yes OR	
HF Allegiance	205 N East Ave, Jackson, MI 49201 571-205-4800	52 min / 33.6 miles	60 ED, full OR	
U of M	1500 E. Medical Center Dr. Ann Arbor MI 48109 734-936-6666	1 h, 24 min / 73.5 miles	Full capacity	
Bronson Battle Creek	300 North Avenue Battle Creek MI 49017 (269) 245-8000	1 h, 5 min / 59 miles	40 ED, yes OR	
CHWC Montpelier, Ohio	909 E Snyder St, Montpelier, OH 43543 (419) 485-3154	34 min / 24.8 miles	5 ED, no OR	
CHWC Bryan, Ohio	433 W High St, Bryan, OH 43506 (419) 636-1131	45 min / 34 miles	13 ED, yes OR	
Cameron Memorial Hospital	416 E Maumee St, Angola, IN 46703 (260) 665-2141	46 min / 38 miles	12 ED + overflow, yes OR	

Community Plan: Who is in charge?

Who is in charge? Planned, established chain of command saves time, and lives.

- Who is in charge of the scene vs. who in charge of the incident?
- Can a preplanned joint operating (multi-agency) umbrella plan be established?
- Will the Joint Operating Center be actual or virtual? Or a virtual JOC merging into a physical JOC after it is established?

Community Plan: Communications: How will...

- Police talk to fire/EMS
- Local police talk to regional sheriff, state police etc.
- Dispatch talk to all first responder agencies
- Scene communicate to hospitals. Directly? Through regional MCA? Through regional dispatch?
- Municipal EMS talk to private EMS (can this be accomplished via regional medical control authority communication channel?)

Community Plan: EMS/Ambulance Resources

- Can a flexible 2 or 3 site staging area be determined for EMS staging during hot phase of incident?
- Is there a potential for municipal EMS agencies hand-off any of the initial patients evacuated to private EMS for transport to trauma centers – permitting municipal EMS to return to scene to work with their partner municipal PD?

Community Plan: Phases of Planning and Practice

- Initial plan development
- Table top drill development
- Table top exercise (TTX)
- TTX evaluation
- Functional/Full exercise development
- Functional/Full exercise
- Functional/Full exercise evaluation
- Final plan: plan archiving, sharing, communication
- Periodic plan review and revision

Community Plan: Planning the Plan

- Who are the key planning partners?
- How soon can you meet? How frequent of a meeting cycle can partners commit to?
- Who will have access to finished plans?
- How will the plan be housed – physical hard copy, e-plan, phone application, etc.?

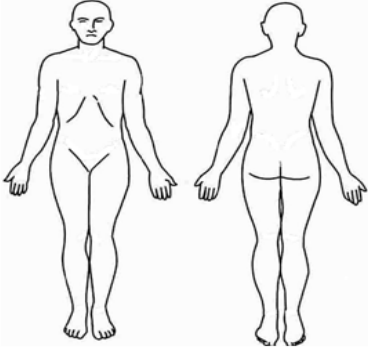
Hospital Planning

- Educate if necessary – Emergency Preparedness planning is an element of the trauma service process.
- Participate in development/refinement of the ED EOP for:
 - Opening/preparing ED space
 - Mass casualty TRIAGE
 - Opening/preparing space in OR
 - Incident/Command Center support of mass casualty resources: people, supplies/equipment, Security and Safety
 - Admission/Registration – prepared chart packs with Triage Tag
 - Family Assistance Center
 - Crisis counseling services for patients and staff
 - Blood product reserves management

Hospital Planning: Innovation and Emerging Best Practices

- Helicopters can do more than take patients away.
- Paradigms of EMS transport should be evaluated
- Registration, unidentified patient naming conventions, tracking
- Clustering mass casualty patients with similar intervention needs improves efficiency
- Triage process

Intervention Triage Path

NAME: _____	Visit ID#: _____
Age: _____ <u>Baby</u> <u>Child</u> Teen Adult Elder	Sex: M / F
Injury Map: B=bruise, X=burn, L=Laceration, P=penetration	
	
