A WAKE UP CALL

"If a disease were killing our children in the proportions that 'accidents' are, people would be outraged and demand that this killer be stopped. Most injuries to people- and nearly all injuries to children- can be predicted and can be prevented"

-C. Everett Koop, MD, Former Surgeon General

Impact Teen Drivers

Saving Lives Together:
Engagement, Education, & Empowerment

- Number one killer of teens are motor vehicle crashes
- From 1999-2013 unintentional injuries and deaths for 10-19 yr olds decreased 49%
  - Between 2013-2016 increased 13% (62% coming from MVC)
- Traffic safety is a public health issue – car crashes are preventable

WHAT IS DISTRACTED DRIVING?

Distraction occurs any time you take your eyes off the road, your hands off the wheel, and your mind off your primary task: driving safely.

Visual:	Eyes Off Road
Manual:	Hands Off Wheel
Cognitive:	Mind Off Driving
Auditory :	Ears on Road

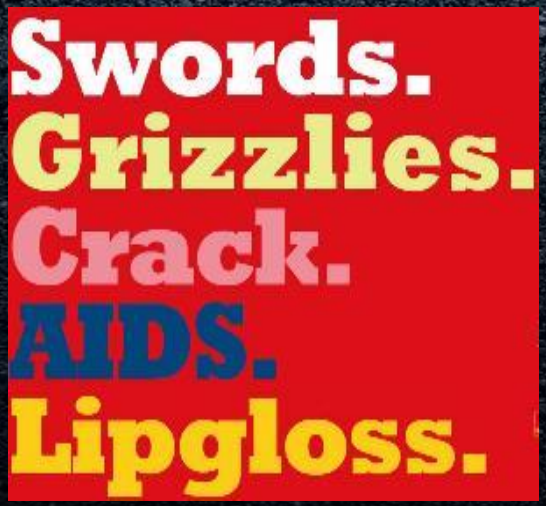
Visual, Mechanical and Auditory distractions are short lived
Cognitive distractions last much longer

- Multifaceted approach
- Using engaging, evidence-based strategies and education to empower teens and their influencers
- Creating behavior change in individuals that ultimately results in a culture change

Impact


What Do
You Consider
LETHAL?
CALIFORNIA HIGHWAY PATROL
Impact
Teen Drivers

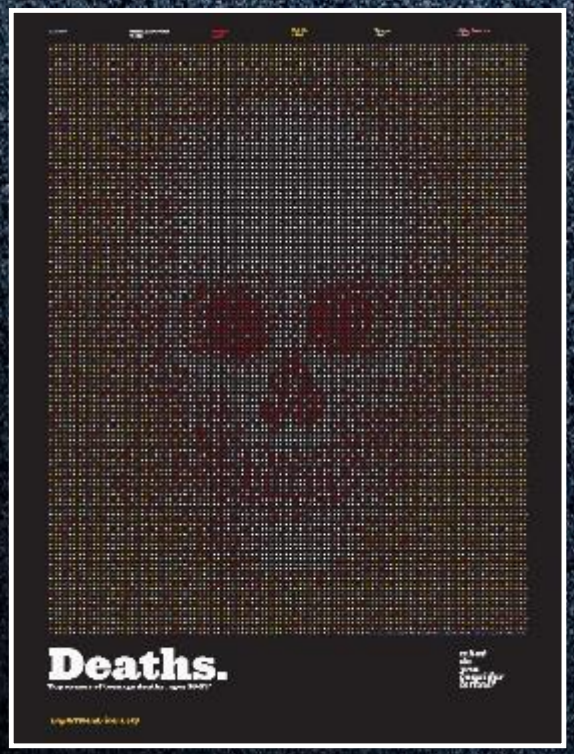
What Do You Consider Lethal?



WhatDo YouConsider LETHAL?

#1 Killer of Teens in America

- Each dot represents a teen who lost their life. The color represents how they lost their lives.
- Think about all the people behind each dot…their families, friends, classmates, and community.
- Car crashes are100% PREVENTABLE!



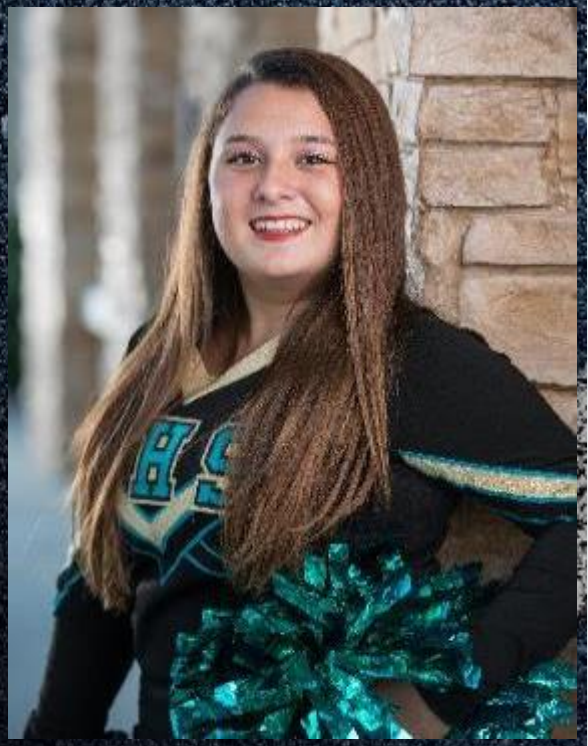
WhatDo YouConsider LETHAL?

What is Your Risk?

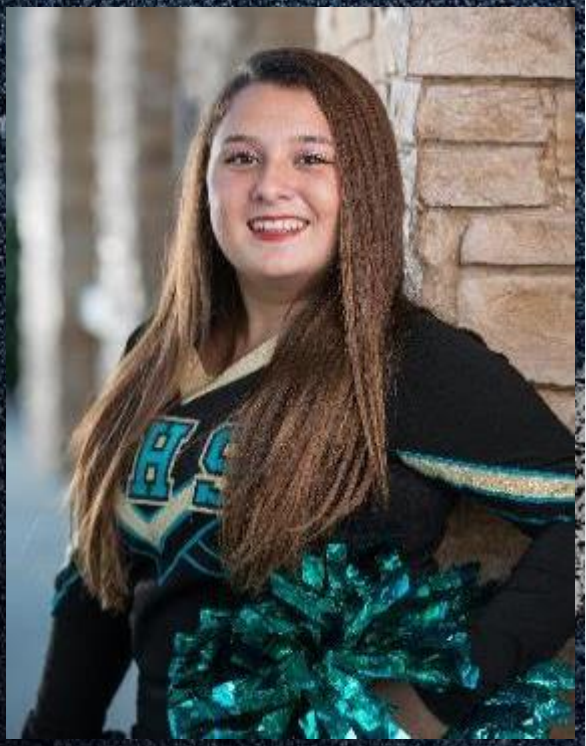
Every day behaviors can become lethal when done behind the wheel of a car.

WhatDo YouConsider LETHAL?

Remembering Lives Lost – Natalia's Story



Putting a Face to the Statistics – Natalia's Story

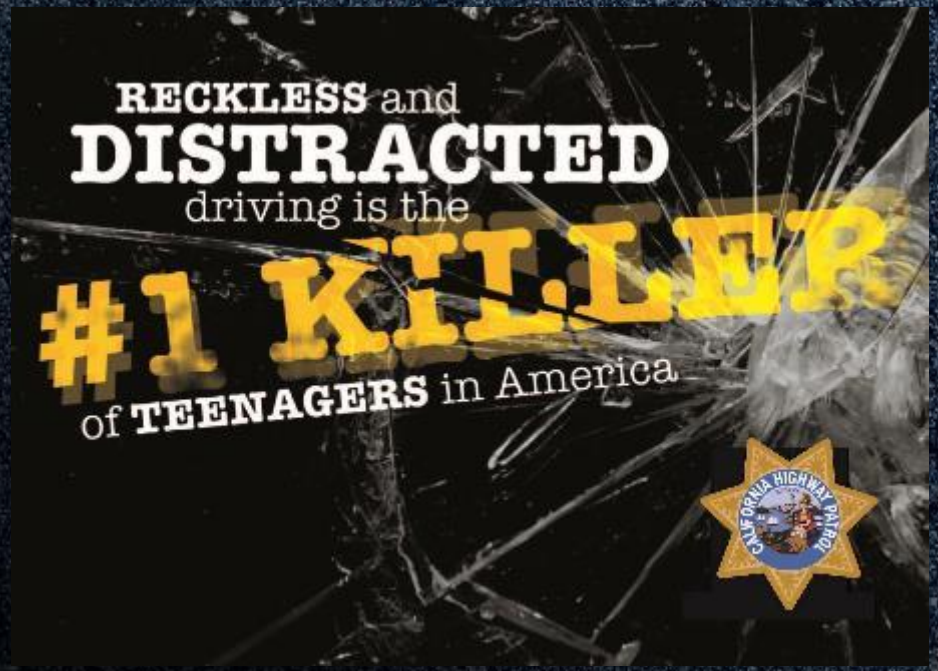


What Can You Do?

- Commit to a Game Plan
- Choose to Follow Graduated Driver Licensing Laws because they are in place to keep you safe
- Make Good Decisions in the Car…Every Ride
- Remember Car Crashes are 100% PREVENTABLE

WhatDo YouConsider LETHAL?

www.WhatsLethal.com



WhatDo YouConsider LETHAL?

Here's your opportunity

TO WIN MONEY

Enter the **Create Real Impact Contest** for a chance to win **$1,500!!!**

www.createrealimpact.com

WhatDo YouConsider LETHAL?

Create Real Impact- Video

WhatDo YouConsider LETHAL?

Thank you for being part of the solution!

Insert your name/title

- info@impactteendrivers.org
- www.impactteendrivers.org
- www.whatdoyouconsiderlethal.com

Like Us on Facebook! Facebook.com/impactteendrivers
Follow Us on Twitter! Impactdrivers and whatslethal

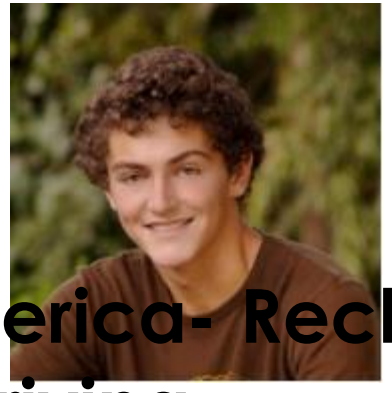
WhatDo YouConsider LETHAL?

HOW TO GET STARTED!

- Visit the Resource web page for the First Responders group www.ImpactTeenDrivers.org/Resource
- Use the easy to follow step-by-step approach for preparation which includes:
  - Review the outline and videos
  - Download files and order supplies
  - Watch narrated video demonstrations on resources and online links if needed
  - Print Prepare The Presenters Guide for additional outlines and activity options
- Make your presentation
- Contact us for assistance—you aren't alone!

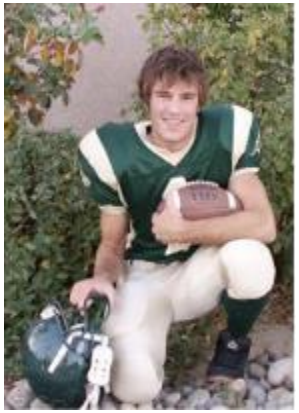
4,000 Teens Each Year Lose Their Life to Reckless and Distracted Driving




The #1 Killer of Teens in America- Reckless and Distracted Driving



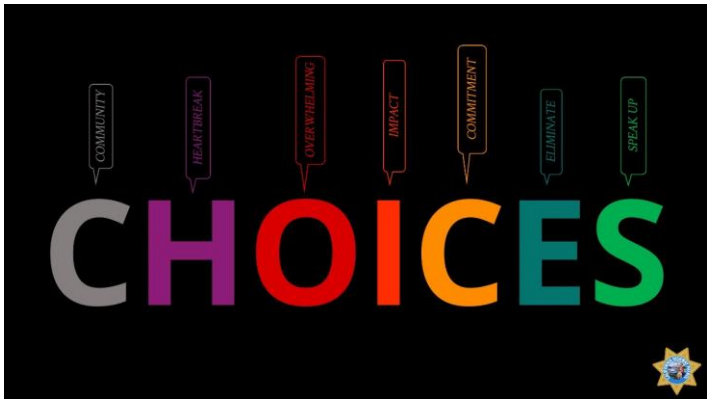



CURRICULA


Captain Powers and his Passenger Pets want to know, what YOU know about car safety?
PASSENGER POWER
Impact

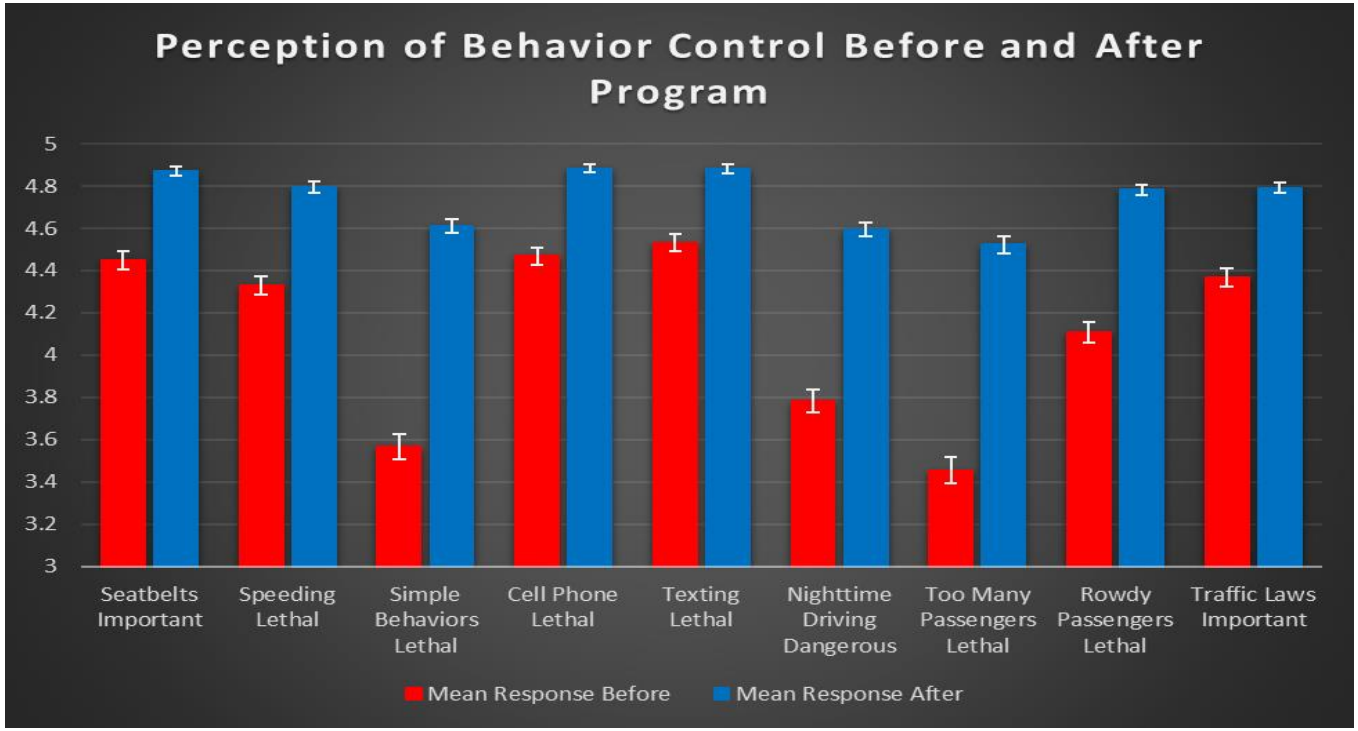

what do you consider
LETHAL?


ARE WE LIVING IN A
DREAM WORLD?
Impact
Teen Drivers

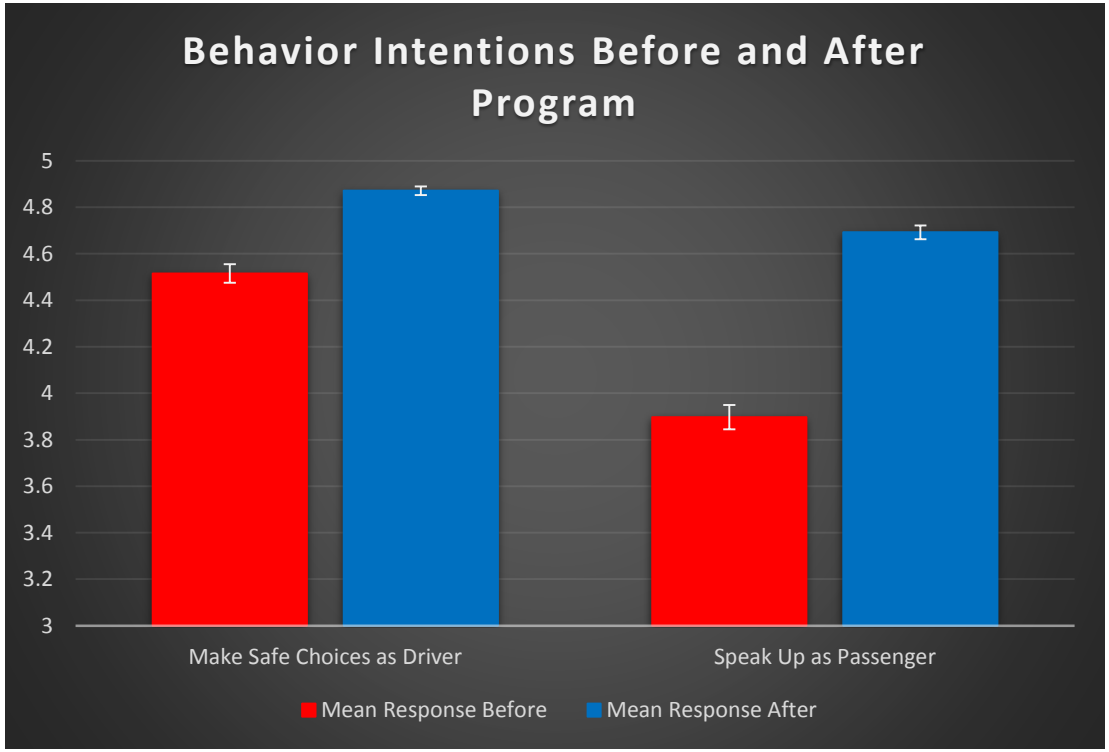

COMMUNITY
HEARTBREAK
OVERWHELMING
IMPACT
COMMITMENT
ELIMINATE
SPEAK UP
CHOICES

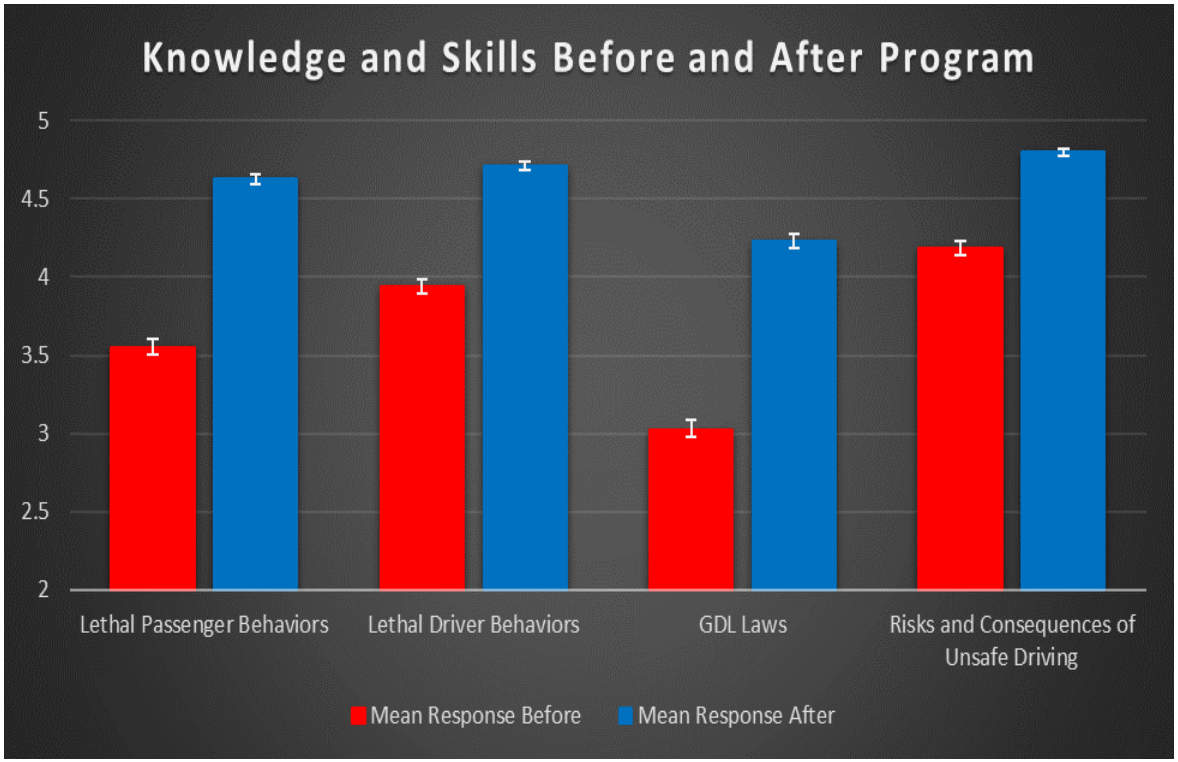

stay in
THE GAME

Let’s See…

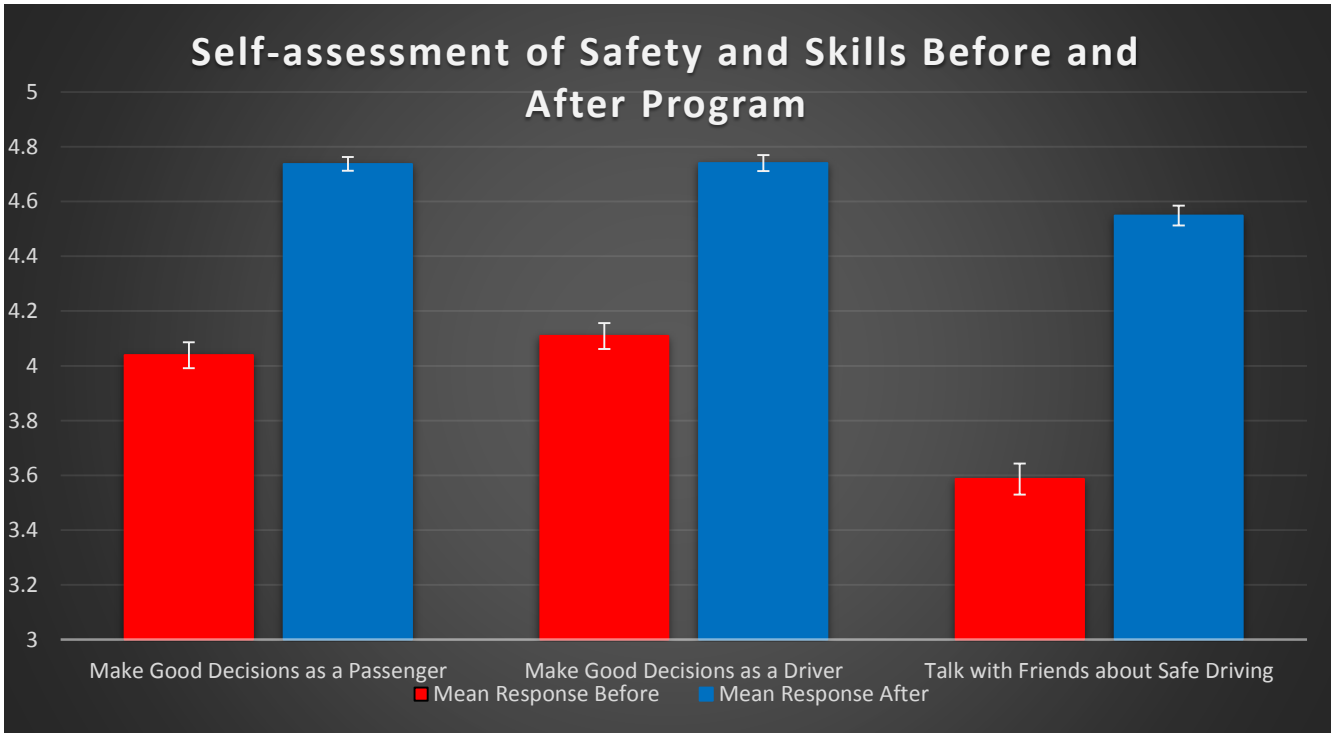

Perception of Behavior Control Before and After Program
5
4.8
4.6
4.4
4.2
4
3.8
3.6
3.4
3.2
3
Seatbelts Important
Speeding Lethal
Simple Behaviors Lethal
Cell Phone Lethal
Texting Lethal
Nighttime Driving Dangerous
Too Many Passengers Lethal
Rowdy Passengers Lethal
Traffic Laws Important
Mean Response Before
Mean Response After

Behavior Intentions




Knowledge and Skills Before and After Program
5
4.5
4
3.5
3
2.5
2
Lethal Passenger Behaviors
Lethal Driver Behaviors
GDL Laws
Risks and Consequences of Unsafe Driving
Mean Response Before
Mean Response After

SAFETY SKILLS



- Change social norms to reflect that driving distracted is not okay (e.g. seatbelt use).
- Empower people with effective education and strategies – critical elements to stopping the #1 killer of teens in America.
- Impact Teen Drivers provides high quality, evidence-based materials to those who serve our communities.

Kelly K. Browning, Ph.D., ITD, Executive Director

Impact Teen Drivers

(916) 733-7432 Phone

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- www.impactteendrivers.org
- www.whatdoyouconsiderlethal.com

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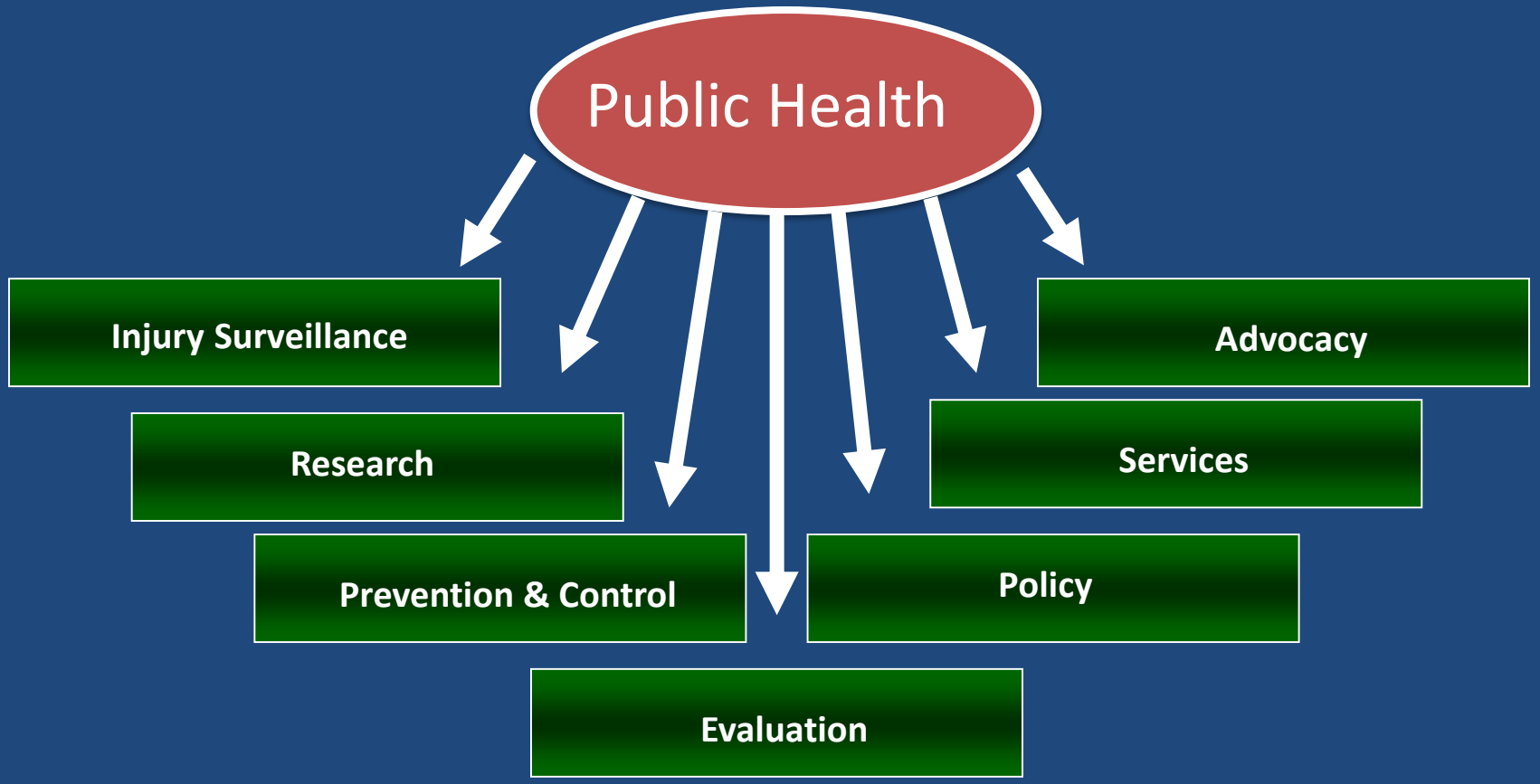
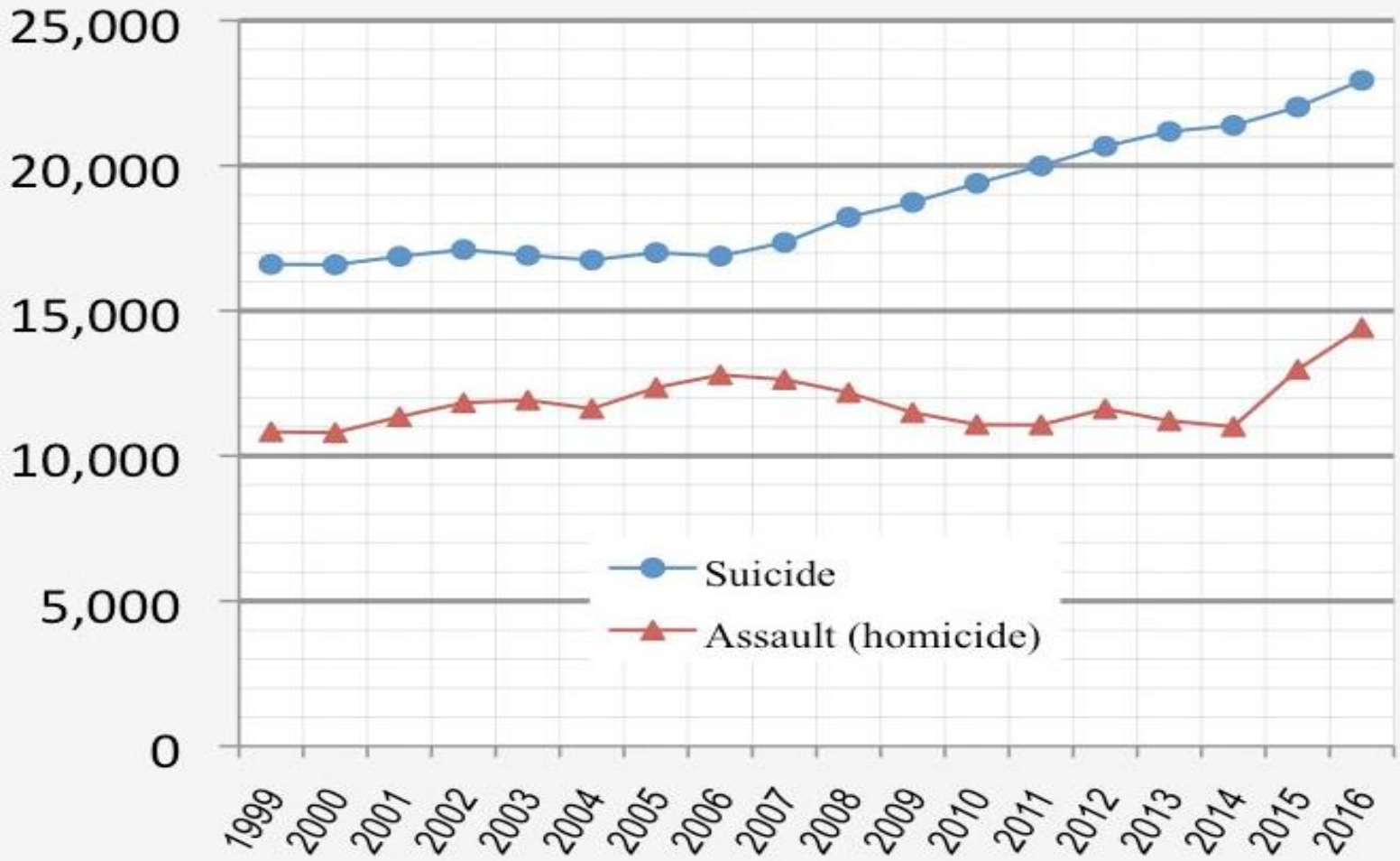
Social Determinants of Health: Closing the Revolving Door of Violence

Rochelle A. Dicker, MD
Professor of Surgery
University of California, Los Angeles
Founding Director: San Francisco Wraparound Project

INJURY Kills 6 Million Per Year

Injury IS a Public Health Problem



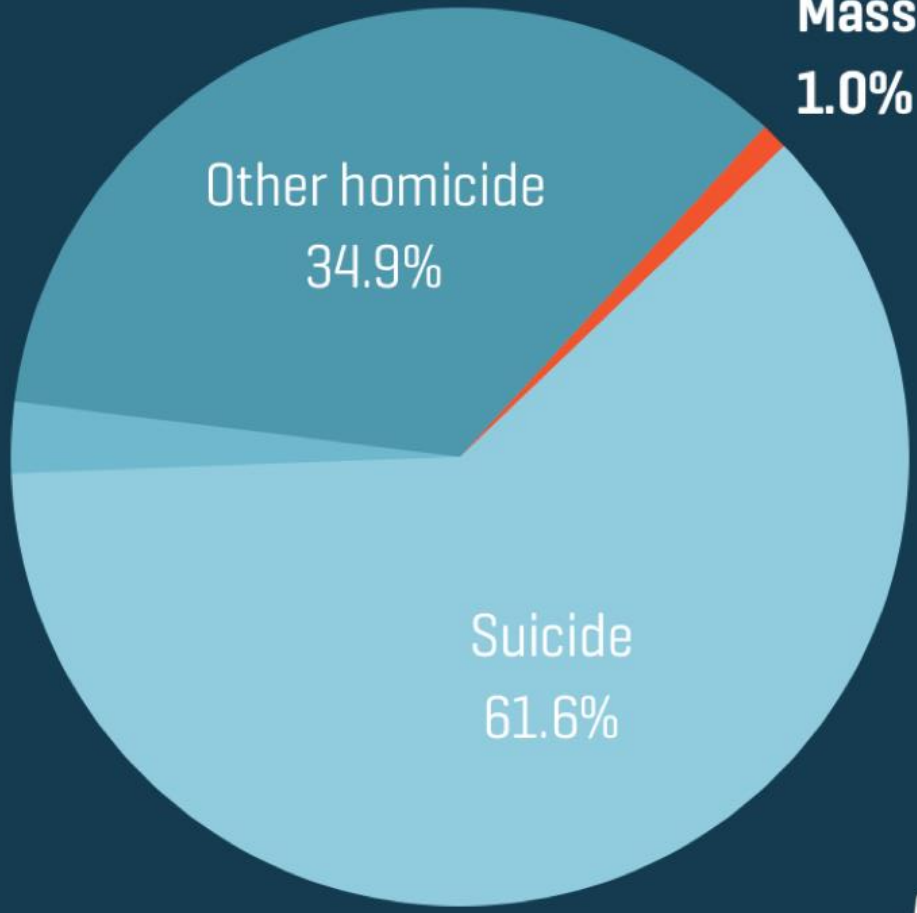


Gun-related deaths in the United States


22,938
Suicides
14,415
Homicides
of which 71
died in mass
shootings

ONLY 1% OF GUN DEATHS HAPPEN IN MASS SHOOTINGS

Numbers reflect gun deaths between 2013 and 2016. Mass shooting deaths were counted by Gun Violence Archive. Other causes of death are from the CDC.



THE TRACE

Source: CDC, Gun Violence Archive

Burden of Firearm Deaths

Severity and Disparity of Homicide in Youth and Young Adults

33,000 annual firearm deaths

35% homicide

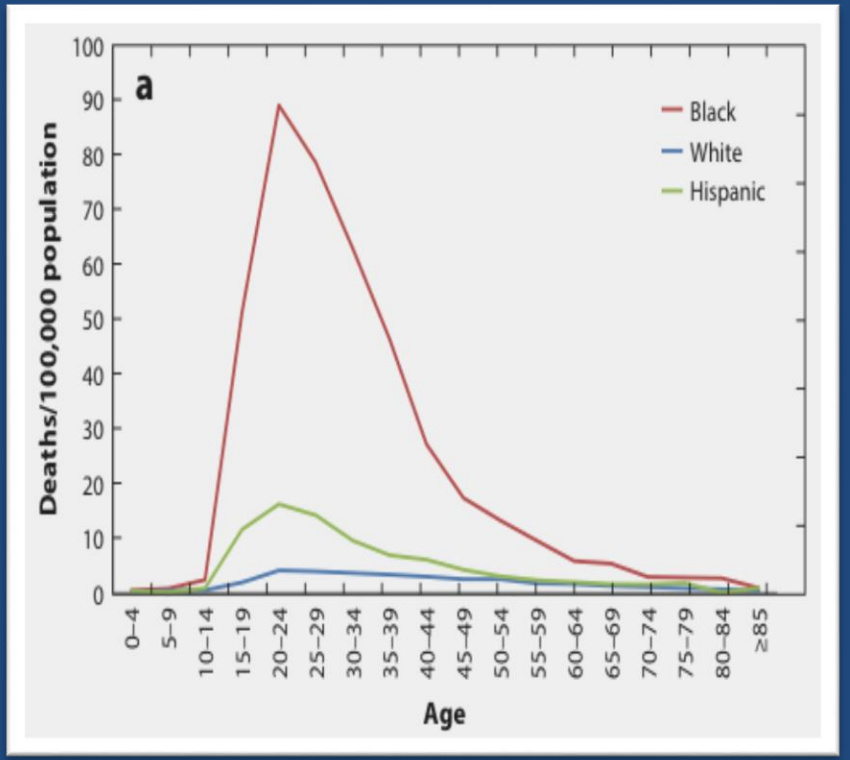
67,000 annual injuries

Homicide is the third leading cause of death among *Americans 15-34 years old*

Burden of homicides fall disproportionately on young, minority men

#1 cause of death in African Americans 15-34 years old

#2 cause of death in Latinos 15-34 years old



Firearm homicide mortality rates among males, 2012

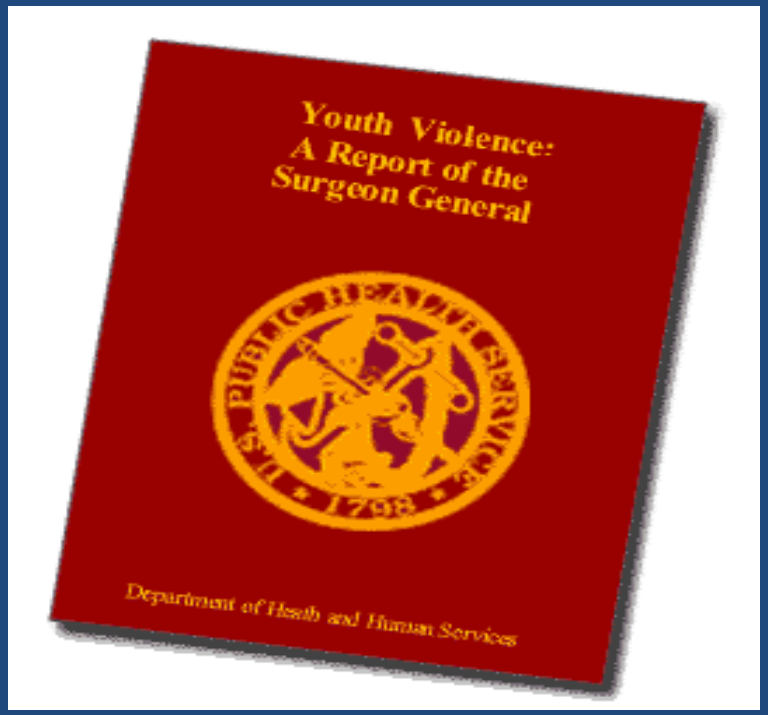
Violence as a Public Health Issue

Creates a Framework for Addressing the Issue

Who Owns It?

"Violence is a public health issue"

C. Everett Koop, US Surgeon General, 1984



Community morés:

Social cohesion + willingness to intervene for the common good = reduction in violence

Science RJ Sampson, SW Raudenbush, F Earls.

Vol 277; 15 August 1997

NRA

NRA

Someone should tell self-important anti-gun doctors to stay in their lane. Half of the articles in Annals of Internal Medicine are pushing for gun control. Most upsetting, however, the medical community seems to have consulted NO ONE but themselves.

NRA-ILA | Surprise: Physician Group Rehashes Same Tired Gun Control Poll...

Everyone has hobbies. Some doctors' collective hobby is opining on firearms policy. Half of the articles in the "Latest from Annals" email from the Annals of Internal

This Is My Lane

– -Joseph Sakran

#ThisIsOurLane

Search filters · Show

Related searches

@nra

@josephsakran

Who to follow · Refresh · View all

NRA @NRA Follow

Cedric Dark, MD, MPH @... Follow

ThisIsOurLane @everythr... Follow

Find people you know

ThisIsOurLane @ThisIsOurLane · 19h

This is disgusting @NRA, and demonstrates how effective @AMarch4OurLives have been.

Instead of picking on young people like @davidhogg111, why don't you focus your energy on preventing firearm injury and deaths. Perhaps that is "not in your lane".

Grow Up! #ThisIsOurLane

> **NRA** @NRA
> It's always satisfying when an anti-gunner reveals just how uneducated they are about firearms. Recently, this distinction goes to David Hogg, who has repeatedly called for a federal tax on firearms and ammunition — which he must not realize already exists.nraila.org/articles/20181...

34 345 1.8K

Show this thread

Brady Campaign @Bradybuzz · Dec 7

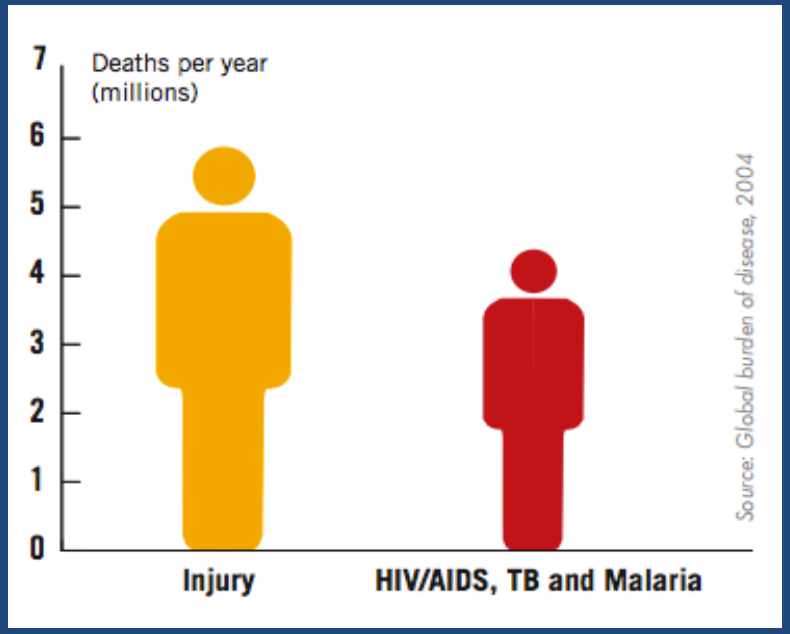
Health professionals can prevent gun violence by talking to their patients about safe gun storage. #SafeStorageSavesLives #ThisIsOurLane bit.ly/2BXwWUe

5 10 44

WHA Resolution 49.25

Violence is a Worldwide Public Health problem

"Preventing youth violence requires a comprehensive approach that addresses the social determinants of violence, such as income inequality, rapid demographic and social change, and low levels of social protection"



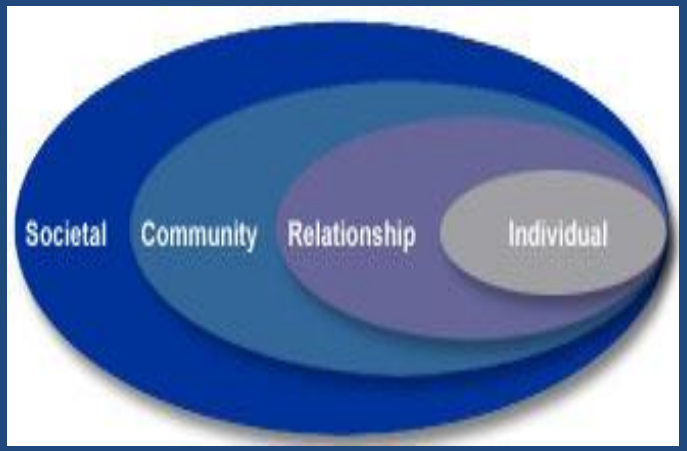
Centers for Disease Control

The Social Determinants of Health represent the number one reason for health inequity in the United States

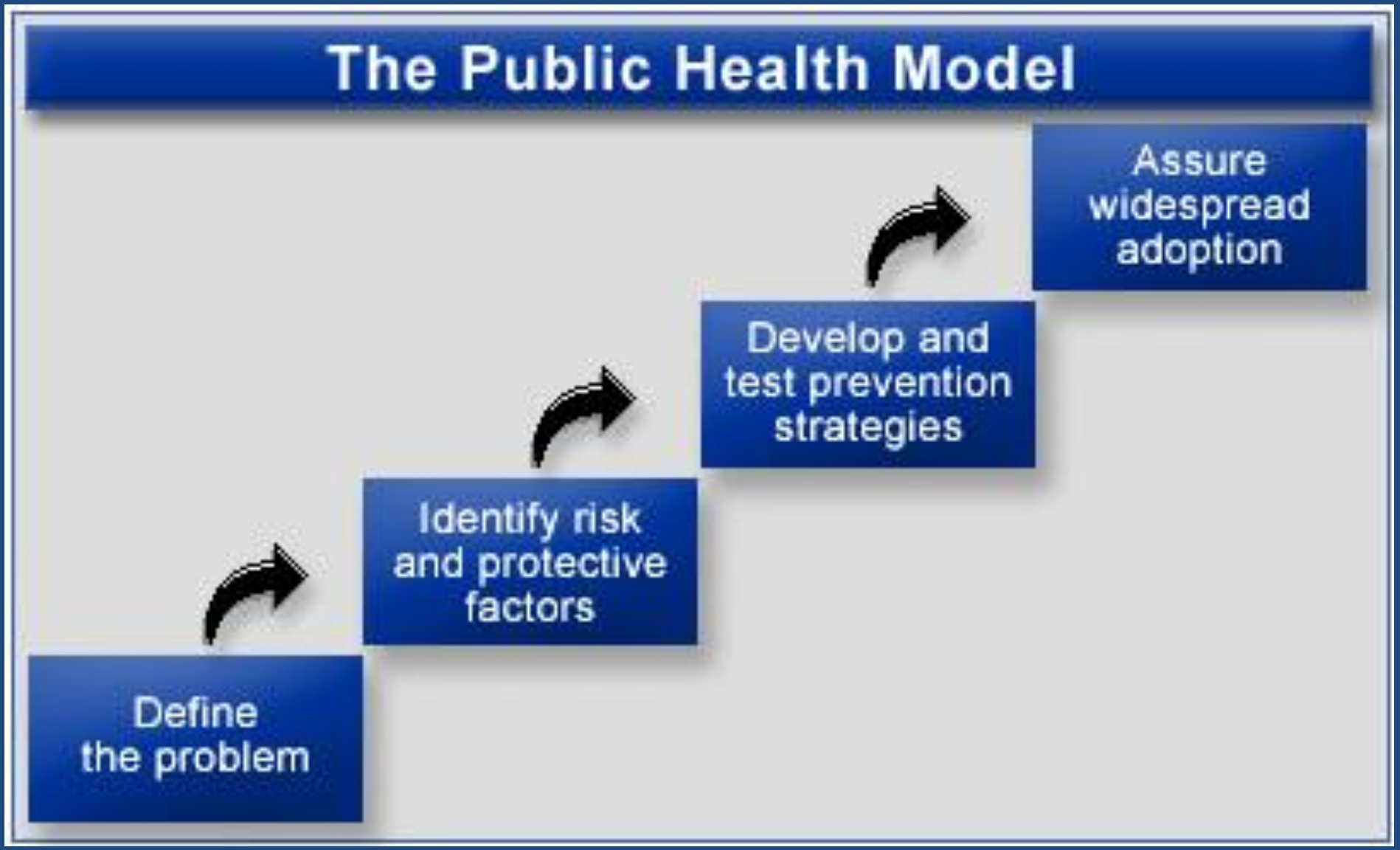
Violence as a ***Public Health*** Issue

- Public Health is Population-Based
- Public Health Approach to Violence is rooted in:
  - Risk Factors
  - Protective Factors
- Violence affects:
  - Families
  - Communities
  - Populations