Conscious: Yes/No	Follows commands: Yes/No
Radial Pulse: Yes/No	Respirations: >30 or <10/min Yes/No
Green / MINIMAL <ul style="list-style-type: none">Ambulatory - walking wounded. Can wait for definitive attentionExamples: Small burns, lacerations, abrasions, and minor/small fractures	
Yellow / DELAYED <ul style="list-style-type: none">Intervention may be delayed several hours with reassessment.Injury examples: VS <u>stable</u> patients with large soft tissue wounds, long bone fractures, intra-abdominal or thoracic wounds, or burns to < 20% BSA.	
Red / IMMEDIATE <ul style="list-style-type: none">Require immediate life-saving intervention to prevent death"AABC" airway, arterial bleed, ventilation, circulatory issue(s)	
Black / EXPECTANT <ul style="list-style-type: none">Survival unlikely: extensive burns, severe penetrating or blunt head wounds, extensive multisystem injuries	

Intervention Triage

(circle all that apply)

Airway Control/Breathing Assist

Bleeding Control/Tourniquet

Chest Decompression

Head CT

Cervical collar/stabilization

Surgery evaluation/intervention

Pelvic Binder/Stabilization

Splint/Dressing

Closing “school safety observation”

10 lessons learned from the Sandy Hook school shootings

Posted by Ken Trump, December 4, 2013

- Lockdowns work and are one of the most effective tools available to get students and staff out of harms way.
- While 26 students and staff sadly lost their lives at Sandy Hook, many lives were saved due to students and staff locking down.
- The final report indicates that classrooms on both sides of the rooms where the killings occurred locked down and remained quiet with no one harmed. The shooter bypassed the first classroom that was locked down and had a piece of paper covering the window that remained from a lockdown drill the week prior to the shootings.

Closing school safety observation

Lockdowns are effective because it stops the flow of people.

- It slows the attacker, who is faced with locked doors everywhere he turns
- It gives victims time to hide themselves or assess what is happening and cooperate with responders
- It stops victims from interfering with responders inadvertently
- It allows responders to react according to the plan with less chance of injuring or killing victims as the only moving person should be the attacker.

Preparation is never wasted time.

- Anonymous

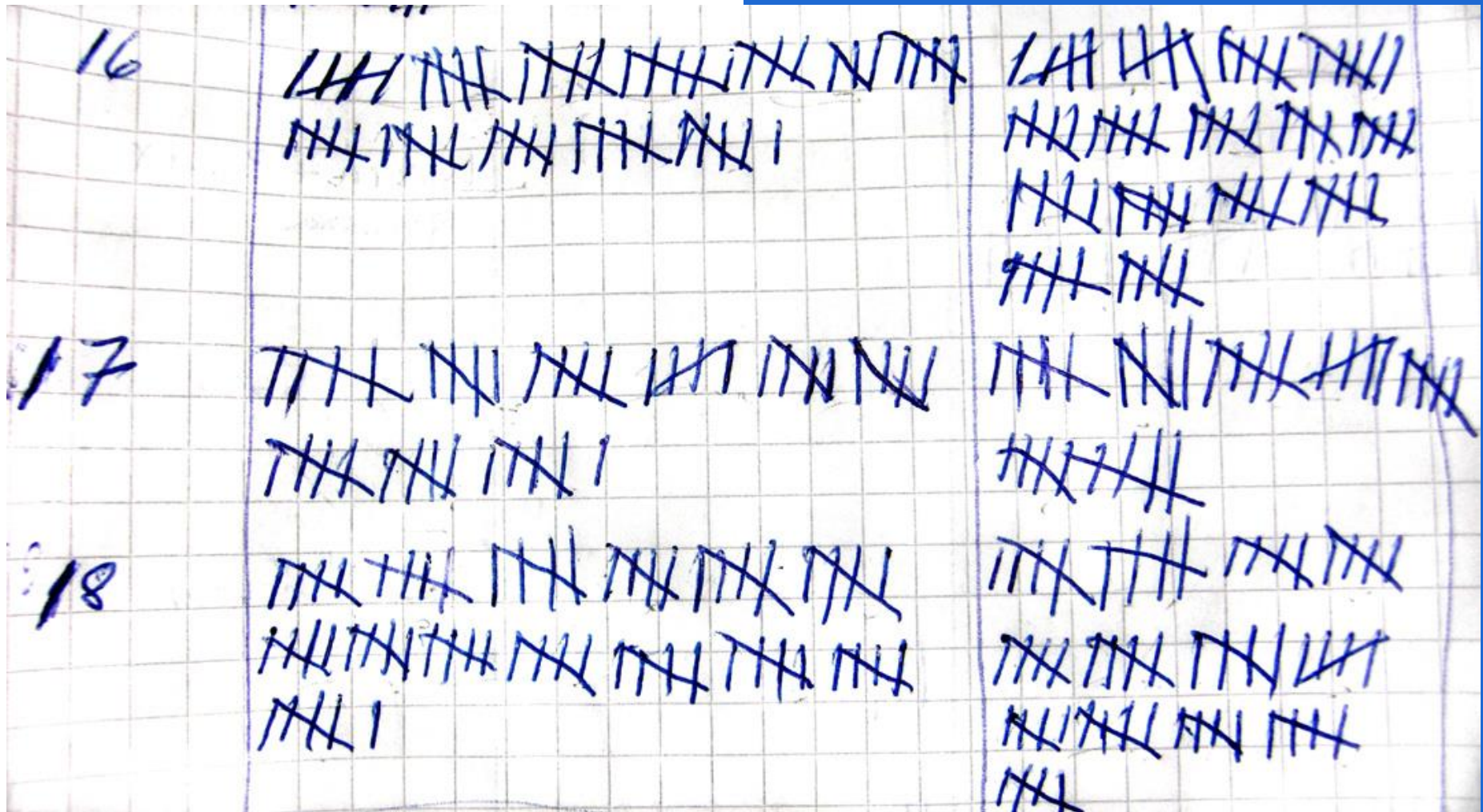
Preparation, collaboration and regular disaster drills within trauma systems will save lives. Maintain a culture of constant preparedness, frequent training and coordination with other agencies. It all comes down to relationships created before the disaster - and shared improvement through training.

Interacting with Your Audience Using Real Time Feedback: Kahoot

Presented by: Vanessa Mier, BSN, RN, HNB-BC
Injury Prevention Coordinator- Trauma Services
Ascension Providence Hospital, Southfield & Novi Campus



Injury Prevention Presentations



“empowers people to exchange
knowledge, experiences, and
informal feedback when it can have the
most impact”

What is Real Time Feedback?

Real Time Feedback

Benefits

- Little to No Tallying
- Pre-Test or Pre-Survey with no time delay
- Mid presentation pulse check
- Keeps audience awake and engaged
- Survey or Quiz the Individual or Group Exercises



Kahoot Web-based Platform

- FREE with upgrade options
- <https://kahoot.com>
- Create-Share-Search-Play



Playing Options



Player vs Player
1:1 Devices

Classic



Team vs Team
Shared Devices

Team mode

Create Options

1. **Quiz**- Choose from multiple answers. Several types of set ups.
2. **Jumble** – Drag answers in the correct order

Create a new kahoot

Quiz

Combine different question types
using our new kahoot creator



Create new

Jumble

Drag answers in correct order




Create new

Setting Up Questions

- **Quiz Question-** multiple choice (min 2 answers and max of 4)
 - Can even upload and play a YouTube video
- **True or False-** only option for participant to select
- **Slide-** add an explanation or other info between questions
- **Poll-** gathers opinions or surveys the participants