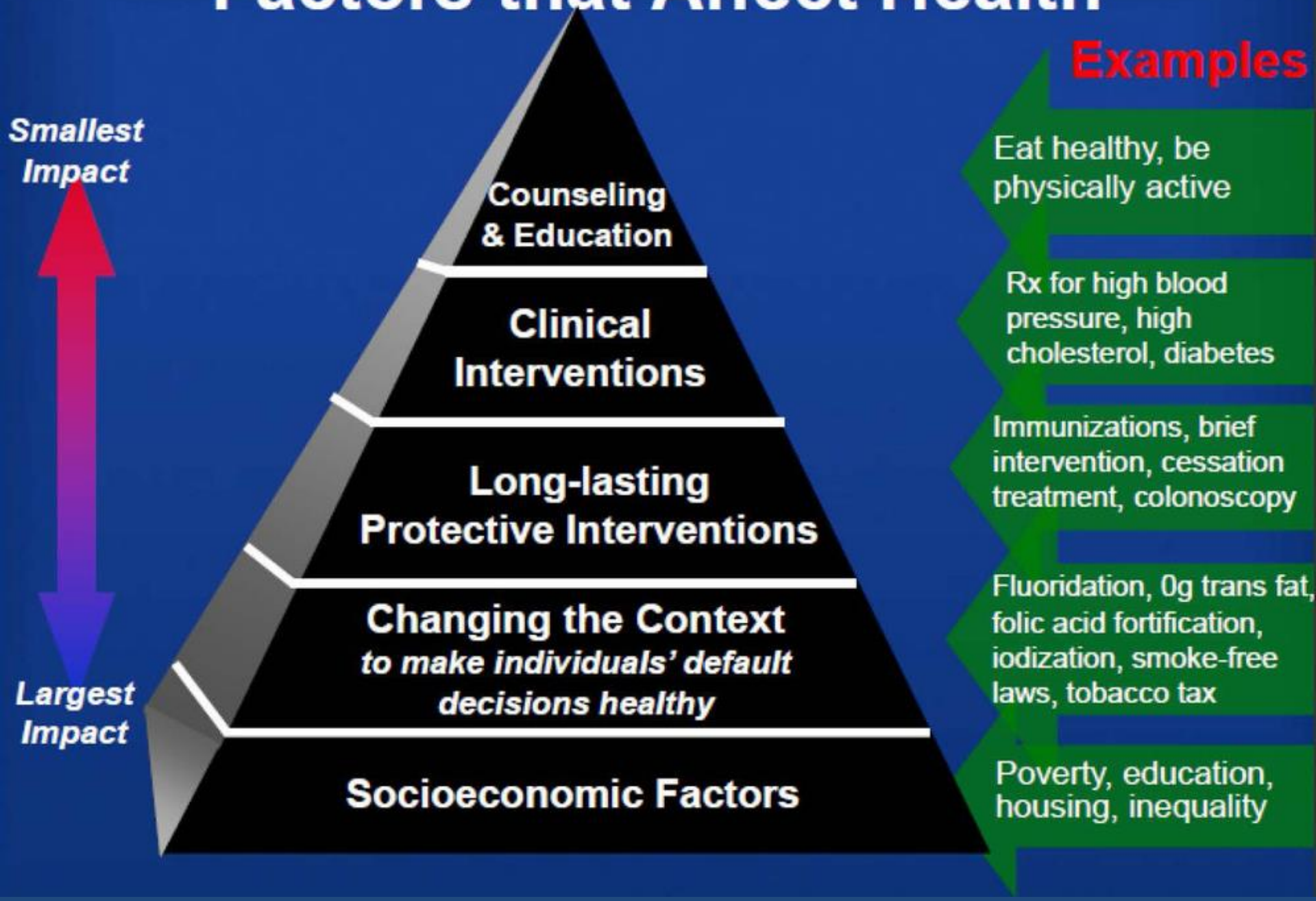
The Public Health Approach to Violence Focuses on Mitigating ***Modifiable Root Causes***



The Public Health Model



Factors that Affect Health



Social Determinants of Health

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education			
Support	Walkability				

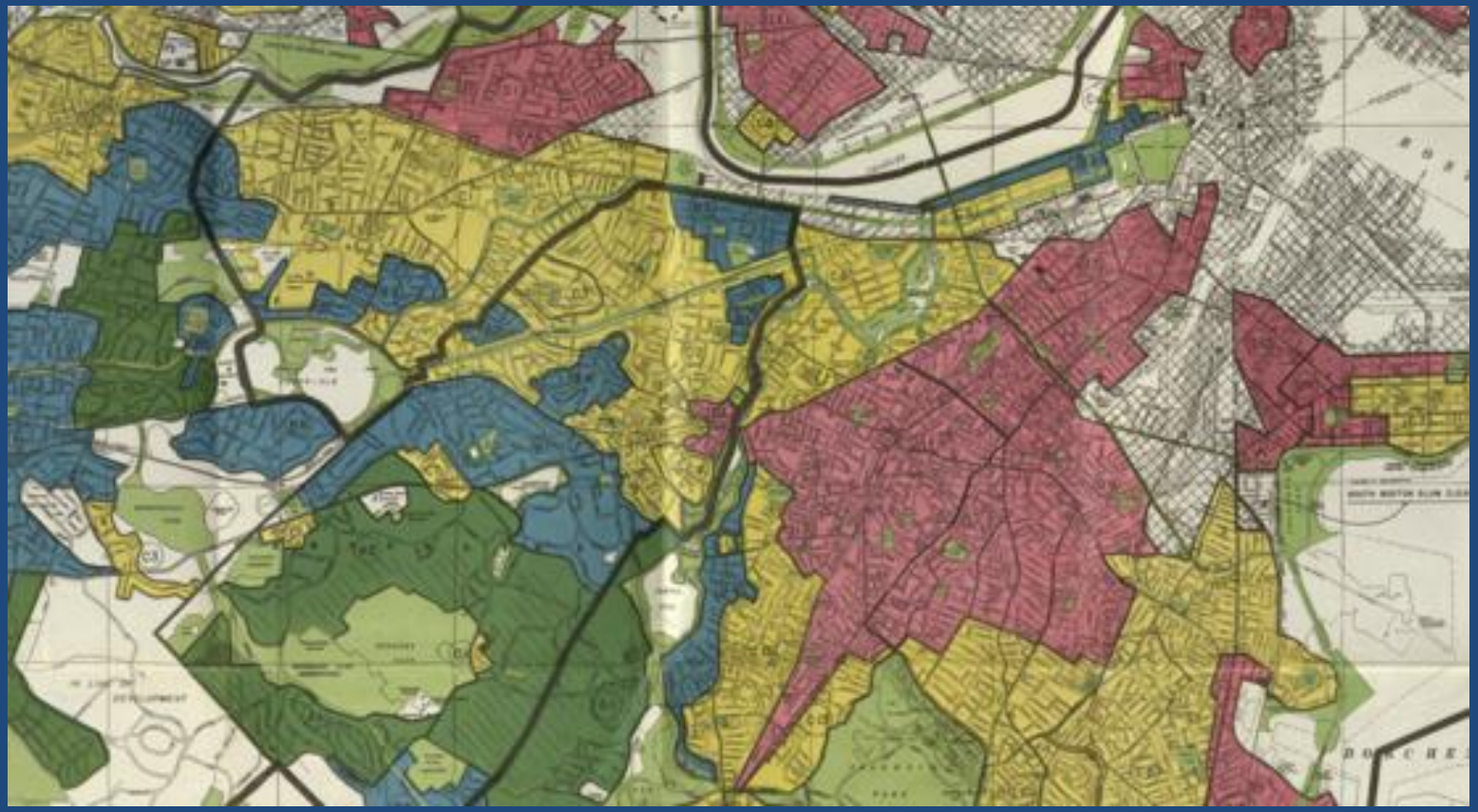
Health Outcomes

Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

Multiple Contributors to Violence - *Modifiable* Risk Factors Exist

Understanding how disparities have been created is the foundation for seeking long term solutions: **Redlining**

Federal Housing Authority practice of redlining denied mortgages to African American and Low Income Populations



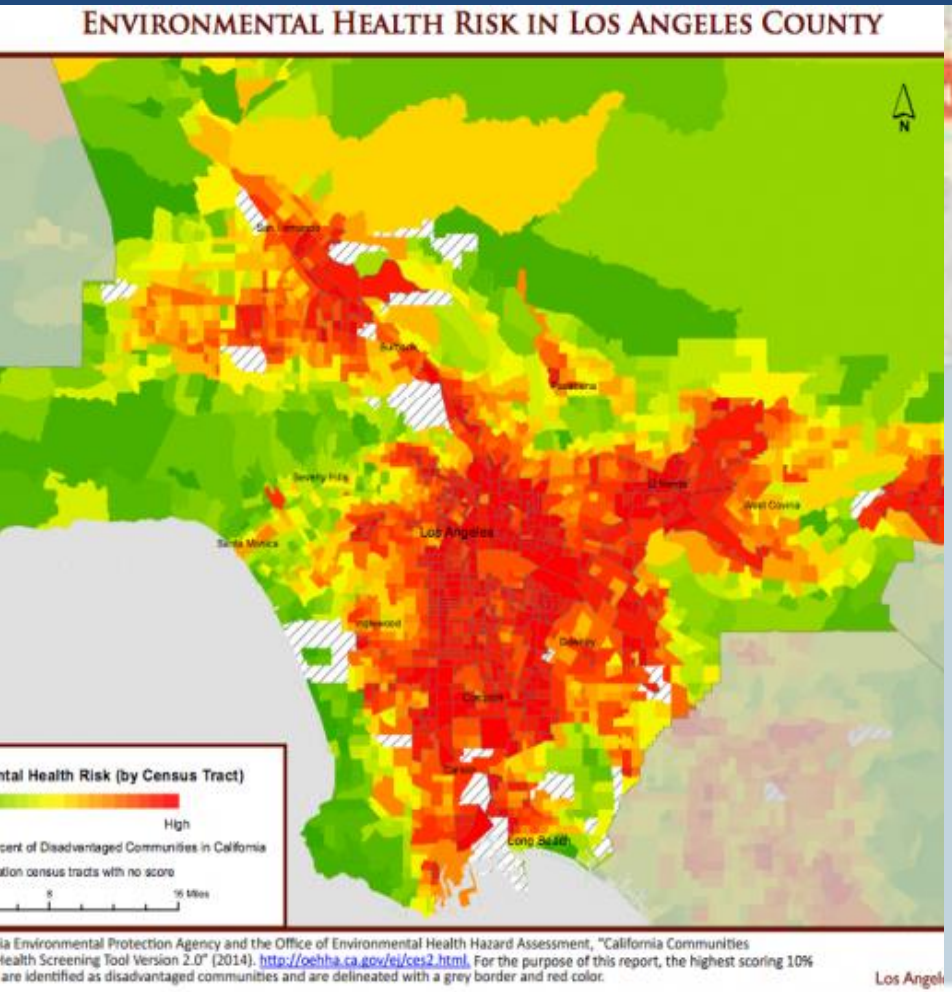
Best

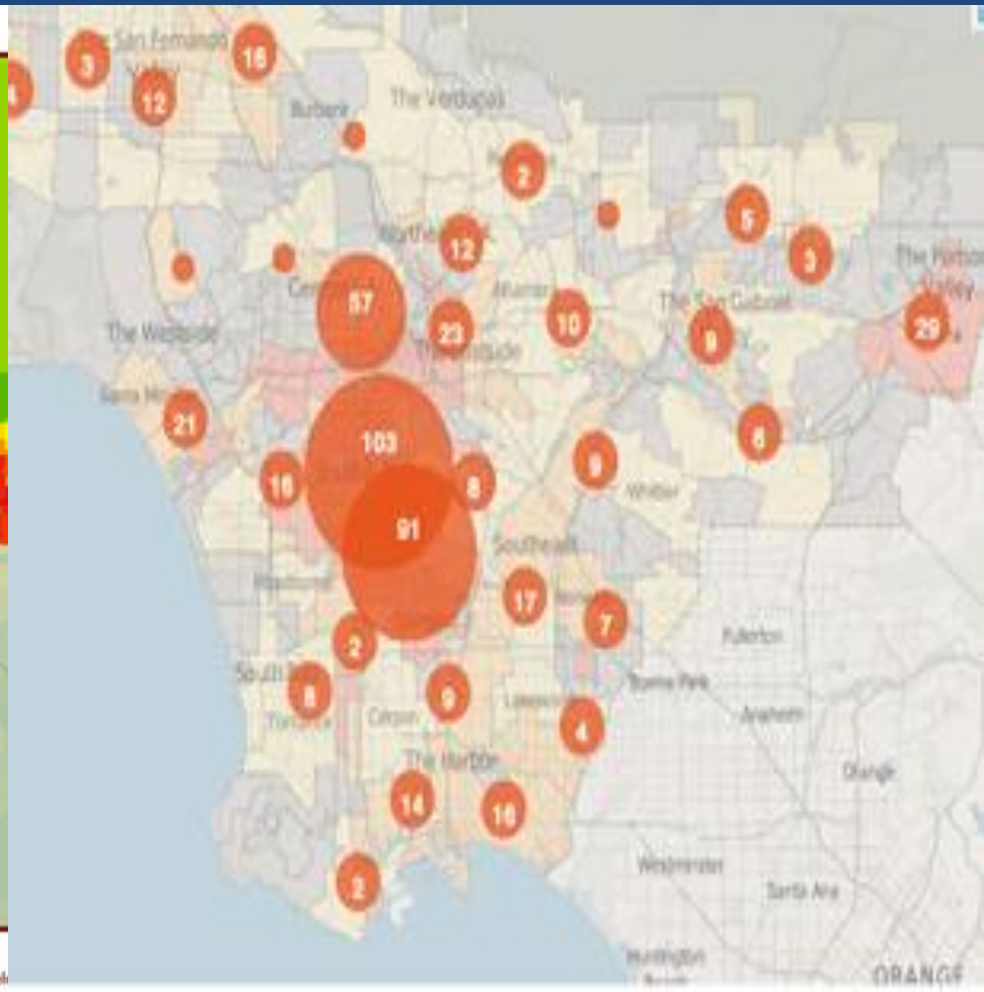
Still Desirable

Definitely declining

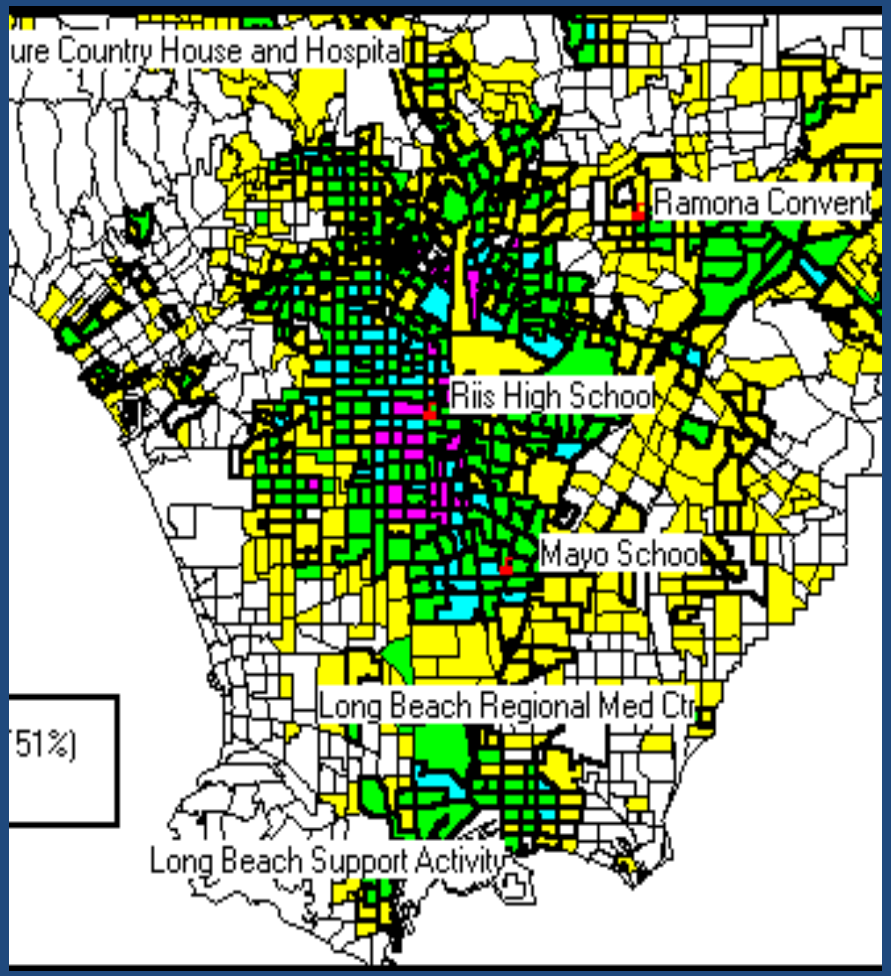
Hazardous

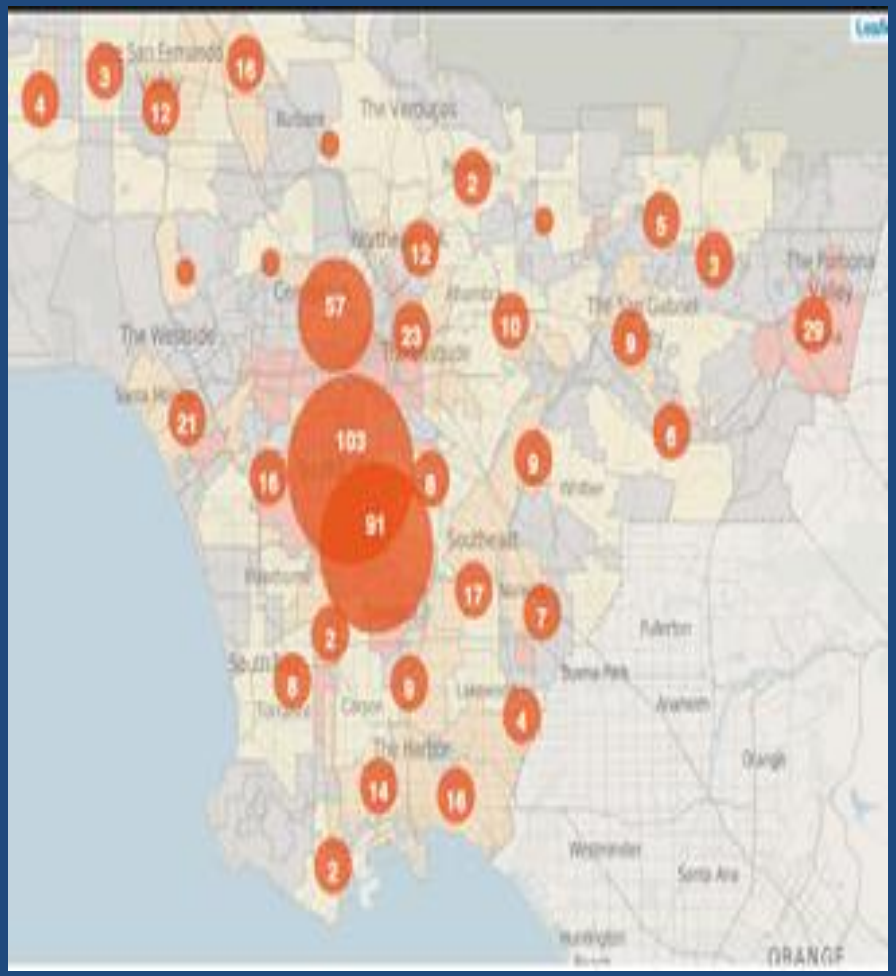
Los Angeles
Power Plants and Homicide



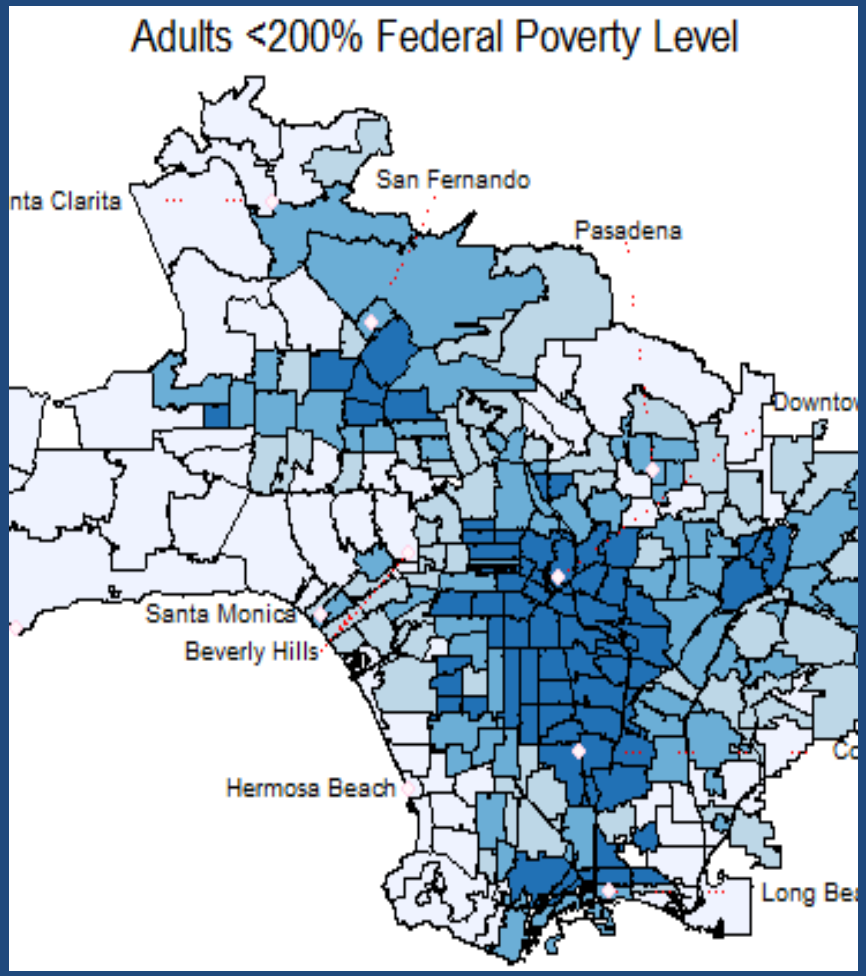


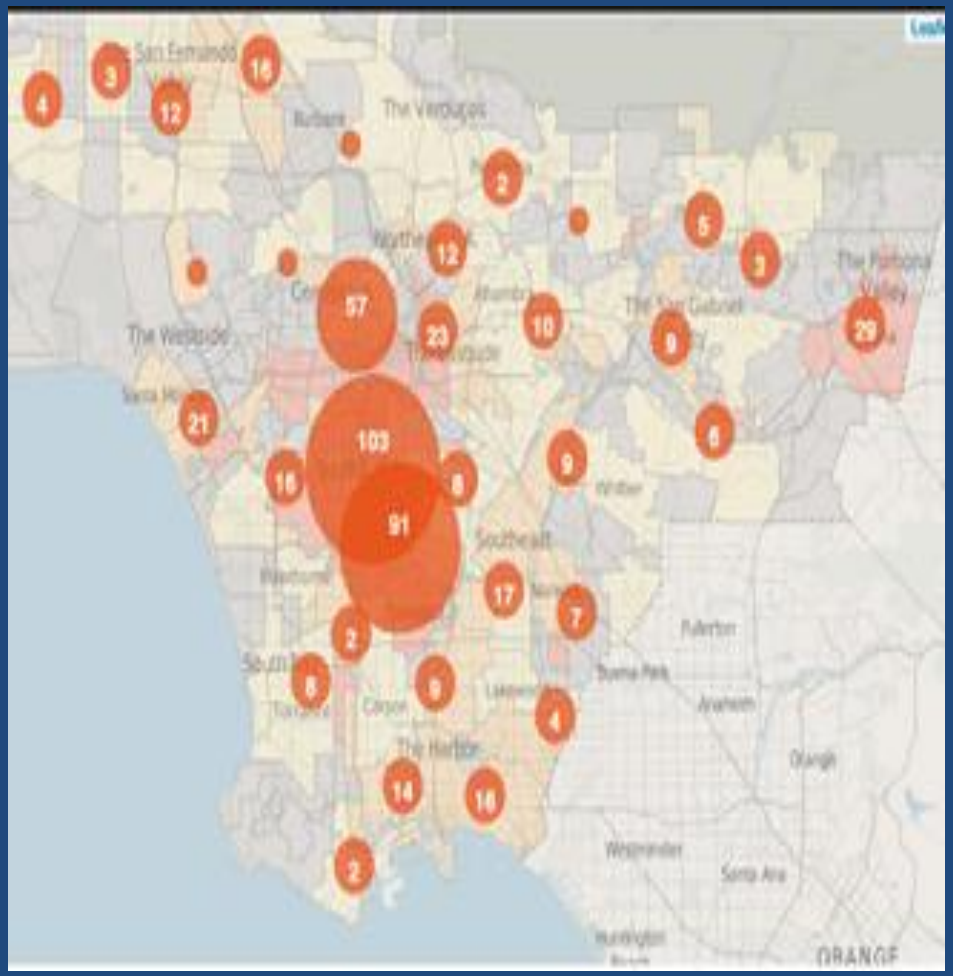
Los Angeles
Unemployment Rates and Homicide



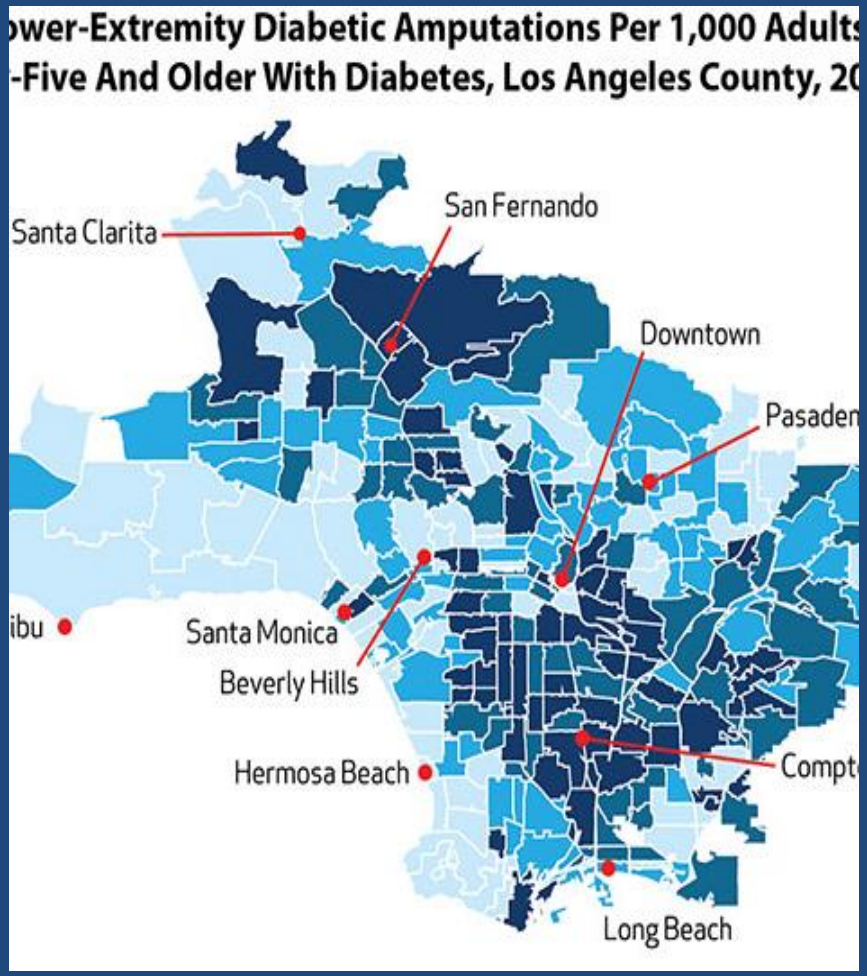


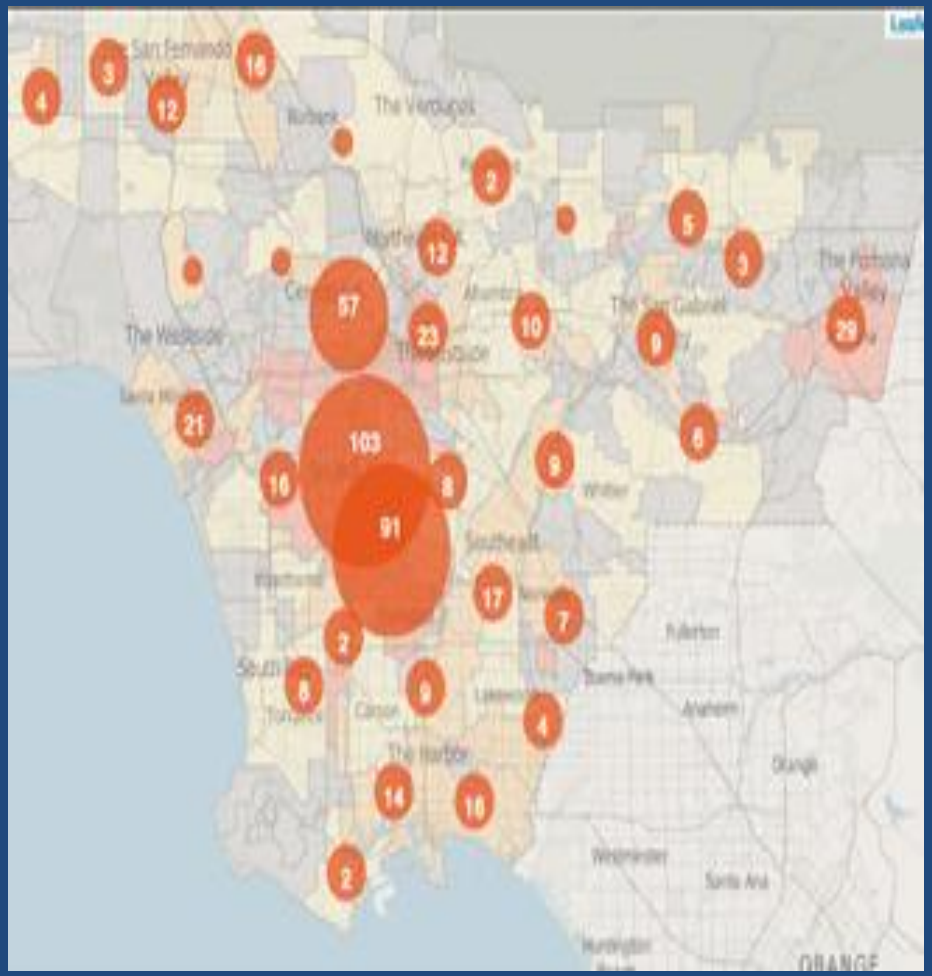
Los Angeles
Poverty and Homicide





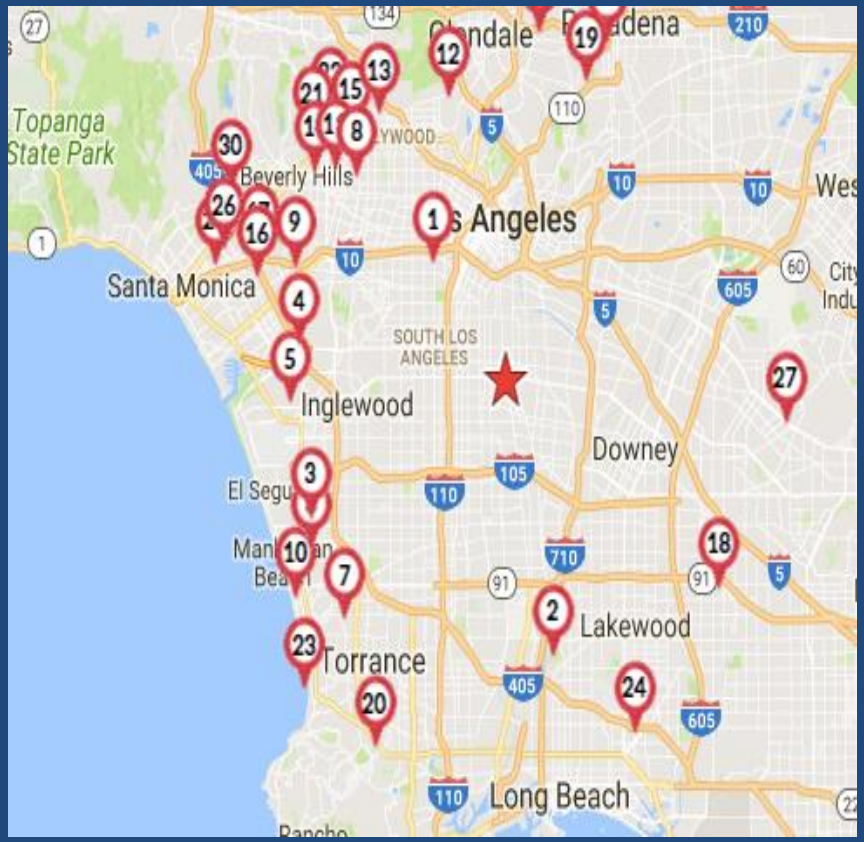
Los Angeles
Diabetic Amputations and Homicide

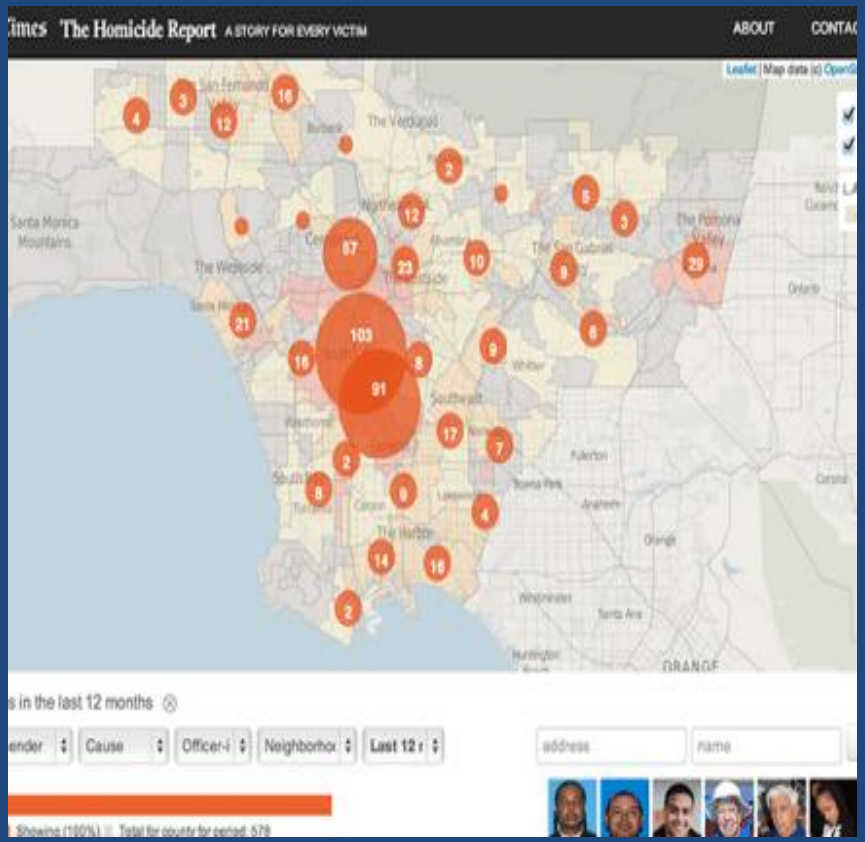




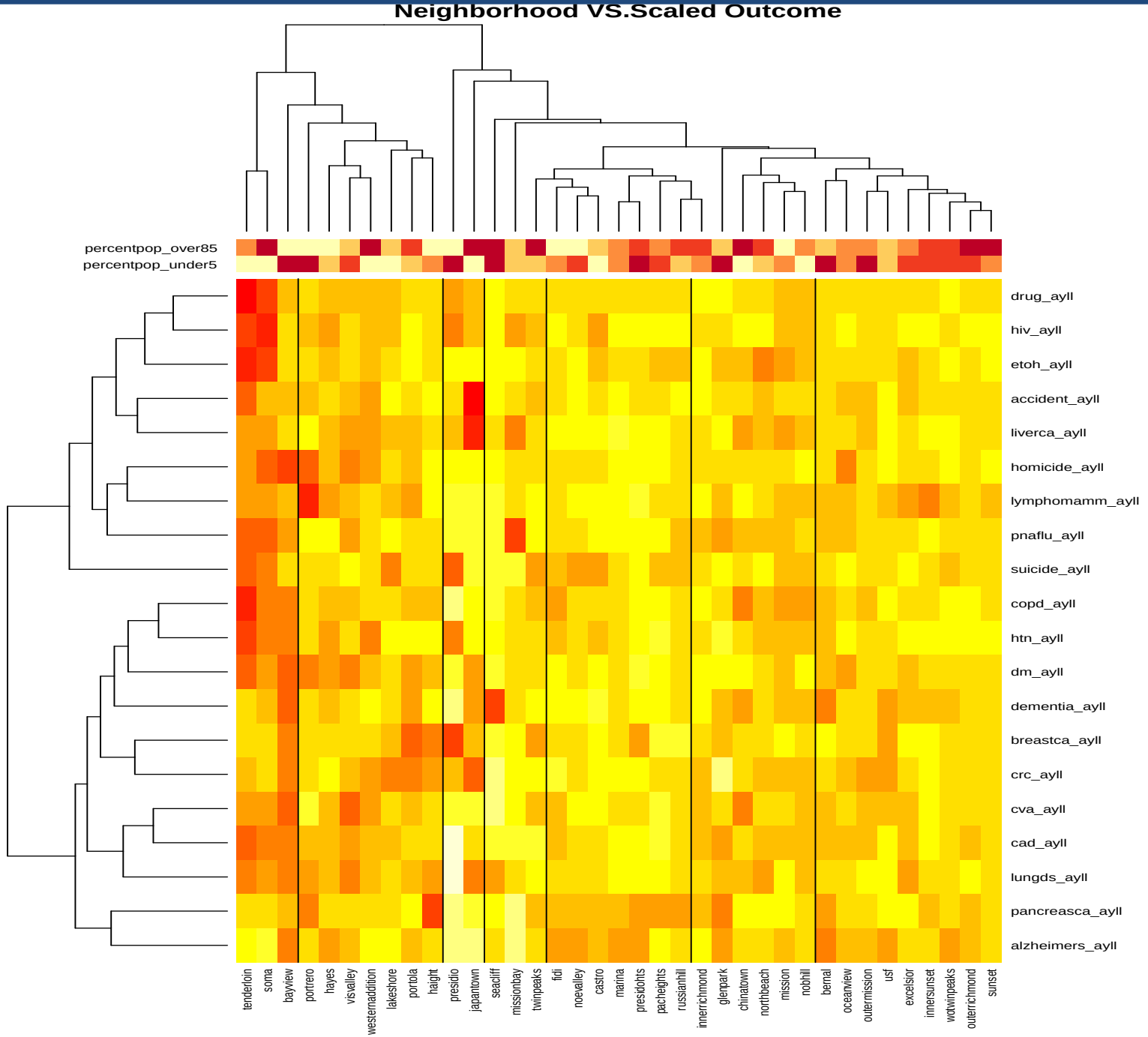
Los Angeles
Food Deserts and Homicide

Trader Joe's Markets





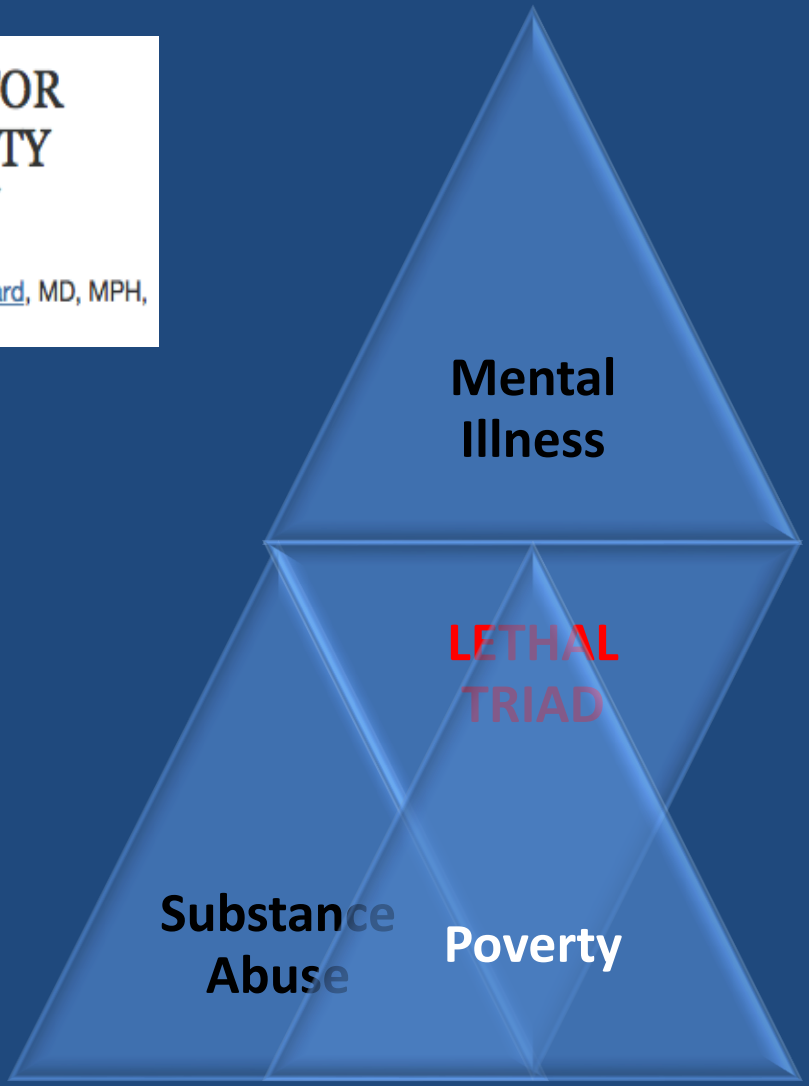
AYLL Geospatial Mapping


Neighborhood VS.Scaled Outcome
percentpop_over85
percentpop_under5
drug_ayll
hiv_ayll
etoh_ayll
accident_ayll
liverca_ayll
homicide_ayll
lymphomamm_ayll
pnaflu_ayll
suicide_ayll
copd_ayll
htn_ayll
dm_ayll
dementia_ayll
breastca_ayll
crc_ayll
cva_ayll
cad_ayll
lungds_ayll
pancreasca_ayll
alzheimers_ayll
tenderloin
soma
bayview
portrero
hayes
visvalley
westernaddition
lakeshore
portola
haight
presidio
japantown
seacliff
missionbay
twinpeaks
fidi
noevalley
castro
marina
presidohts
pacheights
russianhill
innerrichmond
glenpark
chinatown
northbeach
mission
nobhill
bernal
oceanview
outermission
usf
excelsior
innersunset
wdtwinpeaks
outerrichmond
sunset

ANOTHER "LETHAL TRIAD"—RISK FACTORS FOR VIOLENT INJURY AND LONG-TERM MORTALITY AMONG ADULT VICTIMS OF VIOLENT INJURY

Adam D. Laytin, MD, MPH, Martha Shumway, PhD, Alicia Boccellari, PhD, Catherine J. Juillard, MD, MPH, Rochelle A. Dicker, MD

- 541 subjects
- 70% > 30 years old
- 10 year mortality -> 15%



Protective Factors

- Adult mentorship
- Mental Health
- Interpersonal skills
- Commitment to school
- Access to resources
- Community morés:
  - **Social cohesion + willingness to intervene for the common good = reduction in violence**

Science RJ Sampson, SW Raudenbush, F Earls.
Vol 277; 15 August 1997

APPROACHES TO PREVENTION

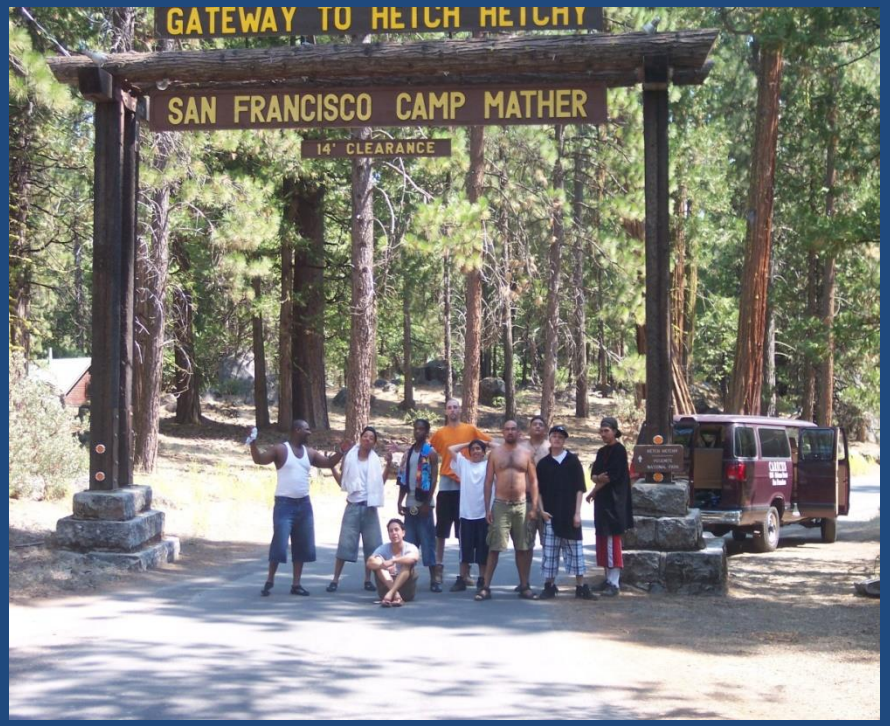
Scared safe? Abandoning the use of fear in urban violence prevention programmes

Purtle J, Cheney R, Wiebe DJ, Dicker RA

Injury Prevention 2015;21:140-141

The Trauma Center's Role in Public Health and Prevention

- The Teachable Moment:
  - Precedent for it
- Risk reduction strategies
  - Public Health Model
  - Culturally Competent Case Management
  - Community and City partnerships



Hospital Based Violence Intervention

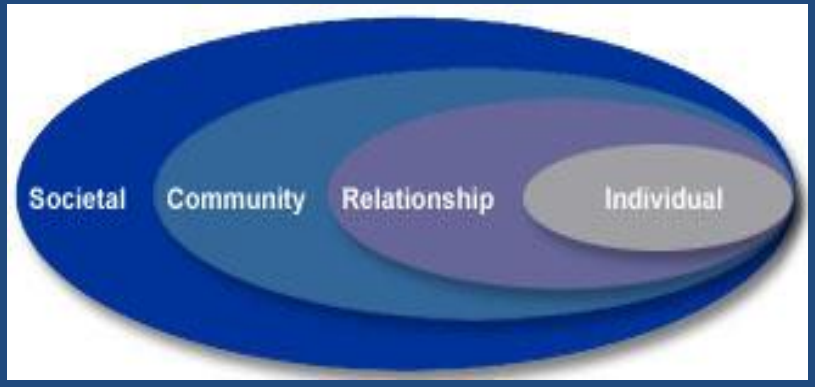
Cornerstones

The Public Health Model for Injury Prevention

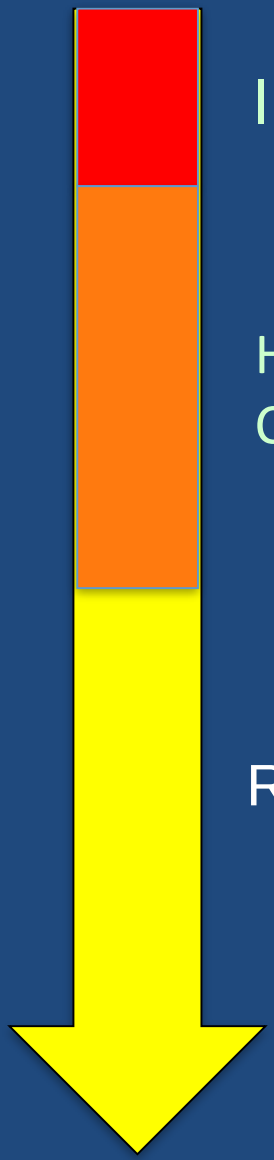
Seizing the Teachable Moment

Long-term Culturally Competent Case Management

Providing Links to Risk Reduction Resources



Intervention Program Design



INJURY

HOSPITAL CARE

RECOVERY

Teachable Moment

Initial Trauma Care

Assessment by Case Managers at Bedside

High Risk

Low Risk

HVIP

Referral to Appropriate Resources

Am J Surg. 2015 Apr;209(4):597-603. doi: 10.1016/j.amjsurg.2014.11.003. Epub 2014 Dec 18.

Hospital-centered violence intervention programs: a cost-effectiveness analysis.

Chong VE[1], Smith R[1], Garcia A[1], Lee WS[1], Ashley L[2], Marks A[2], Liu TH[1], Victorino GP[3].

Am J Prev Med. 2015 Feb;48(2):162-169. doi: 10.1016/j.amepre.2014.08.030. Epub 2014 Nov 6.

Cost-benefit analysis simulation of a hospital-based violence intervention program.

J Trauma Acute Care Surg. 2018 Jan;84(1):175-182. doi: 10.1097/TA.0000000000001671.