Type your question

20



Add question

Question bank



Quiz question

Choose the correct answer(s)
from multiple alternatives



True or false

Define whether the
statement is true or false



Slide

Add an explanation or other
info between questions

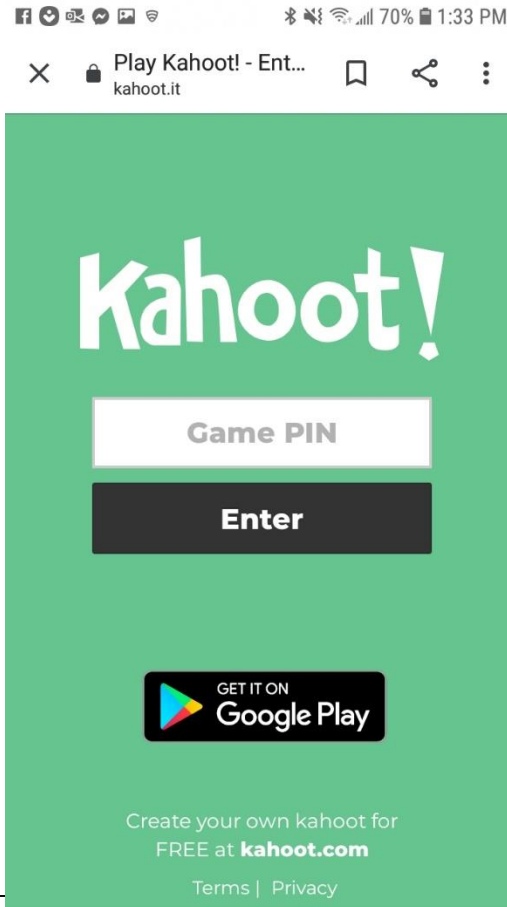


Poll

Gather player opinions

What Do They See?

Device View

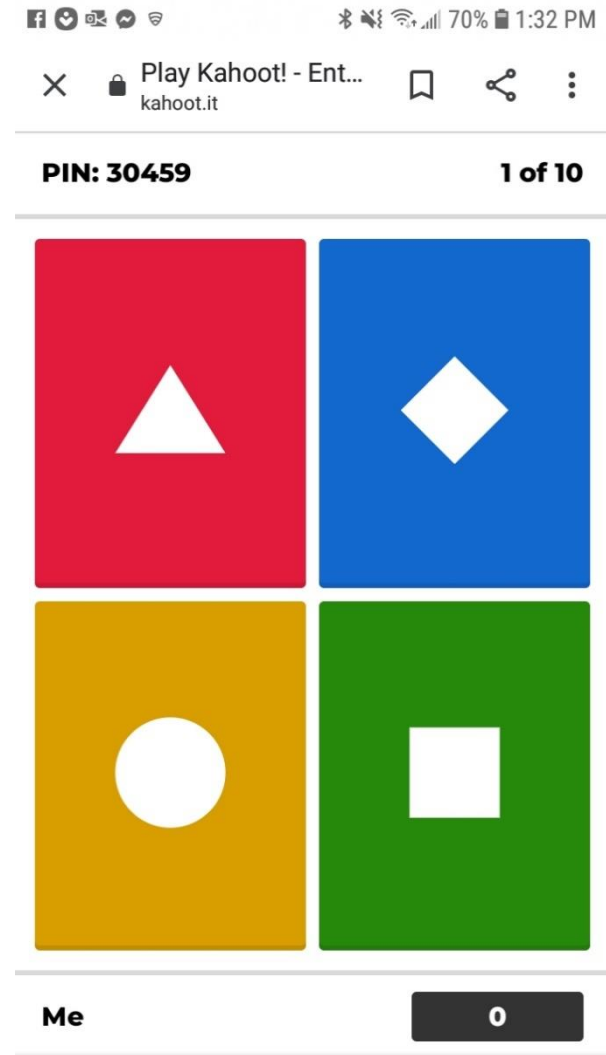
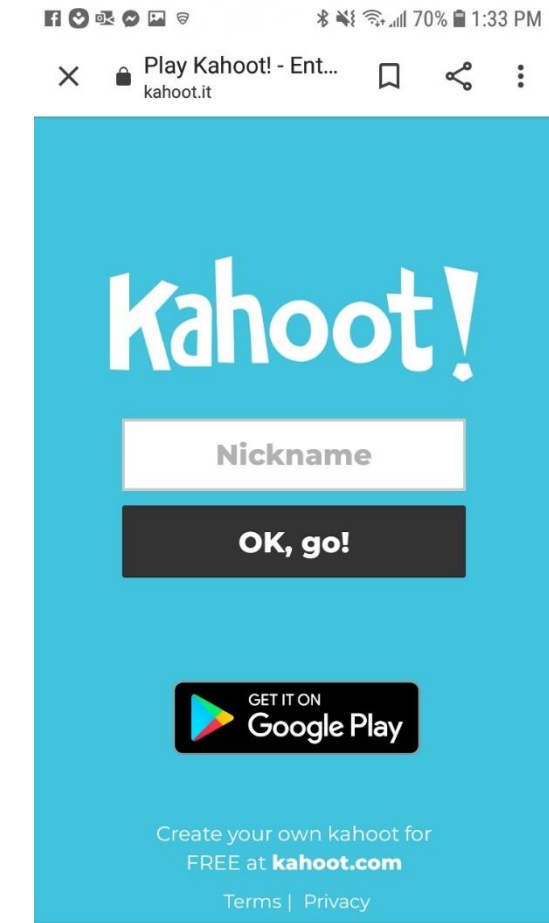