Long-term evaluation of a hospital-based violence intervention program using a regional health

Violence Intervention Programs: A Primer for Developing a Comprehensive Program within Trauma Centers

Rochelle Dicker, MD, FACS; Barbara Gaines, MD, FACS; Stephanie Bonne, MD, FACS; Thomas Duncan, DO, FACS; Pina Violano, PhD, MSPH, RN-BC, CCRN, CPS-T; Michel Aboutanous, MD, MPH, FACS; Lisa Allee, MSW, LICSW; Peter Burke, MD, FACS; PeterT. Masiakos, MD, FACS; Ashley Hink, MD; Deborah Kuhls, MD, FACS; David Shapiro, MD, FACS

A prospective randomized study of the efficacy of "Turning Point," an inpatient violence intervention program

Loveland-Jones, Catherine MD, MS; Ferrer, Lucas MD, MS; Charles, Scott MD; Ramsey, Frederick PhD; van Zandt, Andrea; Volgraf, Jill; Santora, Thomas MD; Pathak, Abhijit MD; Dujon, Jay MD; Sjoholm, Lars MD; Rappold, Joseph MD; Goldberg, Amy MD

Journal of Trauma and Acute Care Surgery: November 2016 - Volume 81 - Issue 5 - p 834–842

Boston Violence In
Study of Client Exp

El Violence Intervention Advocacy Program de Bos
Cualitativo de las Experiencias y el Efecto Percibid

Thea L. James MD, Salma Bibi MPH, Breanne K. Langlois MPH, Elizabeth Du
Patricia M. Mitchell RN

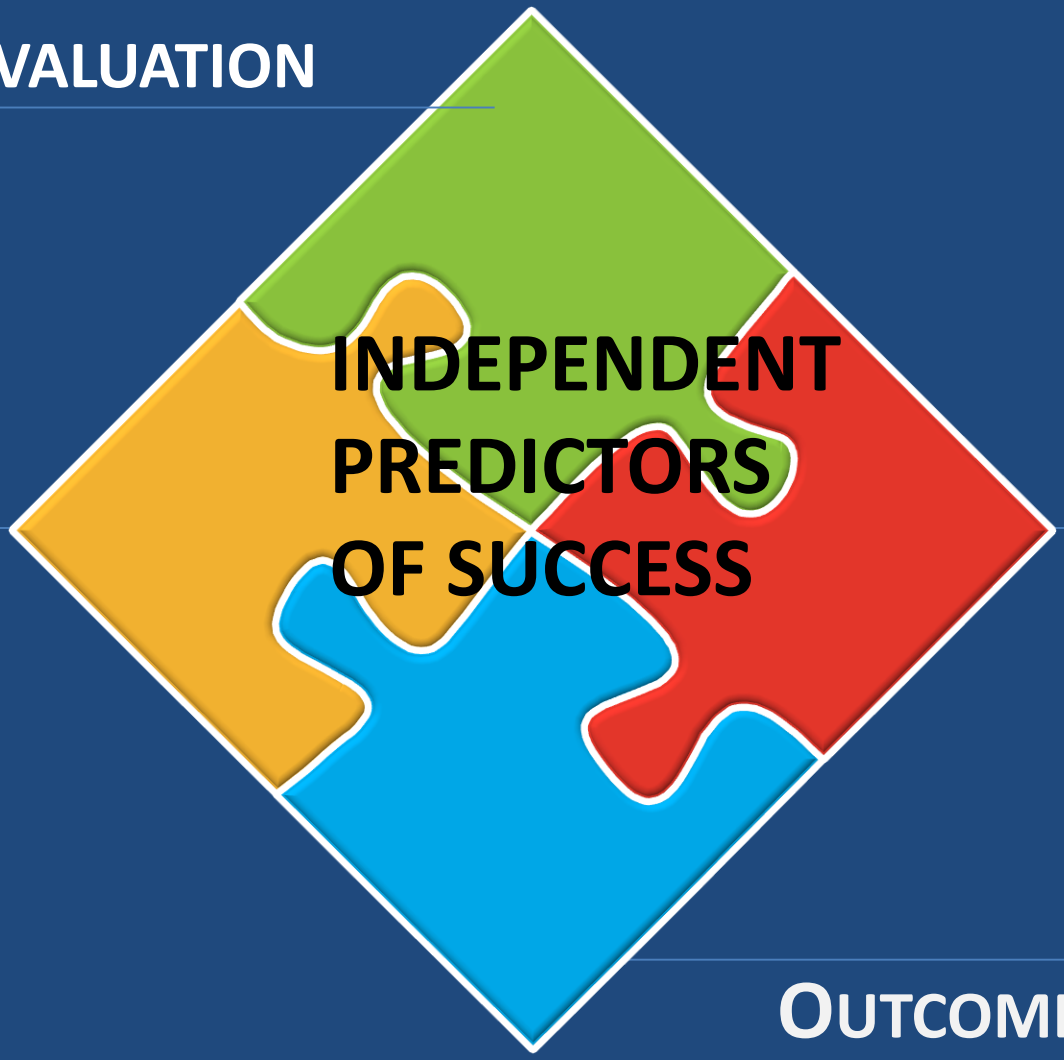
Healing Communities in Crisis: Lifesaving Solutions to the Urban Gun Violence Epidemic

Last updated March 10, 2016.

COMPONENTS OF PROGRAM EVALUATION

FORMATIVE EVALUATION

PROCESS EVALUATION



IMPACT EVALUATION

OUTCOME EVALUATION

Hospital-based violence intervention: Risk reduction resources that are essential for success

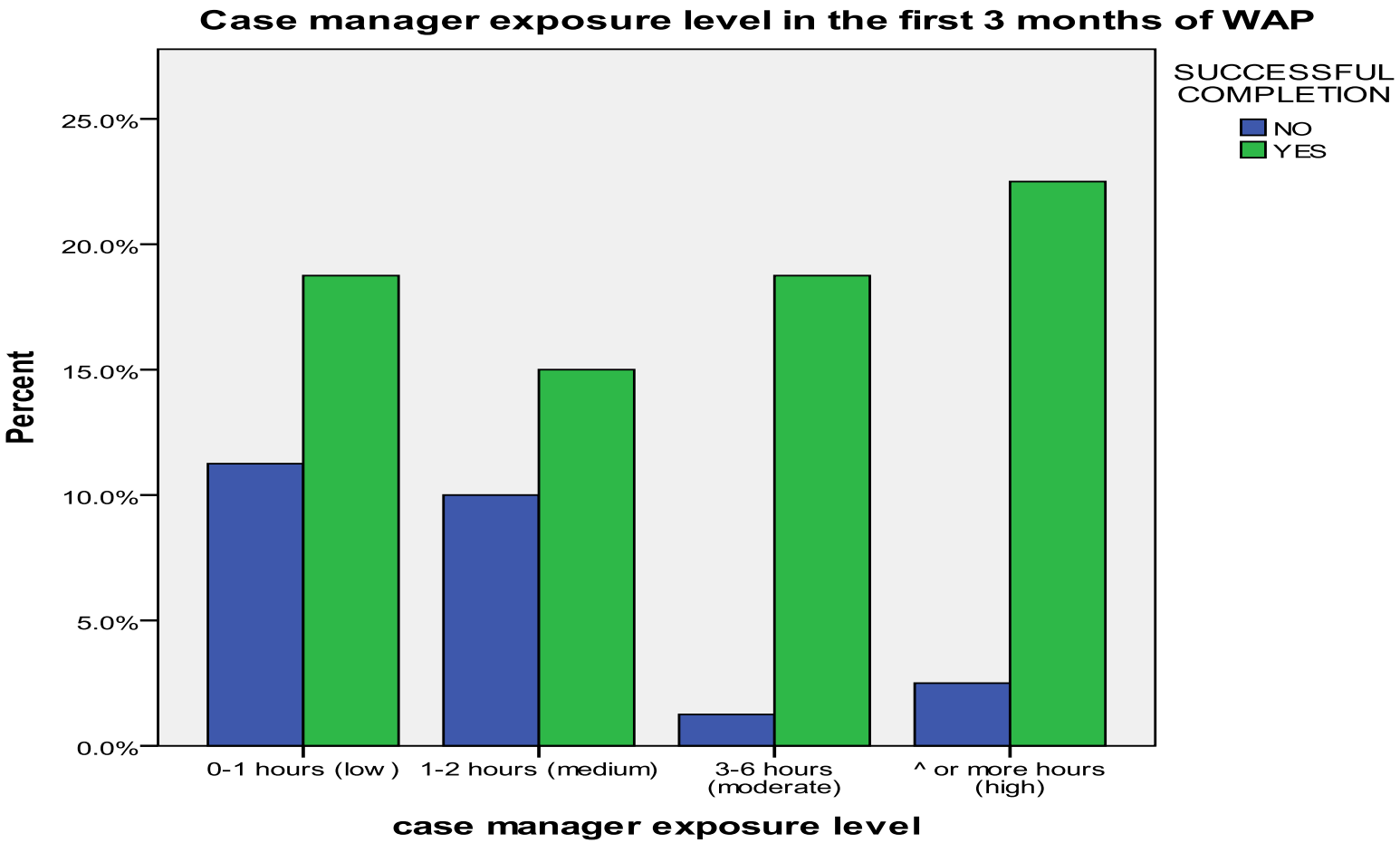
Randi Smith, MD, MPH, Sarah Dobbins, MPH, Abigail Evans, BA, Kimen Balhotra, BS, *and* **Rochelle Ami Dicker, MD,** *San Francisco, California*

Journal of Trauma and Acute Care Surgery
2013; 74:976-982

Specific Aims

1. PROCESS EVALUATION: To determine the screening, approached and enrollment rates of clients
2. IMPACT EVALUATION: To determine capacity at meeting individual risk reduction needs
3. OUTCOME EVALUATION: To determine the overall injury recidivism rate and compare it to our historical institutional control
4. To determine which risk reduction resources are independent predictors of program completion and success

Need	Success Rate	Odds Ratio
Mental Health	86%	5.97
Employment	86%	4.41
Housing	75%	1.12
Education	72%	0.63
Family Counseling	80%	2.26
Court Advocacy	76%	1.29
Vocational Training	70%	0.69
Driver's License	89%	3.53
Other	66%	1.48


Case manager exposure level in the first 3 months of WAP
SUCCESSFUL COMPLETION
NO
YES
Percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0-1 hours (low)
1-2 hours (medium)
3-6 hours (moderate)
^ or more hours (high)
case manager exposure level

Study Conclusions

- Providing mental health care and employment opportunities is predictive of success.
- The value of early “high dose” intensive case management is essential.


LIFE TOO MAINEY
EDUCATE
TO
LIBERATE

A decade of hospital-based violence intervention: Benefits and shortcomings

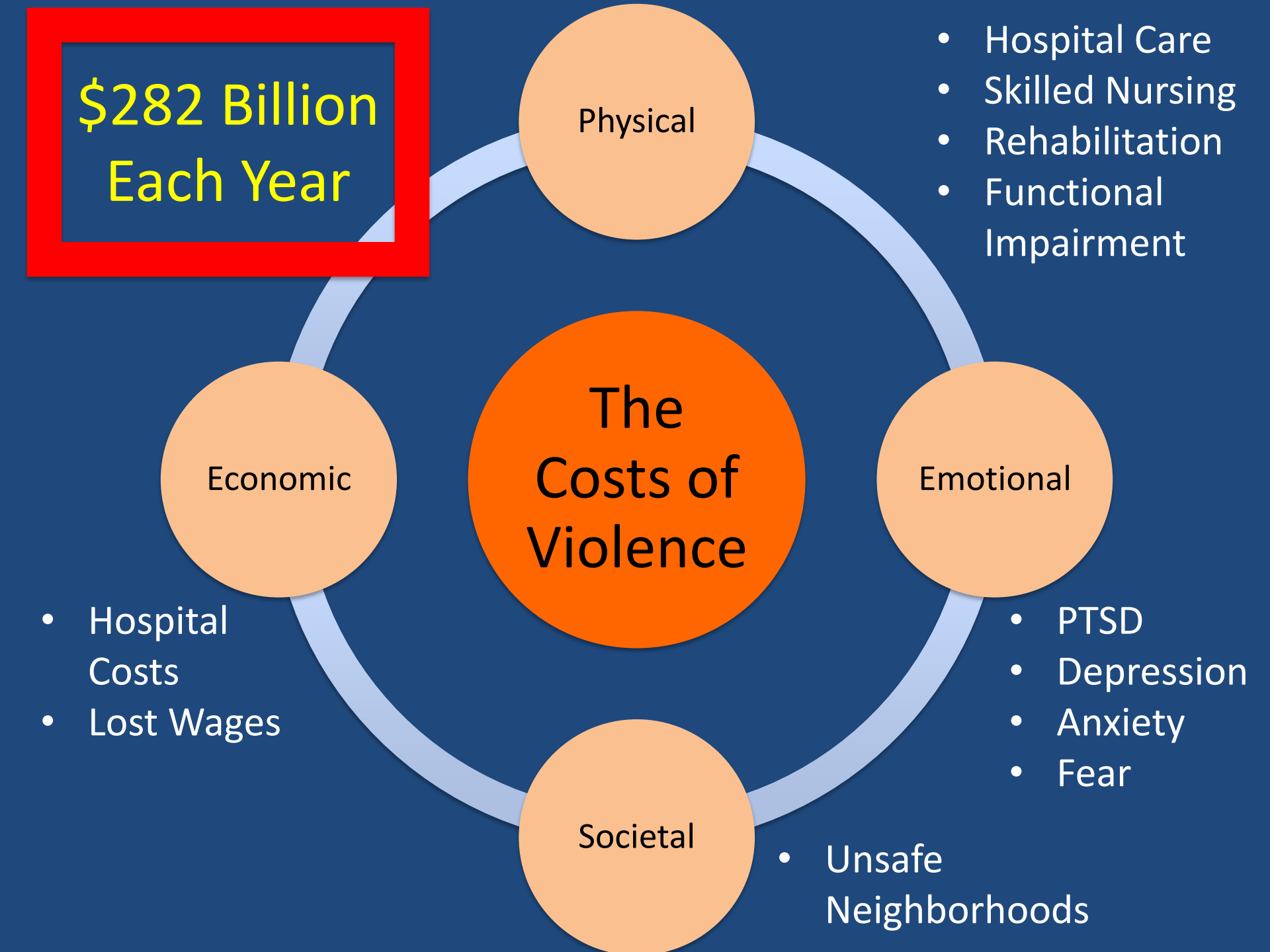
Catherine Juillard, MD, MPH, Laya Cooperman, MPH, Isabel Allen, PhD, Romain Pirracchio, MD, PhD, Terrell Henderson, Ruben Marquez, Julia Orellana, Michael Texada,
and **Rochelle Ami Dicker, MD**, *San Francisco, California*

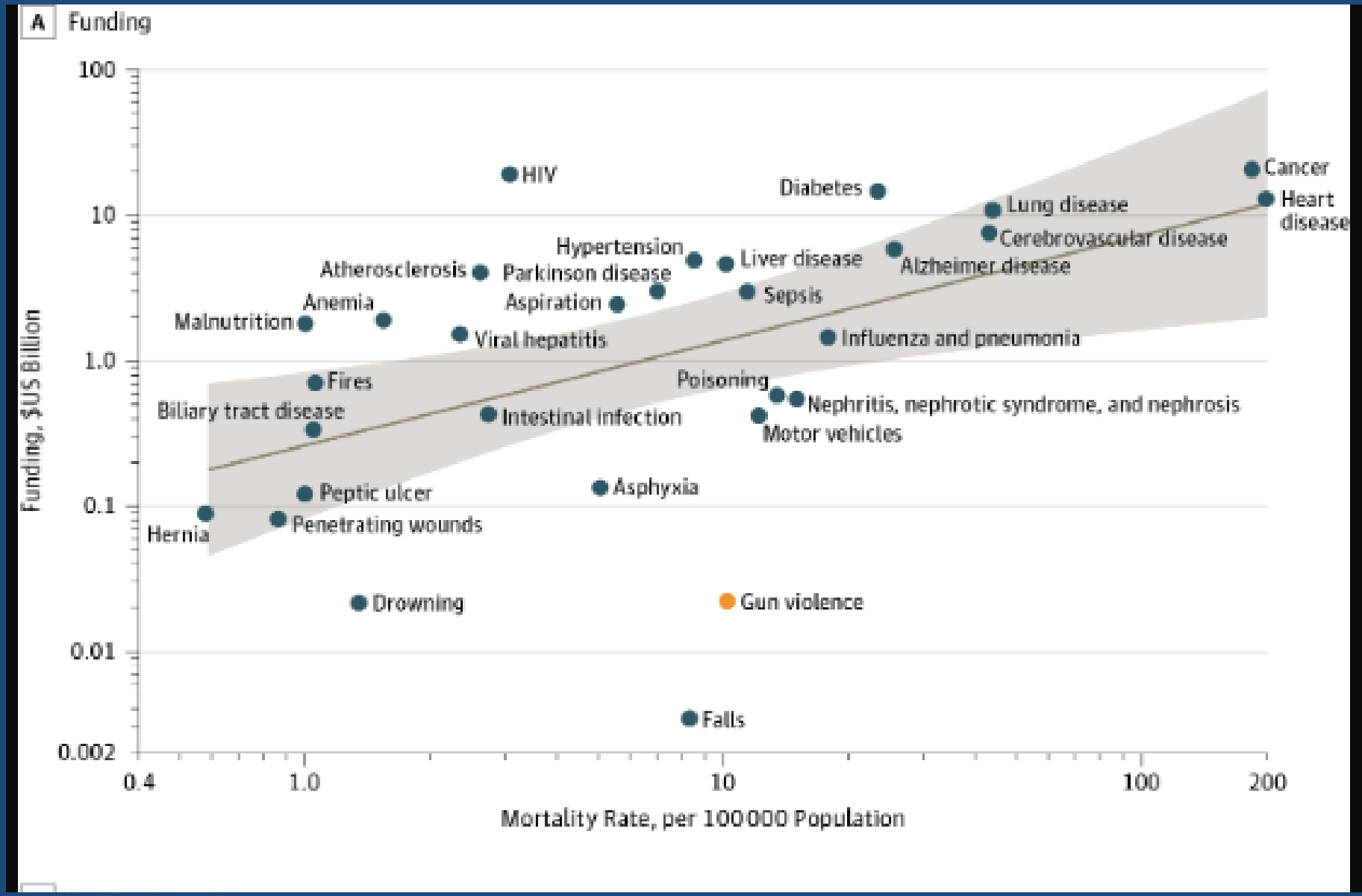
- 466 clients enrolled
- Most common needs: Mental health, housing, employment
- Recidivism rate: 50% less than historical controls
- Meeting education needs was associated with success
- Housing: A risk factor?

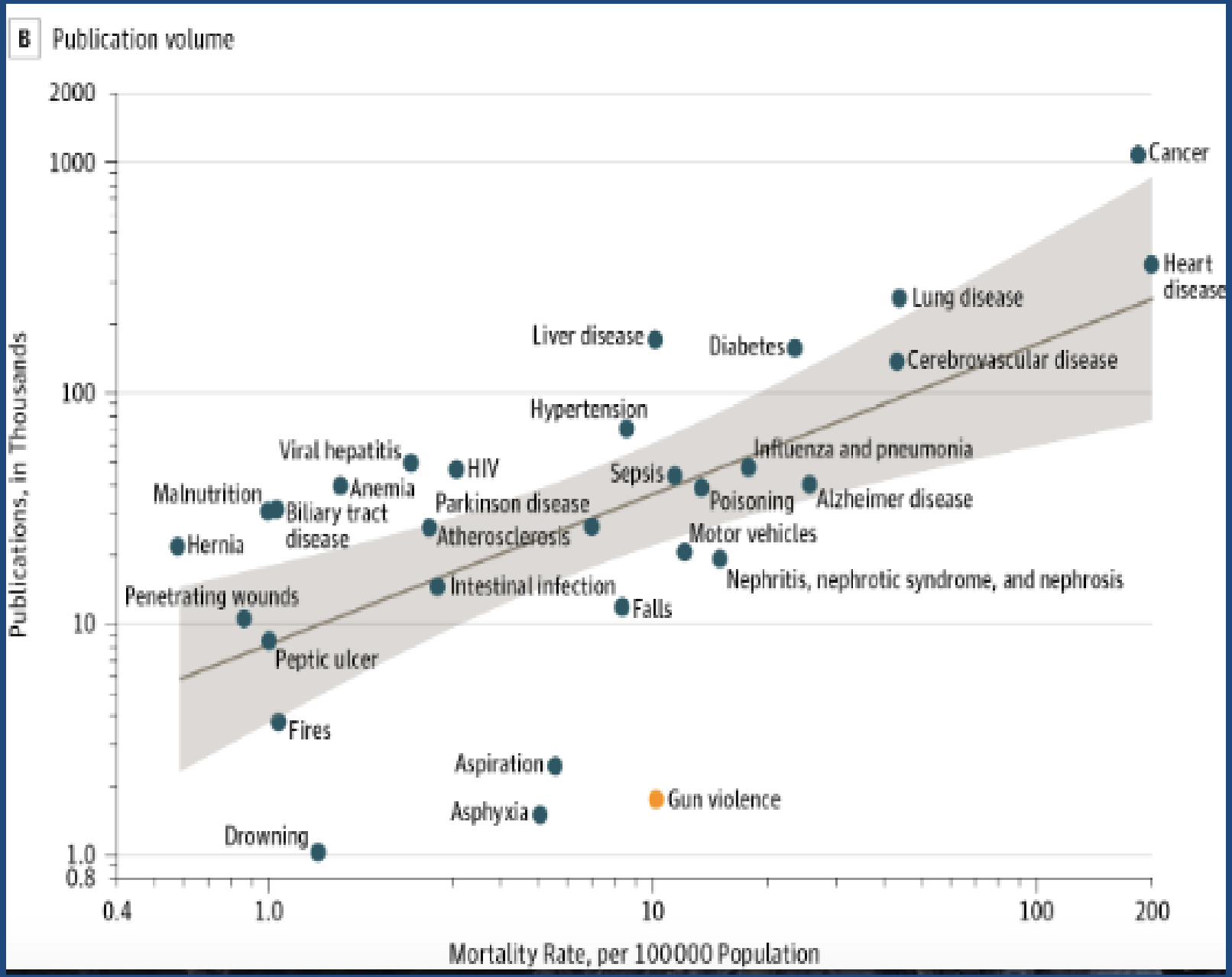
“You don’t want anyone who hasn’t been through anything telling you what to do, because how do they know?”: Qualitative Analysis of Case Managers in a Hospital Violence Intervention Program

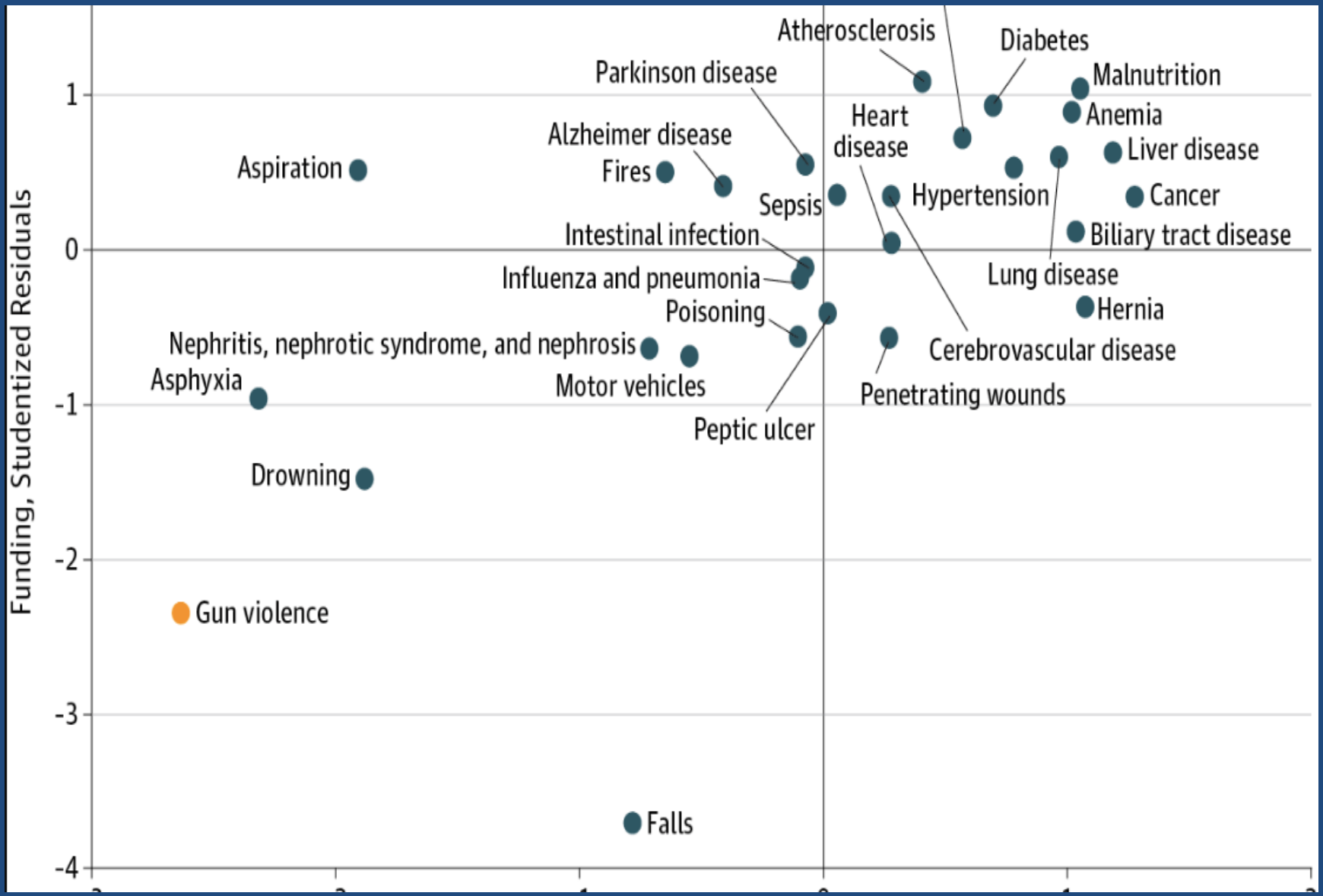
Hannah Decker[1], Gwendolyn Hubner[2], Adaobi Nwabuo[2], Michael Texada[2], Ruben Marquez[2], Julia Orellana[2], Terrell Henderson[2], Rochelle Dicker[3], Rebecca Plevin[2], Catherine Juillard[3]

1 – Emory University School of Medicine
2 – University of California, San Francisco
3 – University of California, Los Angeles


$282 Billion Each Year
Physical
Hospital Care
Skilled Nursing
Rehabilitation
Functional Impairment
Economic
The Costs of Violence
Emotional
Hospital Costs
Lost Wages
PTSD
Depression
Anxiety
Fear
Societal
Unsafe Neighborhoods

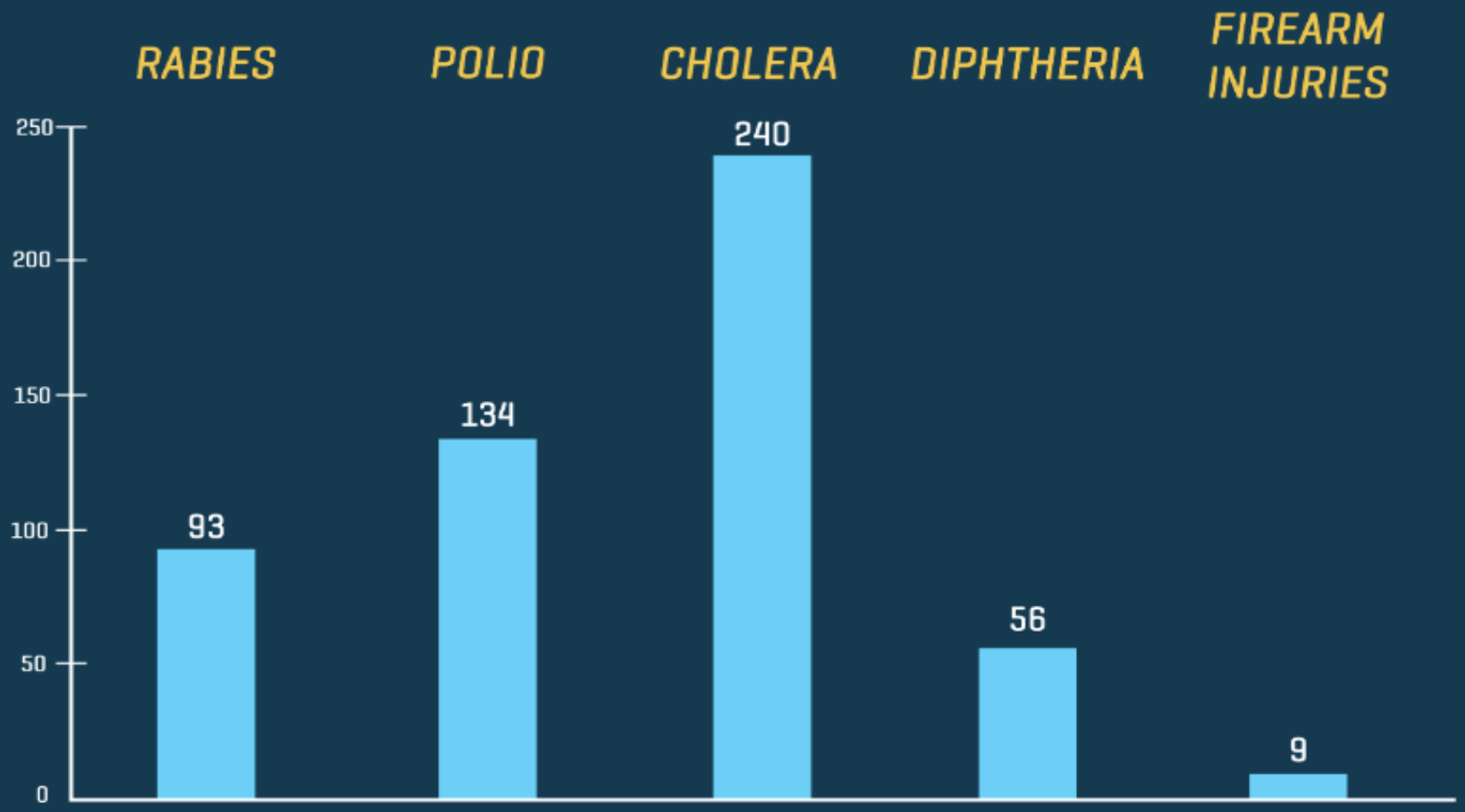

A Funding
Funding, $US Billion
100
10
1.0
0.1
0.01
0.002
0.4
1.0
10
100
200
Mortality Rate, per 100 000 Population
HIV
Diabetes
Cancer
Heart disease
Lung disease
Cerebrovascular disease
Hypertension
Liver disease
Alzheimer disease
Atherosclerosis
Parkinson disease
Sepsis
Aspiration
Anemia
Malnutrition
Viral hepatitis
Influenza and pneumonia
Fires
Poisoning
Biliary tract disease
Intestinal infection
Nephritis, nephrotic syndrome, and nephrosis
Motor vehicles
Asphyxia
Peptic ulcer
Hernia
Penetrating wounds
Drowning
Gun violence
Falls


B
Publication volume
Publications, in Thousands
2000
1000
100
10
1.0
0.8
0.4
1.0
10
100
200
Mortality Rate, per 100000 Population
Cancer
Heart disease
Lung disease
Liver disease
Diabetes
Cerebrovascular disease
Hypertension
Viral hepatitis
HIV
Influenza and pneumonia
Sepsis
Malnutrition
Anemia
Parkinson disease
Poisoning
Alzheimer disease
Biliary tract disease
Hernia
Atherosclerosis
Motor vehicles
Nephritis, nephrotic syndrome, and nephrosis
Intestinal infection
Penetrating wounds
Falls
Peptic ulcer
Fires
Aspiration
Gun violence
Asphyxia
Drowning


Atherosclerosis
Diabetes
Malnutrition
Parkinson disease
Anemia
Heart disease
Alzheimer disease
Liver disease
Aspiration
Fires
Hypertension
Cancer
Sepsis
Intestinal infection
Biliary tract disease
Influenza and pneumonia
Lung disease
Hernia
Poisoning
Nephritis, nephrotic syndrome, and nephrosis
Cerebrovascular disease
Asphyxia
Motor vehicles
Penetrating wounds
Peptic ulcer
Drowning
Gun violence
Falls
Funding, Studentized Residuals
1
0
-1
-2
-3
-4

NIH RESEARCH AWARDS FOR SELECT CONDITIONS

From 1973 to 2016, the National Institutes of Health awarded nine grants to study firearm injuries. Over that same time, the NIH doled out 523 awards to study rabies, polio, cholera, and diphtheria — conditions with far fewer victims.



WHO FUNDS THIS?
What do they want to see?

- Mayors and Supervisors
- Departments of Public Health
- Foundations
- Federal government
- Private donors
- …POLICY CHANGE

Saving lives and saving money: Hospital-based violence intervention is cost-effective

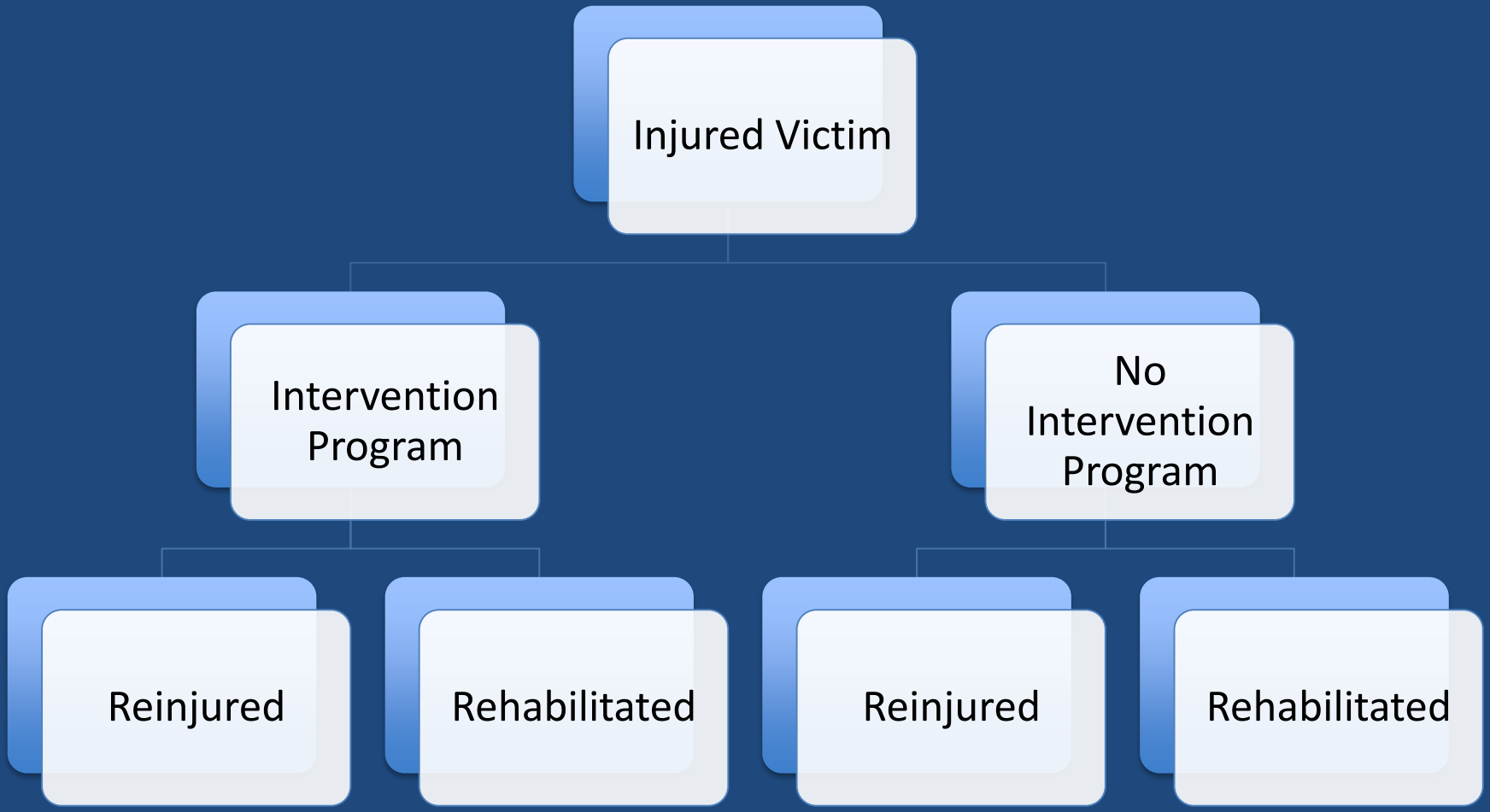
Catherine Juillard, MD, MPH, Randi Smith, MD, MPH, Nancy Anaya, MD, MS, Arturo Garcia, MD, James G. Kahn, MD, MPH, *and* Rochelle A. Dicker, MD, *San Francisco, California*

JOURNAL OF TRAUMA AND ACUTE CARE SURGERY
VOLUME 78, NUMBER 2

Specific Aims

1. To determine the mean cost of trauma per individual at our institution
2. To determine the mean cost of our hospital-centered violence intervention program per individual
3. To compare the cost-utility of hospital-based violence intervention programs to no intervention in young adults victims of interpersonal violence

Markov Analysis



Hospital-centered violence intervention programs cost money but cost less than caring for patients after re-injury.

National Network of Hospital-Based Violence Intervention Programs

- Now 39 programs
- Multiple working groups
- Best practices and curriculum development
- New health care taxonomy development
  - **California AB 166: Medical payment for Prevention Professionals**
- Annual conferencing with Cure Violence

National Network of Hospital Based Violence Intervention Programs

Essential violence intervention resources: an update using the National Network of Hospital-Based Violence Intervention Program's multi-institutional database

Rochelle A. Dicker MD, Catherine Juillard MD, Adaobi Nwabuo MPH, Kim Gajewski BS, Theodore Corbin MD, Katie Bakes MD, Alan Hubbard, Rachel Myers BS, Joel Fein MD, Anne Marks MPH, Marlene Melzer-Lange MD, Thea James MD, Ariana Perry BA, ***Tolulope Sonuyi*** MD

Purpose of Database Development

- Multi-institutional effort
- Describe participants: Are they commensurate with the target population?
- Capacity to identify needs of the participants
- Assess programmatic capacity for meeting needs
  - Strength of partnerships
- Ultimately measure injury recidivism

Common Data Elements

- Demographics
- History of incarceration or past injury
- HVIP regional location
- Needs identified
  - Housing
  - Mental health
  - Legal services
  - Education
  - Employment
  - Victim of crime services

Impact Evaluation

- Understanding needs and needs met assists in program development
  - Represents collaboration
  - Resource constraints
- Provides capacity to understand specific needs of a group
- Provides insight into gaps in meeting needs
  - Opportunity for advocacy and partnerships
- Mental health care is a prominent need

Mental Health Care

- Often a first line need
- Young people of color and stigma of mental illness
- Peer counselors teaming up with mental health professionals
- Trauma-informed approach
- Ramifications on other needs

American College of Surgeons Committee on Trauma

- Medical Summit on Firearm Injury Prevention

- Subcommittee: Hospital Based Violence Intervention:
  - Best practices guide-Primer
  - Research agenda
  - Potentially change criteria for trauma center prevention efforts
  - Stakeholder Power Point
  - Analyzing a survey of NNHVIP programs: AAST presentation

Violence intervention programs:

A primer for developing a comprehensive program for trauma centers

by Rochelle A. Dicker, MD, FACS; Barbara A. Gaines, MD, FACS; Stephanie Bonne, MD, FACS; Thomas Duncan, DO, FACS; Pina Violano, PhD, MSPH, RN-BC, CCRN, CPS-T; Michel Aboutanos, MD, MPH, FACS; Lisa Allee, MSW, LICSW; Peter A. Burke, MD, FACS; Peter Masiakos, MD, FACS; Ashley Hink, MD; Deborah A. Kuhls, MD, FACS, FCCM; and David Shapiro, MD, FACS

FIGURE 1. TIMELINE FOR DEVELOPMENT OF A HVIP

Successful HVIP initiation requires both sequential and continuous components. The sequential component outlines steps to program implementation, and the continuous component represents relationships that need to be built and maintained for successful implementation. Actual timeline is highly variable by program; shown is a rough estimate based on a two year implementation plan.

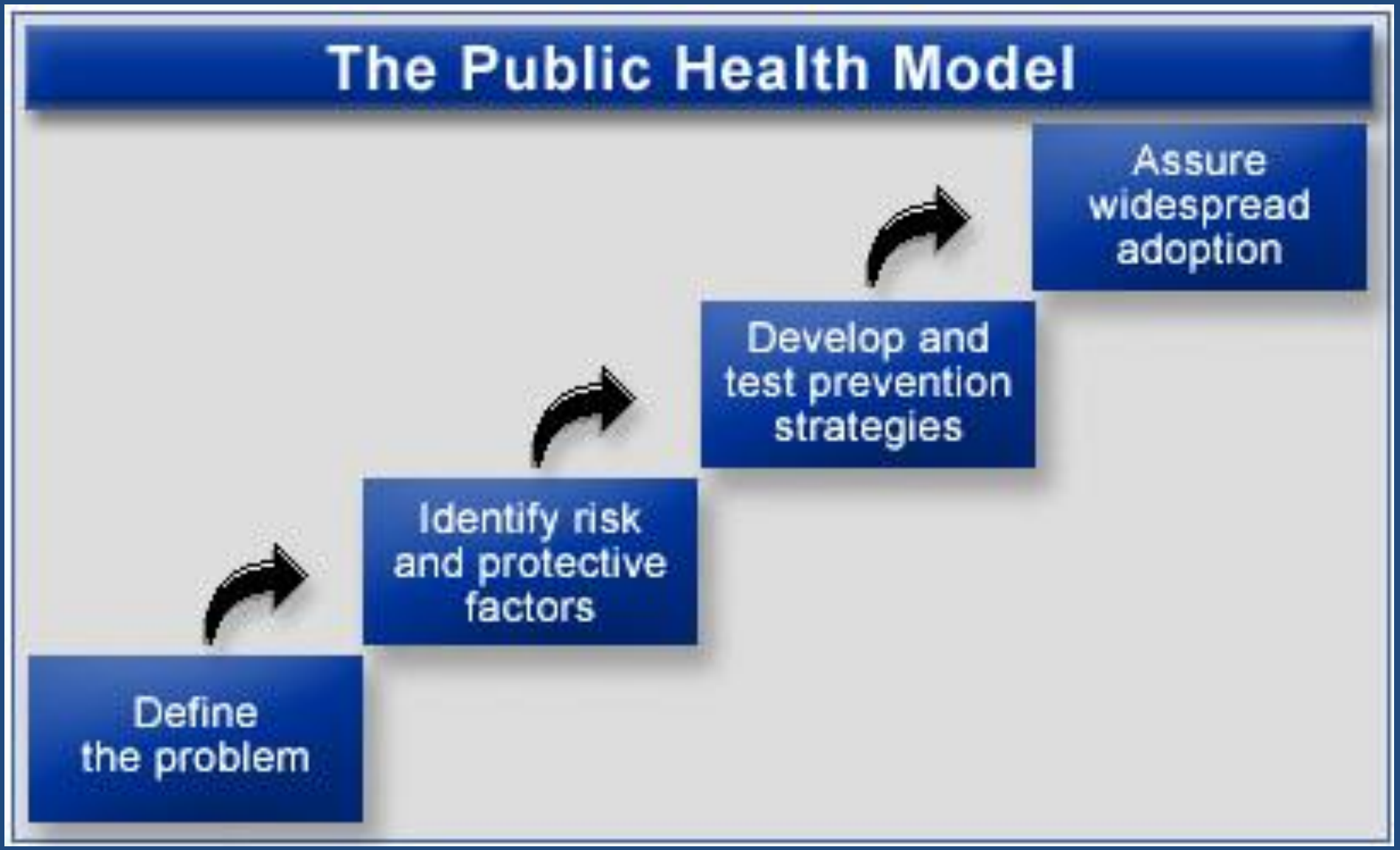
Sequential component:

Continuous component:

Future Directions

- Policy to incorporate “Trauma Informed Care”
- Development of screening criteria
- Demonstrating value beyond recidivism
- Build curriculum for Intervention Specialists
- Advocacy and widespread adoption

The Public Health Model



SPECIAL ARTICLE

Recommendations from the American College of Surgeons Committee on Trauma's Firearm Strategy Team (FAST) Workgroup: Chicago Consensus I

Cynthia L Talley, MD, FACS, Brendan T Campbell, MD, FACS, Donald H Jenkins, MD, FACS, Stephen L Barnes, MD, FACS, Richard A Sidwell, MD, FACS, Gary Timmerman, MD, FACS, Ronald I Gross, MD, FACS, Michael Coburn, MD, FACS, Jeffrey A Bailey, MD, FACS, Alexander Eastman, MD, FACS, James Ficke, MD, FACS, Eric Kuncir, MD, FACS, Robert W Letton, MD, FACS, Brian J Eastridge, MD, FACS, Amy E Liepert, MD, FACS, Alison Wilson, MD, FACS, Danny Robinette, MD, FACS, James W Davis, MD, FACS, Christian Shalgian, BA, Holly Michaels, MPH, Mark C Weissler, MD, FACS, Deborah A Kuhls, MD, FACS, Eileen M Bulger, MD, FACS, Ronald M Stewart, MD, FACS

Recommendations from the American College of Surgeons Committee on Trauma's Firearm Strategy Team (FAST) Workgroup: Chicago Consensus I

COT Consensus Approach

1. Promote a public health approach

2. Implement violence prevention programs in ACS trauma centers

3. Foster a forum for civil dialogue with goal of moving toward a consensus regarding interventions aimed at reducing firearm injuries and deaths

Inclusive of all points of view

FAST Workgroup

Twenty-two surgeons (608 years cumulative experience caring for injured patients)
Eighteen experienced firearm owners plus 4 ACS/COT leaders
- 210 firearms owned
- 5 current NRA members
- 9 past/present military service
- 1 law enforcement professional

Consensus approach to develop durable recommendations

Recommendations

1) Robust background check for *all purchases and all transfers of firearms* (Universal background check)

2) Support firearm registration and implementation of an electronic database for all registered firearms

3) Reassessment of the firearms designated within each of the NFA classifications...with consideration given to reclassification of high capacity, magazine-fed, semi-automatic, high velocity firearms

4) Formal gun safety training for all new gun owners

5) Requirement for safe and controlled firearm storage. Owners not providing reasonable, safe firearm storage are responsible for adverse events related to discharge of their firearm(s)

6) Individuals deemed an imminent threat to themselves or others should have ownership temporarily or permanently restricted based on due process

7) Development of firearm technology that would significantly reduce the risk of self-harm, prevent unintentional discharge, and prevent unintended use

8) Non-partisan research for firearm injury, including prevention, must be federally funded

9) The public, professionals in law enforcement, and the press should take steps to eliminate notoriety of the shooter

10) See something, say something. Recognition of mental health warning signs with early referral to treatment and law enforcement

Talley CL, Campbell BT, Jenkins DH, Barnes SL, Sidwell RA, Timmerman G, et al.
DOI: https://doi.org/10.1016/j.jamcollsurg.2018.11.002

Journal of the American College of Surgeons

FIREARM INJURIES ARE PREVENTABLE

Each day, more than 100 Americans are killed and 200 are injured by gun violence. #ThisIsOurLane

affirm

American Foundation for
Firearm Injury Reduction in Medicine

Donate Now


D.L.I.V.E
DETROIT LIFE IS VALUABLE EVERYDAY
Trauma-In
Safety +
Ventilation
Prediction

WHY Health Care Providers?

California Trauma System: Title 22 Revision

Tom McGinnis
Tom McGinnis, EMT-P
Chief, EMS Systems Division
California EMS Authority
(916) 431-3695

Process thus far…….

1. EMSA engaged a small SME group to help us define scope of revision considerations
2. Meetings over extended period of time to discuss the opening of the regulations
3. Basic concepts have been formulated and will be presented to the Truam Regulations Task Force

Revision Considerations for Title 22 Regulations

1. ACS verification requirement for Level I-III Trauma Centers
2. Improve delivery of optimal care at designated facilities

These considerations align with the Statewide Trauma System Planning document released in 2017

ACS Verification for LI-III: Considerations

- All but four (4) L1,2,3 trauma centers in California are ACS verified
- Consistent with national trends (e.g. New York State & others)
- With this requirement in place, risk-adjusted outcomes analysis could be performed state-wide
- Window of time for compliance could be 3-5 years for currently designated centers
- Possibly allow LEMSAs to grant waiver under certain circumstances. Process for this could be defined with input from stakeholders

Next Step: Trauma Revisions Workgroup Formation

- Workgroup Members solicited from 13 organizations in March 2019. Not all names have been received by EMSA
- Meetings will take place approximately every 8 weeks
- First meeting on 5/21/2019.