Projector Screen View



Device Views

What Do They See?



QUIZ Options

Pre Course Quiz

What is the first thing you do when an AED is available?

108



35
Answers

☒ Attached the pads

☐ Charge it

☐ Turn it on

☐ Open the packages to evaluate sizing

Exit preview

< 1 of 10 >



Survey/ Post Presentation Eval

The quality of the videos and materials provided were...



Go Full Screen

Skip

50

Course Content

Please answer the following questions on the course content on a scale of **Excellent- Good- OK- Poor**

0

Answers

▲ excellent

◆ good

● ok

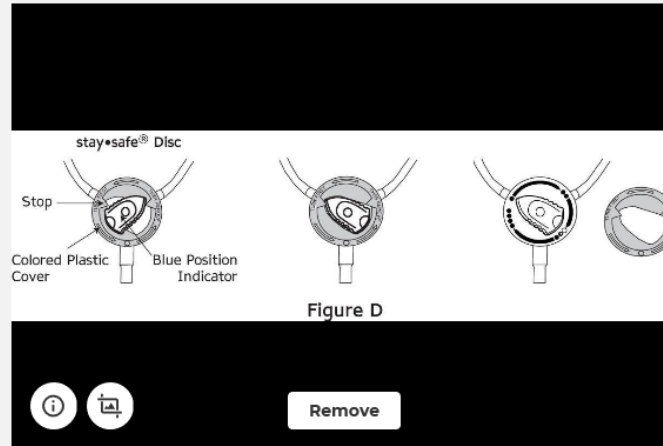
■ poor

QUIZ Option

Mid Presentation Pulse Check

The purpose of the color coded disc on the dialysate tubing is to:

30
sec



▲ Assist with placement in the organizer



◆ Keep the dial in place in the organizer



● Prevent the dial from moving during shipment



■ Identify the concentration of the dialysate solution



QUIZ Option

Team Challenge

pH: 7.36 PCO₂: 29 mmHg PaO₂: 108 mmHg HCO₃: 20 mEq/L

60
sec



Drag and drop image from your computer

Image library

Upload image

YouTube link

▲ Compensated Metabolic Alkalosis ✓



◆ Compensated Respiratory Acidosis ✓

● Compensated Metabolic Acidosis ✓

■ Compensated Respiratory Alkalosis ✓

Downloadable & Printable



Reports



Kahoots Reports Upgrade			
Date played ▾	Title ^	#Players ^	
Aug 26 2019, 3:14pm	5 Hot IP Topics for Infants & Children Presentation Eval	1	Download
Aug 26 2019, 1:49pm	5 Hot IP Topics for Infants & Children Presentation Eval	1	Download
Aug 26 2019, 1:38pm	PRE Course Eval: Pediatric CPR & Bleeding Control	1	Download
Aug 26 2019, 1:23pm	PRE Course Eval: Pediatric CPR & Bleeding Control	0	Download
Jul 16 2019, 11:08am	5 Hot IP Topics for Infants & Children Presentation Eval	17	Download
Jul 16 2019, 10:50am	Candy vs Medicine	18	Download
Jul 15 2019, 12:13pm	5 Hot IP Topics for Infants & Children Presentation Eval	1	Download
Jun 3 2019, 12:40pm	Candy vs Medicine	1	Download

Reports

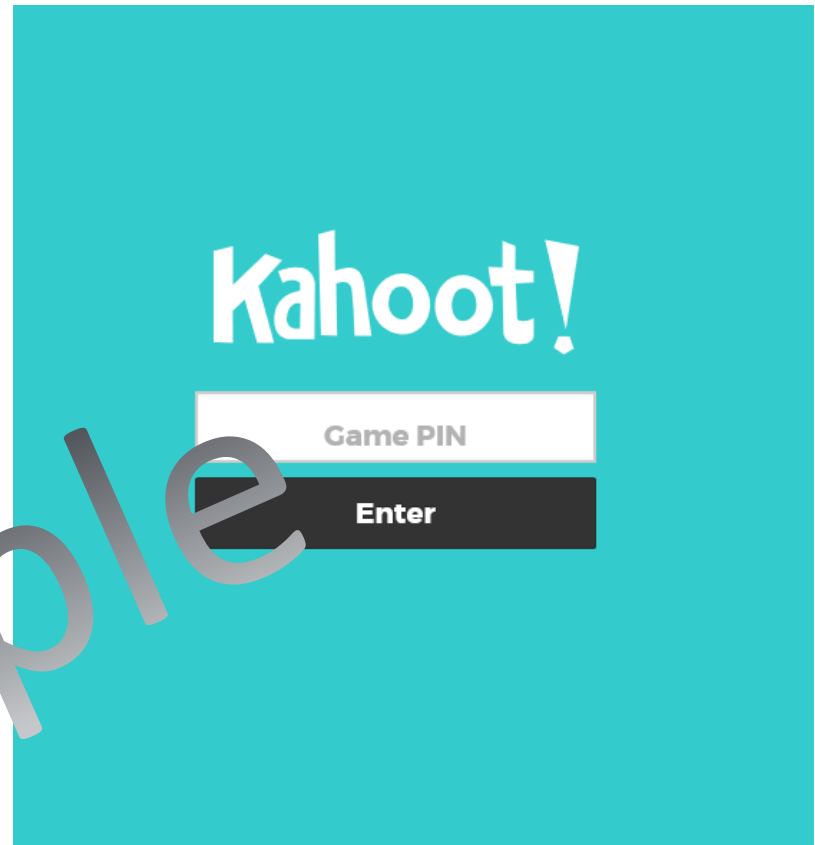
Excel

Candy vs Medicine			
Played on	16 Jul 2019		
Hosted by	nursevanessa07		
Played with	18 players		
Played	9 of 9 questions		
Overall Performance			
Total correct answers (%)	46.41%		
Total incorrect answers (%)	53.59%		
Average score (points)	3561.17 points		
Feedback			
How fun was it? (out of 5)	0.00 out of 5		
Did you learn something?	0.00% Yes		0.00%
Do you recommend it?	0.00% Yes		0.00%
How do you feel?		0.00% Positive	
Switch tabs/pages to view other result breakdown			
Overview Final Scores Question Summary Question 1 Question 2 Question 3 Question 4 Question 5 ...			

Survey Time!

Let's See How We Did....

1. Get out your phones
2. Go to <https://Kahoot.it>
3. Enter Game PIN
4. Enter a Nickname/make up name



Questions?

Get Creating..... <https://kahoot.com>