Organizations for Workgroup

- American Academy of Pediatrics
- California Association of Air Medical Services (CalAAMS)
- California Ambulance Association (CAA)
- California Department of Public Health (CDPH)
- California Hospital Association
- Emergency Nurses Association (ENA)
- EMS Medical Directors Assoc. of CA (EMDAC)
- EMS Administrators' Assoc. of CA (EMSAC
- Fire Chiefs
- Health Organization (such as Kaiser or Sutter Health)
- State Trauma Advisory Committee (STAC)

Trauma Revisions Workgroup Goal

- Assist in soliciting input from trauma stakeholders statewide
- Department of Finance (DOF) and Health and Human Services Agency (Agency) will review draft regulations prior to Office of Administrative Law (OAL) process with no specific ETA
- OAL process is 365 days and will include at minimum 2 formal comment periods

Regulation Revision Considerations

- The Administration and OAL folks do not generally understand things that are “Medical”
- A great deal of explanation is required to make changes to existing regulations
- Change justifications such as “it’s standard of care”, “every other state does it”, etc…. Are not viewed as good reasoning to change things per se

Regulation Revision Considerations

- Is this regulations change a “need” or “want”
- Caution should be considered in what we perceive as need vs what we want to change in any given set of regulations
- Are we better off as things as now given what changes might take place……

Timeline for Trauma Regulations Revisions….In "state time"

- Task Force to work on process for roughly 12 months
- DOF and Agency review of draft changes > 1-3 months
- OAL process is one year (two comment periods)
- Commission on EMS approval (meets quarterly)
- Final OAL review process (1-2 months)
- Overall……we are looking at 2 ½ years in best case scenario

Please contact Elizabeth or me with any questions as this process moves forward

CALIFORNIA EMERGENCY MEDICAL SERVICES AUTHORITY

2019
Trauma Summit

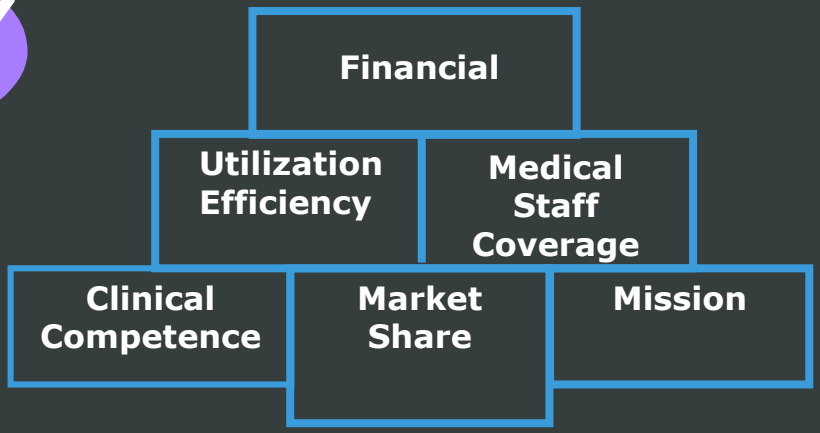
Trauma Center Financing

BILL BULLARD, MBA
SENIOR VICE PRESIDENT
bbullard@abarisgroup.com – 707.823.0350

Presented by The Abaris Group
April 2019

ABARIS GROUP
FOUNDED 1989 INNOVATING FOR 25 YEARS

Building Blocks for Trauma Center “Value”



Trauma Financing – Components

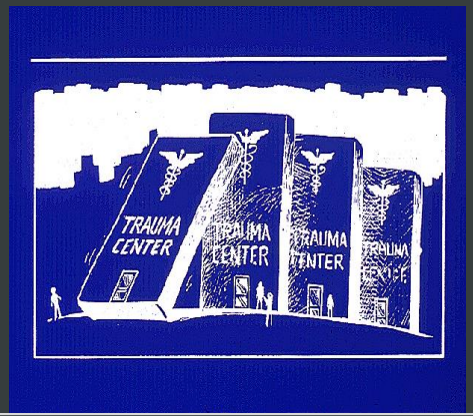
- History
- Volume
- Charges
  - Activation fees
  - Professional fees
- Payors
  - Public
  - Private
- Expenses
  - Specialists

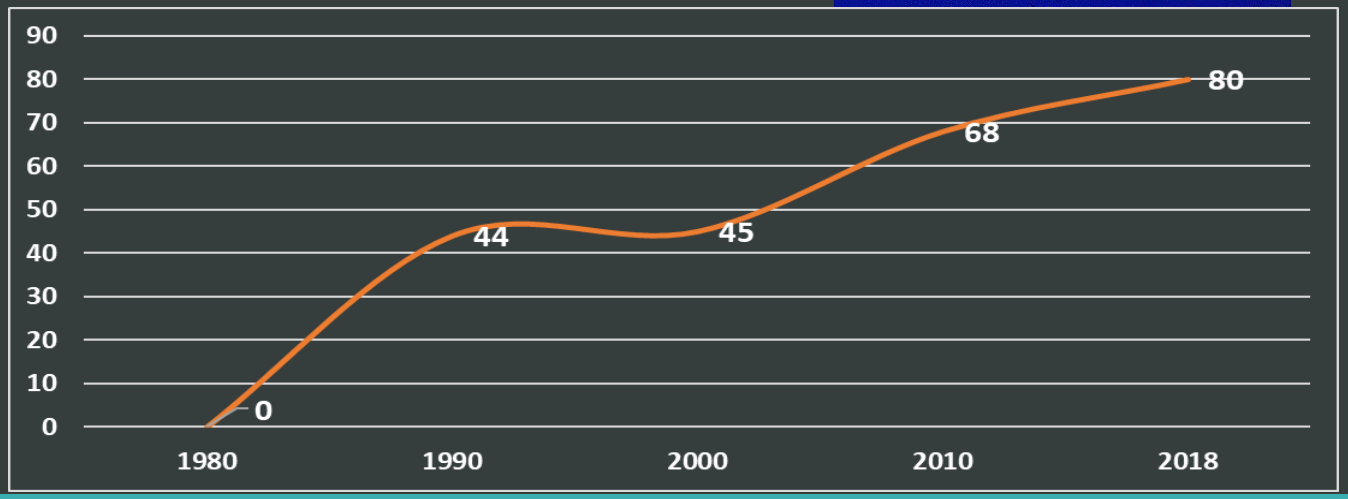
California

Trauma History

Trauma Financing – History

- First trauma system arrives… Orange County, 1979
- Los Angeles County designates first trauma center???
  - 1983
  - Peaks in 1985 @ 22
  - Currently @ 15
- California Trauma Centers



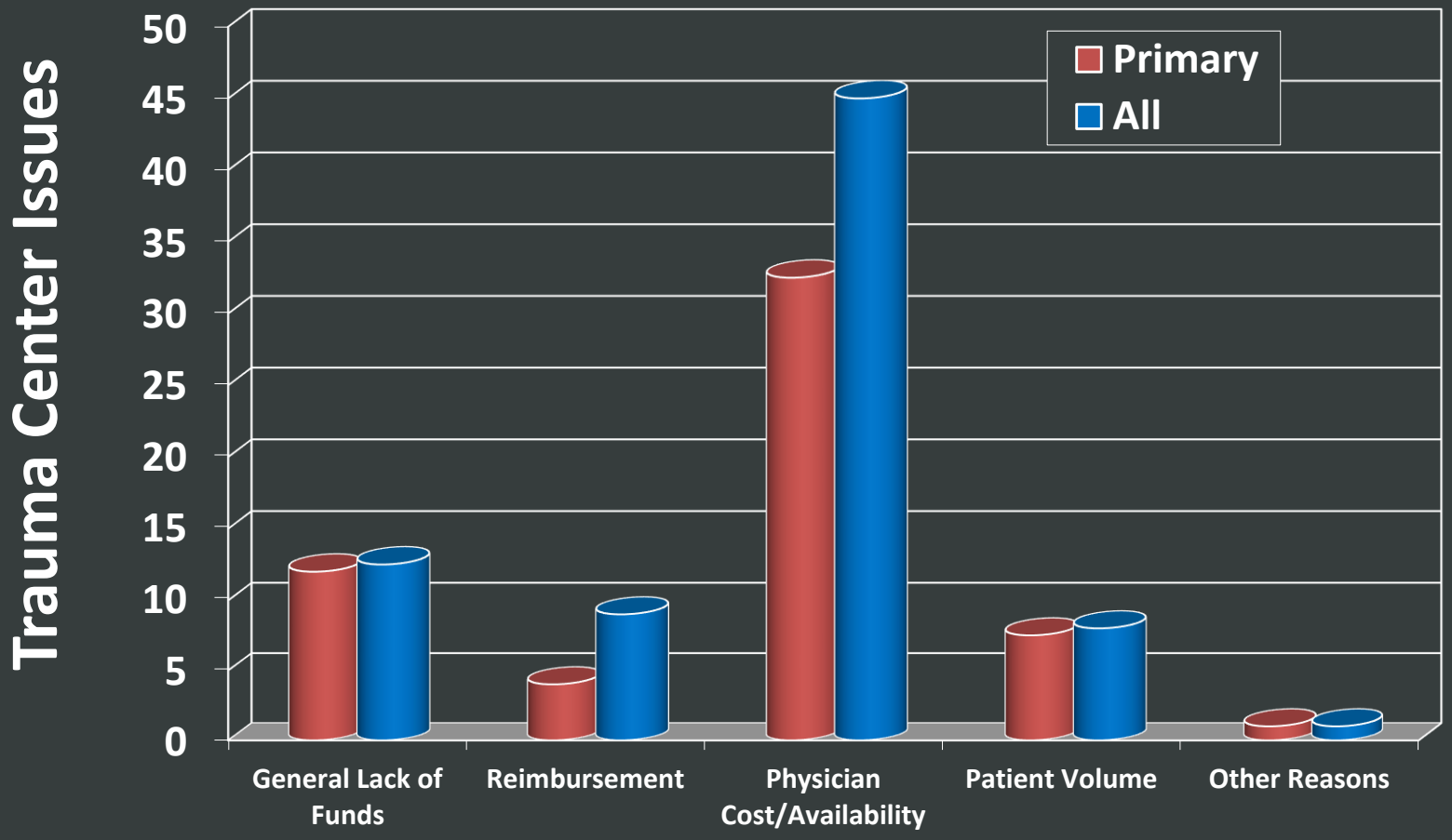


Trauma Financing – History

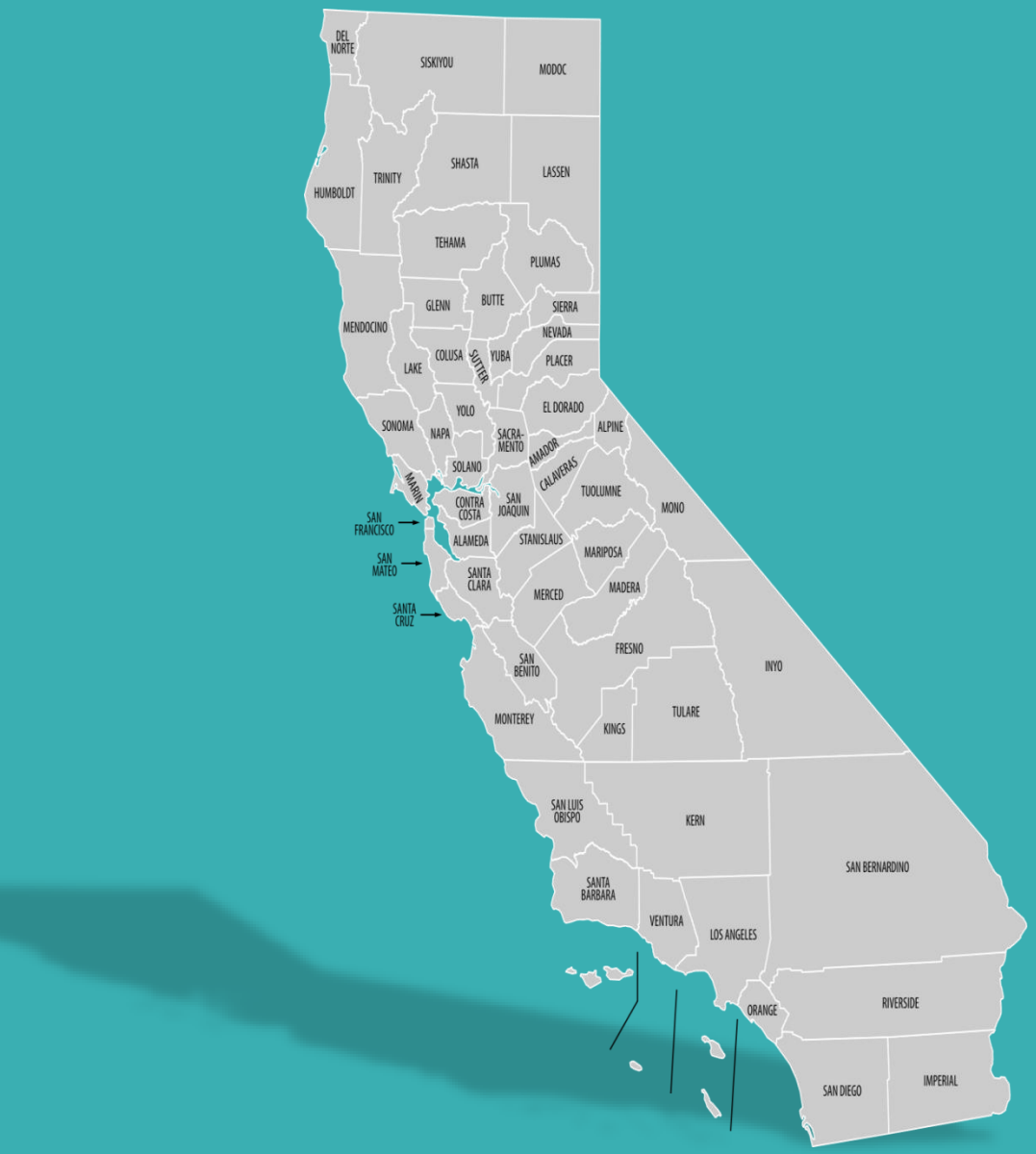
Reasons Why Trauma Centers Fail

1. Lack of medical staff support
2. Limited institutional leadership commitment
3. Lack of a business model
4. Poor volume
5. Failure to innovate with market, cost and revenue strategies

Trauma Financing – History



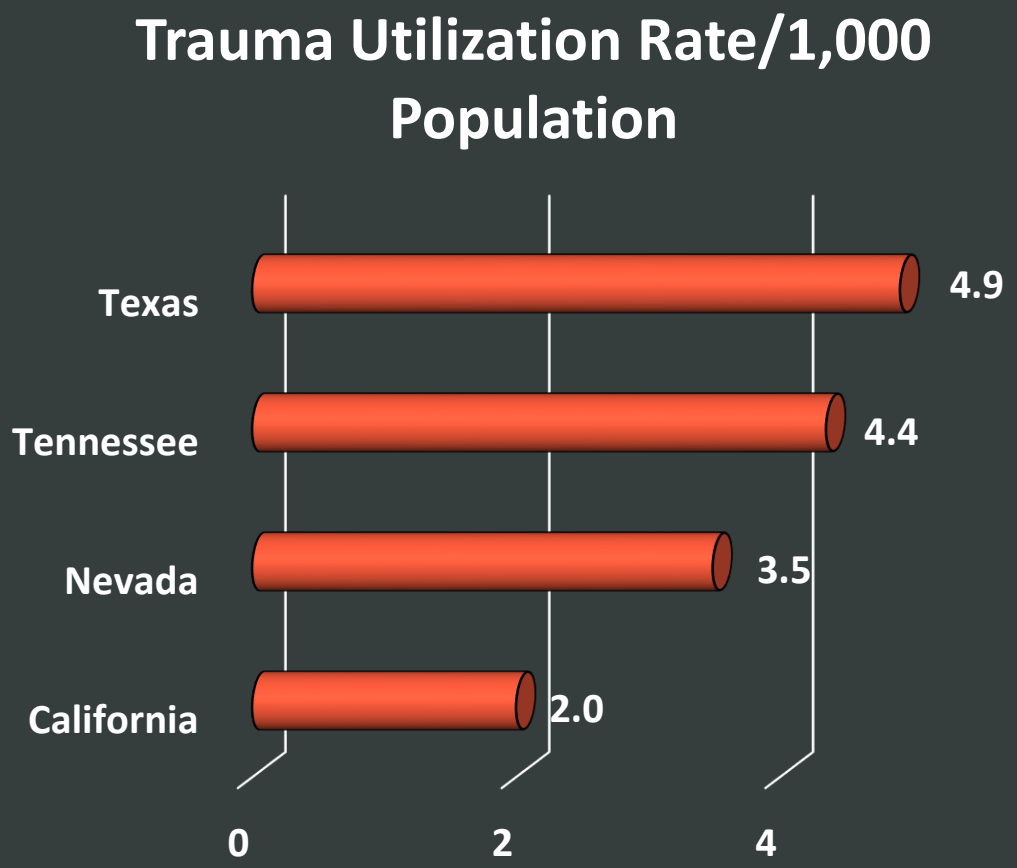
- Source: ATS Trauma Leadership Forum



California

Trauma Volume

Trauma Financing – Volume



Difference? ...Early inclusion of ground level falls

California EMS Region Trauma System Comparison			
EMS Region	Trauma Cases	Population	Utilization Rate per 1,000 Population
Sierra-Sacramento	3,575	878,775	4.07
El Dorado	730	188,987	3.86
Santa Barbara	1,635	448,150	3.65
Sacramento	5,132	1,530,615	3.35
San Diego	9,250	3,337,685	2.77
Solano	1,153	445,458	2.59
Napa	347	140,973	2.46
ICEMA	5,085	2,189,598	2.32
Alameda	3,625	1,663,190	2.18
Santa Clara	4,223	1,938,153	2.18
San Luis Obispo	589	283,405	2.08
Coastal Valleys	1,224	592,235	2.07
Mountain Valley	1,325	650,884	2.04
Marin	509	260,955	1.95
Orange	6,088	3,190,400	1.91
Riverside	4,505	2,423,266	1.86
San Joaquin	1,271	745,424	1.71
Ventura	1,373	854,223	1.61
Los Angeles	15,269	10,163,507	1.50
Kern	1,243	893,119	1.39
Contra Costa	1,316	1,147,439	1.15
North Coast	211	228,470	0.92
Northern California	23	641,365	0.04
Statewide Utilization Rate			**2.00**
Standard Deviation			**0.95**
Sources: CA EMSA Trauma Registry, 2017; US Census Bureau			

Trauma Financing – Volume

- Maximize Volume Opportunities
  - Spread out fixed costs
  - Appropriate levels of trauma (where is your region on special considerations)
  - Community hospital outreach (transfer center, policies, etc.)
  - EMS outreach (do they know your capabilities)

California

Trauma Charges

Trauma Financing – Charges

- Trauma Activation Charge
  - Only when patient meets criteria, and
  - Requires EMS activation (PD and transfers okay)
  - Full, partial, and consult (typically)
  - Meant to recoup fixed costs
  - Public record in California
  - Medicare ~ $1,000… OP only
- ICU Trauma Charge
- Mid-level Practitioners
- Miscellaneous
  - Case management, room, team, …

Trauma Financing – Charges

Chargemaster

- Method
  - HCPCS/CPT codes - hospital provides
  - Mapped to APC – CMS defines for you
  - All outpatient services
  - Medicare patient admitted... converts to DRG
- Changes Annually
  - RVUs
  - Conversion factor
  - GPSI/Wage Index
  - Composite payment
    - Observation medicine (ED)
    - Guidance services
    - Image processing
    - Intra-operative procedures

Trauma Financing – Charges

Chargemaster… *Ideal*

- Updated annually
  - Cost-based method for determining charges
- Uses all available codes (in excess of 480 procedures as well!)
  - Can’t get paid for what you don’t charge
- Consider specialty charges for STEMIs and CVAs
- Remember “critical care” is not a visit code (“V” code) but rather a procedure code (“S” code) – can bill both

California

Trauma Payors

Trauma Financing – Payors

- In General
  - Better than ED (trauma is equal opportunity disease)
- Private
  - Auto insurance (get police report release at registration)
  - Home insurance (timeliness)
  - Liens (have an internal policy)
  - Legal action (e.g., DUI, assault)
  - Out of state (e.g., no-fault insurance, motor vehicle fund pools, other VoC's)
  - Local charity care/benefactors (e.g., Kiwanis, Easter Seals)
  - Workers' Compensation

Trauma Financing – Payors

- Government/Public
  - Medicare
  - MediCal (emergency)
  - City/county tax measures
  - Prisons
  - Indian health
  - Victims of ~~violent~~ crime
- Managed Care
  - Trauma carve outs (not an elective procedure… driven by EMS)
- Deductibles
  - Identify before discharge, offer cash, credit card, ATM, check, …
- Optimize
  - Coders specialized in trauma… on-going education (e.g., speakers, classes)

California

Trauma Expenses

Trauma Financing – Expenses

- Significant Fixed Costs
- On-Call Stipends
  - Relative value unit (RVU) model
- In-House Stipends
  - Fully optimize surgeons… ACS model?

California

Trauma Finance Summary

Trauma Financing – Summary

- Maximize Volume
- Get All Possible Authorizations at Registration
- Identify Every Possible Payor Source(s)
- Negotiate Trauma Carve Outs with Managed Care Providers
- Identify and Apply Appropriate Charges (Good Coders!)
- Update Chargemaster Annually
- Match Specialty Stipends to Workload/Cost Opportunity

Trauma Service Line, fiscally independent

Who is The Abaris Group?

ABARIS GROUP
FOUNDED 1989 INNOVATING FOR 25 YEARS

CALIFORNIA EMERGENCY MEDICAL SERVICES AUTHORITY

2019 Trauma Summit

Questions???

Bill Bullard, MBA: Senior Vice President

707.823.0350 – bbullard@abarisgroup.com

Presented by The Abaris Group
April 2019

ABARIS GROUP
FOUNDED 1989 INNOVATING FOR 25 YEARS

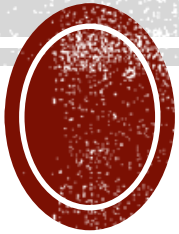
Transfers: When The Disaster Is Not Your Only Disaster

Barbara Clark, BSN

Crystal Walsh, BSN

John Poland, EMT-P

Kelly Coleman, EMT-P



Objectives

- Identify available resources in disaster situations for trauma programs
- Understand the importance of knowing your geographical limitations and accessibility during disasters
- Understand the significance of situation awareness and communication with law and OES (Office of Emergency Services)
- Identify Best Practices for trauma programs during a disaster

About Mercy Mt. Shasta

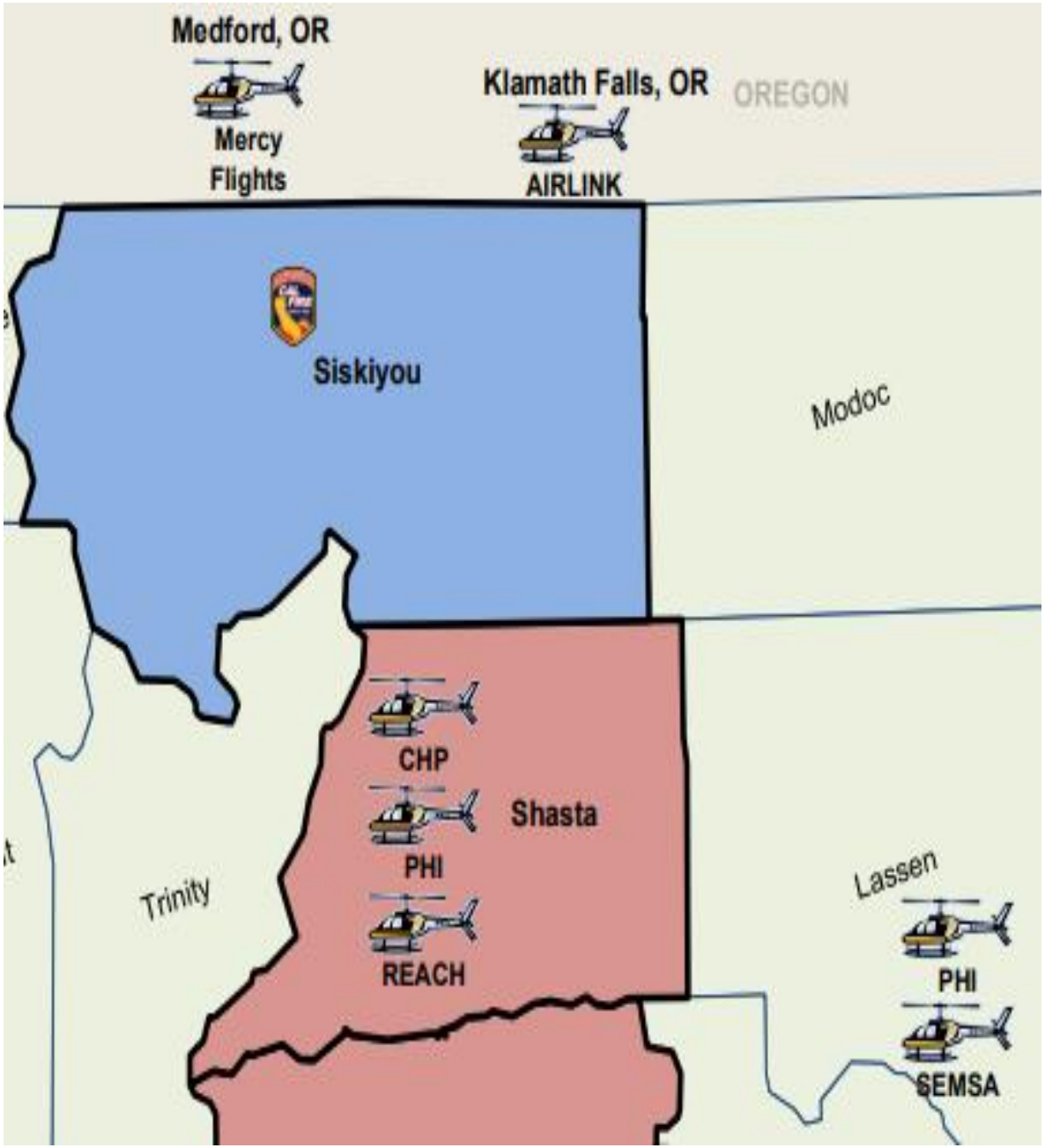
Mercy Mt. Shasta is a Critical Access hospital

We have a 9 bed ER, and are a verified Level III trauma center

We staff one ER physician, and two RN's routinely

We have general and orthopedic surgery available 24/7

We do not have burn, neurology or other trauma specialty services



About the Region

Nearest Level II Trauma Center is 60 miles south via the I-5

Asante Rogue Regional is 90 miles north

County population is just under 44,000

Approximately 300 trauma patients seen annually

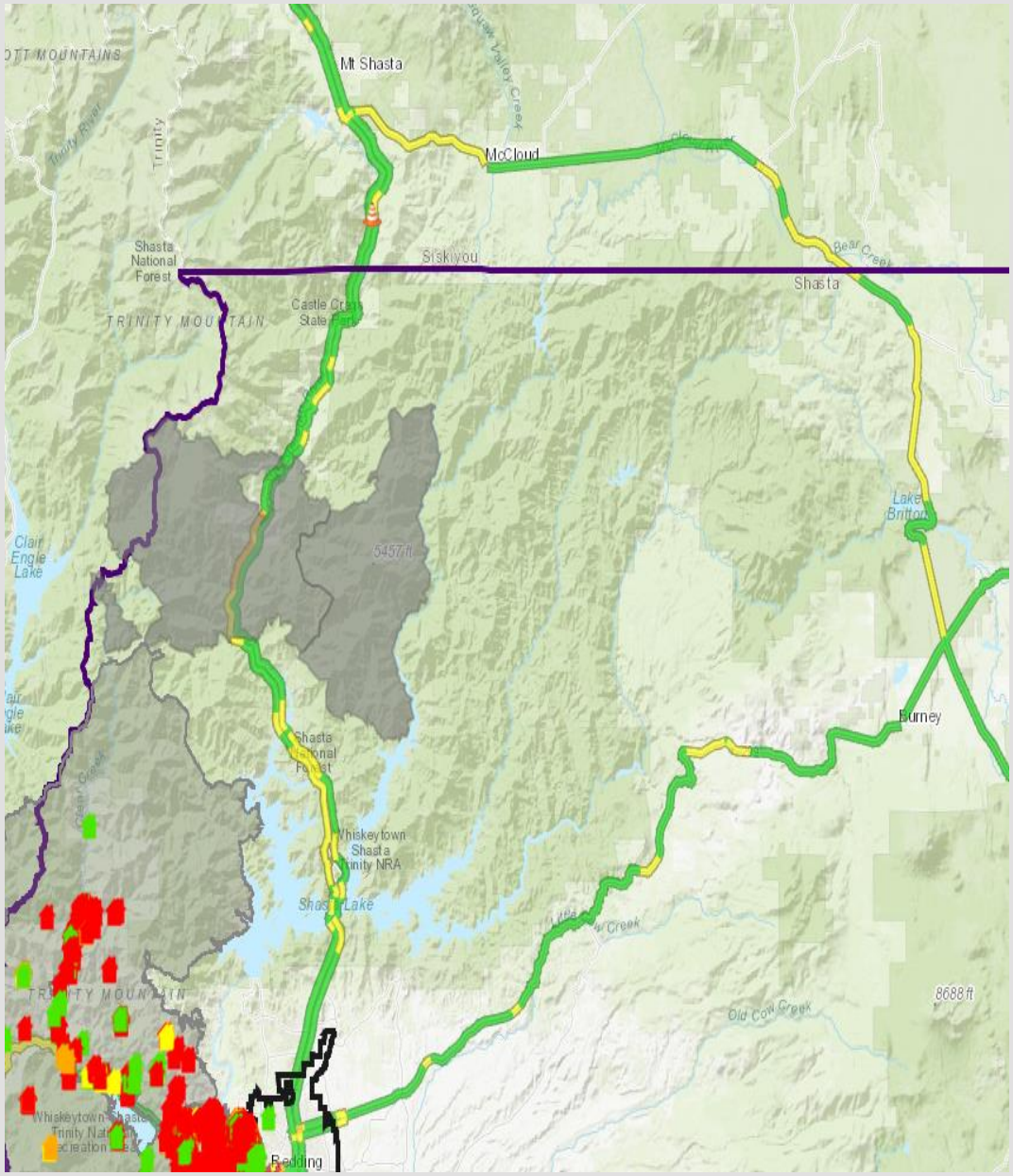
Air transport from the scene is virtually non-existent in our area

The Delta Fire

- On September 5, 2018, the Delta Fire began at approximately 1300 hours
- The fire began on Interstate 5, near Lakehead, which is 10 miles north of Redding
- Strong winds, heavy growth and drought conditions caused the fire to rapidly spread north
- The I-5 was closed from the onset of the fire and remained closed for 5 days

Transfer issues

- At 1501, Mercy Mt. Shasta received a 30 year old male truck driver
- Patient had first degree burns to face, second degree burns to both forearms, and third degree burns to both legs and the soles of his feet. He had exited his truck, and had run down the freeway with his shoes on fire
- Due to the location and degree of burns, this patient required specialty care at a burn center. UC Davis is just over 200 ground miles away
- I-5 was closed at this time, so ground transport was not an option
- Air ambulances from the south were either not available or would not fly north due to heavy smoke conditions
- We were eventually able to get a fixed wing from Medford, Oregon into a small regional airport, and the patient was transferred to UC Davis
- Patient had a 22 day hospital stay, and had no issues in his care



Delta/Hirz Fire Line

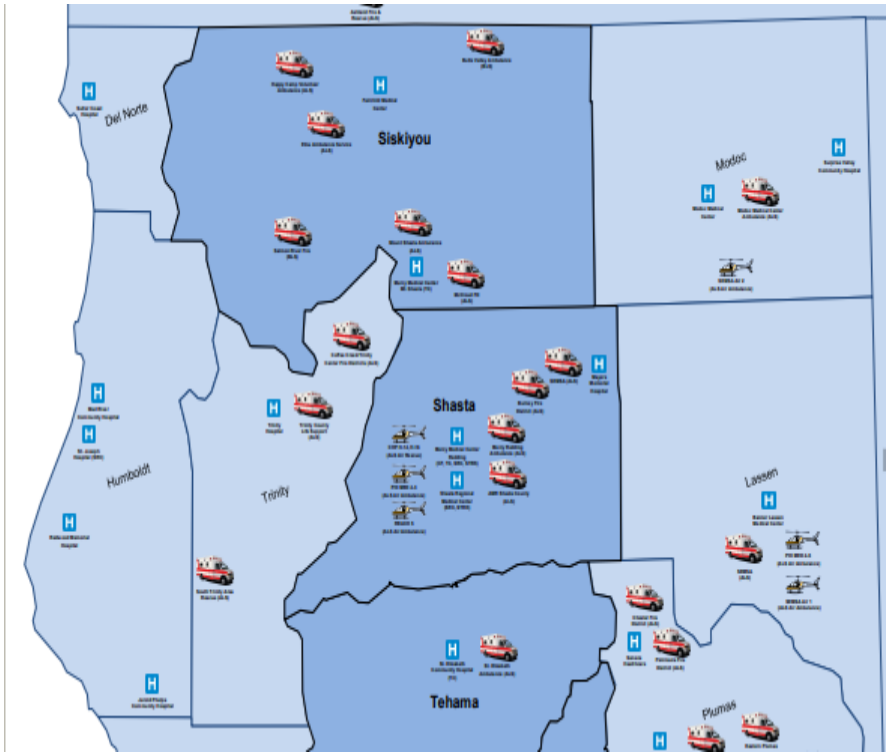
What we learned

- Siskiyou County did not set up an operations center as the nearest town under evacuation warning is in Shasta County.
- We have difficulty transferring patients in inclement weather, but when our ability to transfer by ground is removed, we will probably have to be creative with treating patients that are unable to get to a higher level of care
- We did not consider contacting law enforcement to see if we could have ambulances escorted through the fire zone
- We did not consider contacting CHP to see if their helicopter could fly
- We have our disaster management knowledge base tied up in just a few key people

About Mercy Medical Center Redding

- Northern Most Level 2 Trauma Center in California
- American College of Surgeons Committee on Trauma Verified
- 267 beds
- Stroke and STEMI Receiving Center
- Most Northern Neonatal ICU Service line
- No PICU Services

Transfer Center of West Virginia

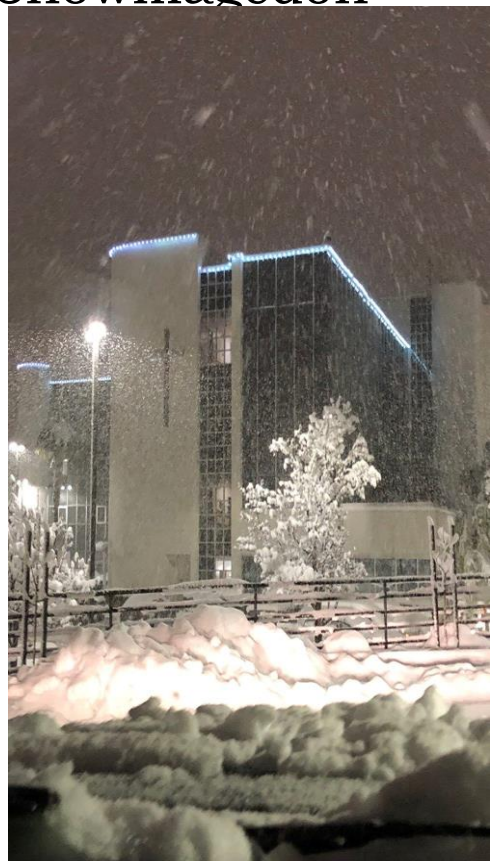


- Cover 8 counties =24,900 square miles
- Size of the state of West Virginia
- In 2018 we had 229 transfers in from 6 di

Fire and Ice: What a difference 7 months make

- July 2018- Carr Fire

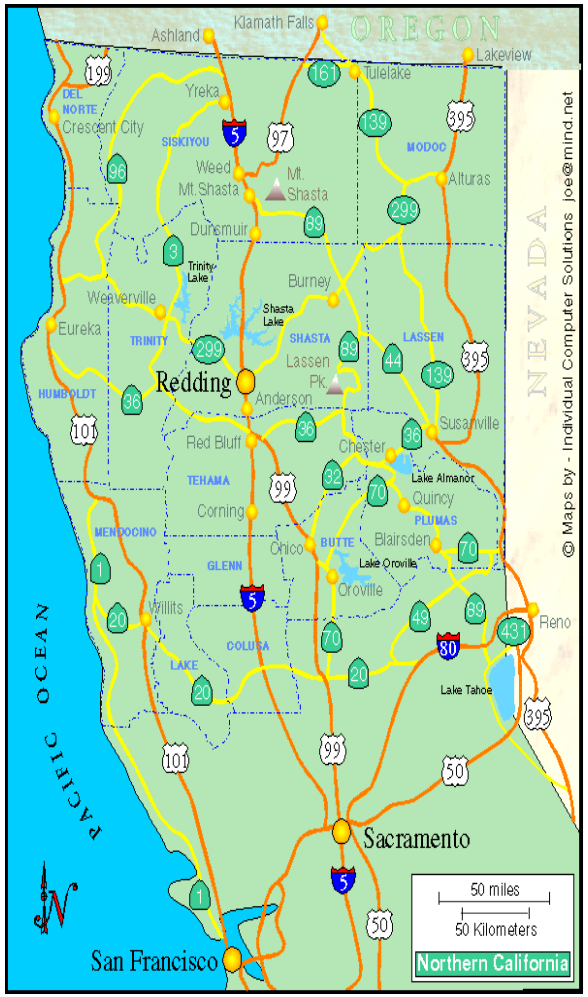
- February 2019- Snowmagedon



Factors that Influence/Limit Transfers

- Geography
- Weather
- Where is the incident Occurring?

Factors that Influence/Limit Transfers



- Road Access
- Transport Access
- Types of Roads
- Is the disaster affecting those routes
- Highway 299 was closed for 3 weeks during the Carr Fire

Carr Fire Transfers

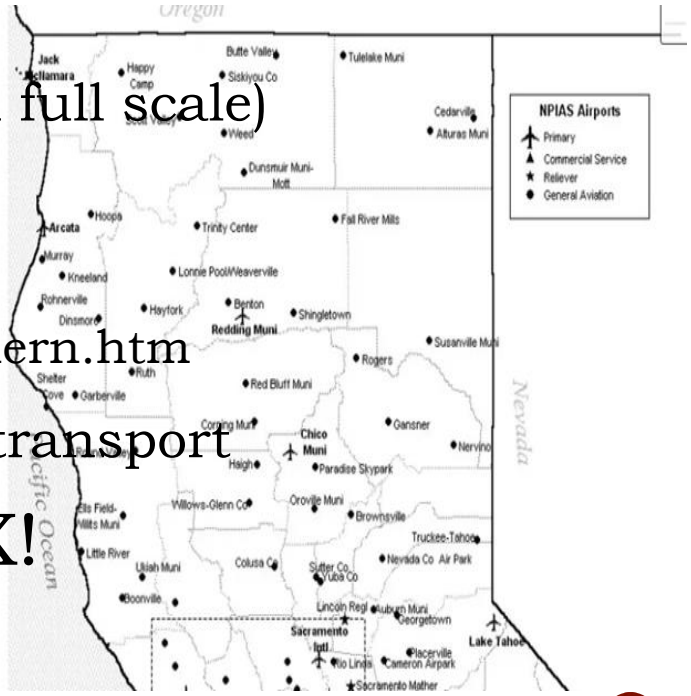
- Transferred Out 6 NICU babies
- 3 flown directly out of Mercy
- 3 driven down to Red Bluff Airport and flown out from there
- Factors
  - Time
  - Smoke
  - Equipment

Snowmegadon

- 2 Patients that needed to be transferred out
  - Pediatric in the ED
  - Inpatient Cardiac
- Factors
  - Transport Mechanisms
  - Weather
  - Staff
- Integrated Resources to achieve the goal

Know your Resources

- Know your people- EMS, TPMs, Disaster Coordinators, MHOAC, RDMHS
- Have agreements ahead of time
- Participate in exercises (table top and full scale)
- Don't Silo your Information
- Have maps of your airports/LZ
  - www.california-map.org/airports-northern.htm
- Have a list of preset nurses that can transport
- THINK OUTSIDE THE BOX!



Local Medical & Health System Coordination During Disaster Incidents

John Poland, Associate Director, Sierra – Sacramento Valley EMS Agency

Sierra - Sacramento Valley Emergency Medical Services Agency (S-SV EMS)

S-SV EMS Region

- 10 counties/21,000 sq. miles
- 1.3 Million Population
- 100+ First Responder Agencies
- 30 Ground Ambulance Providers
- 8 EMS Aircraft Providers
- 17 Acute Care Hospitals
  - 7 Trauma Centers

2018 S-SV EMS Region Data

- Ground EMS 911 Responses: 141,762
  - 76% Medical
  - 24% Trauma
- Ground EMS IFTs: 20,689
- EMS Aircraft 911 Transports: 588
  - 42% Medical
  - 58% Trauma
- EMS Aircraft IFTs: 1,544

2018 S-SV EMS Region Trauma System Data

- NTDB Patients: 5595
  - Adult: 56%
  - Geriatric (≥ 65 yo): 40%
  - Pediatric: 4%
- NTDB Patient Arrival By EMS: 3896 (70%)
  - Ground ambulance: 95%
  - EMS aircraft: 5%
- 861 Trauma Patient Transfers
  - 410 transferred to S-SV EMS trauma centers from other hospitals
  - 451 transferred from one trauma center to another trauma center

Oroville Dam Spillway (February 2018)

- 188,000+ evacuated
  - 45 bed acute care hospital
  - 20+ healthcare/assist. living facilities
  - 1000+ medically fragile individuals
  - 10 ASTs utilized
  - Multiple evacuation shelters

Shasta County Carr Fire (July 2018)

- 229,651 acres
  - 7th most destructive CA wildfire
  - 8 fatalities (3 firefighters)
- Thousands evacuated
  - Acute care hospital NICU
  - Multiple healthcare/asst. living facilities
  - 5 ASTs & multiple EMS aircraft utilized
  - Multiple evacuation shelters

Butte County Camp Fire (November 2018)

- Most destructive CA wildfire
  - Deadliest - 85 civilian fatalities
- 52,000+ Evacuated
  - 101 bed acute care hospital
  - 30+ heathcare/assit. living facilities
  - 5 ASTs and multiple EMS aircraft utilized
  - Multiple evacuation shelters

Local Medical & Heath Disaster Response System Overview

Medical & Health System Disaster Response Entities

- Field Responders (LE, FD, EMS)
- Hospitals/Healthcare Providers
- Local OES
- LEMSA
- MHOAC
- RDMHC/S
- State Agencies

Medical & Health System Disaster Response Entities

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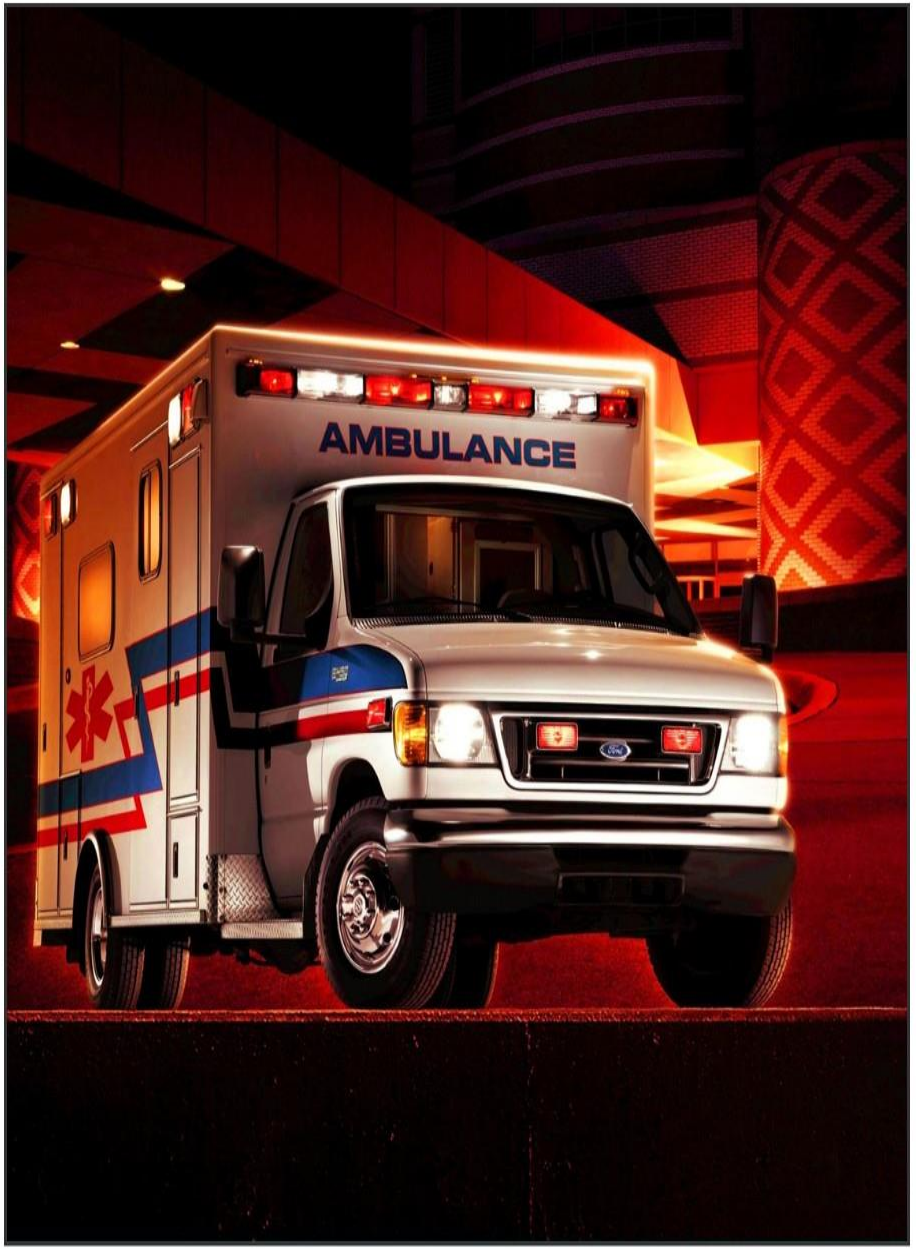
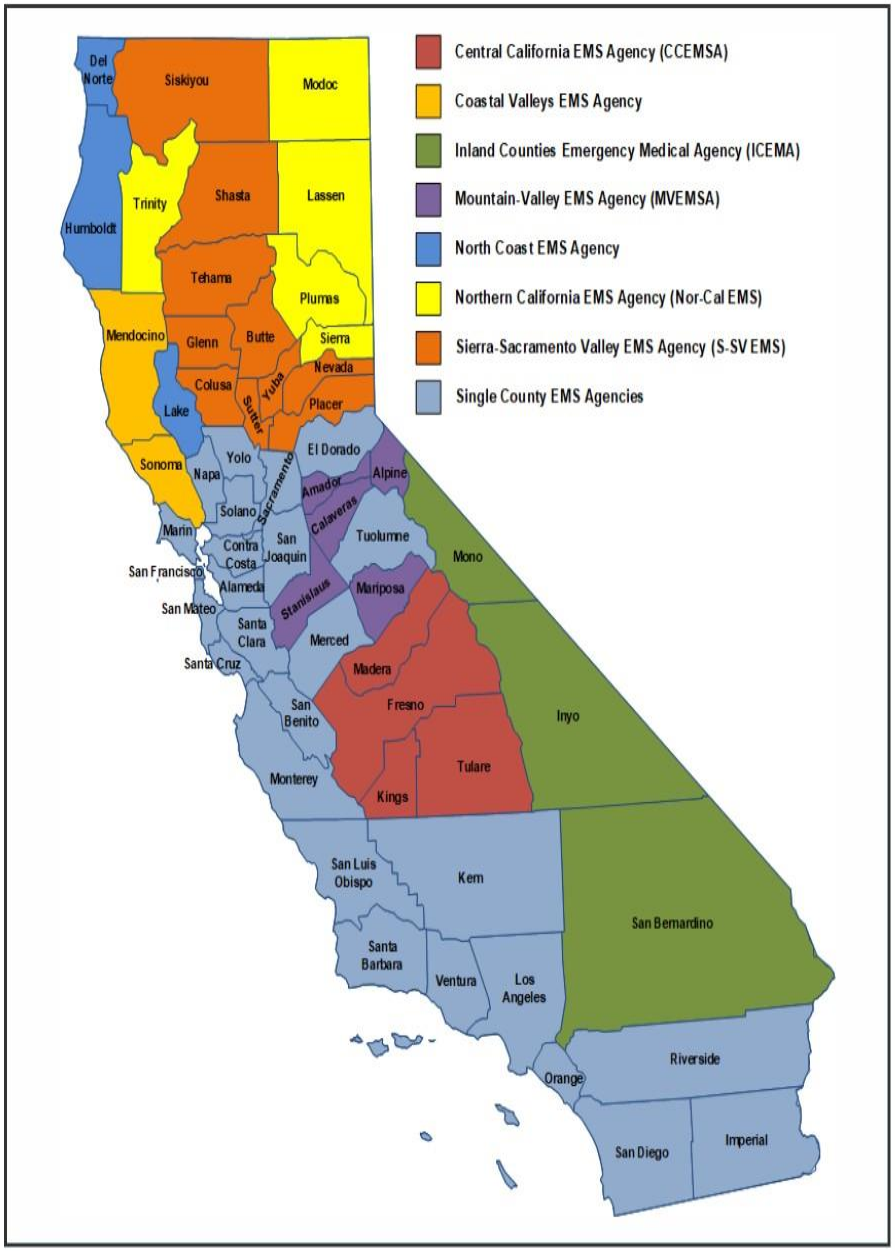


LEMSA

- H&S Code § 1797.200
- Local EMS system admin. & oversight
- Coordinates medical & health disaster planning/response activities with local public health dept.

LEMSA

- 58 CA Counties
- 33 CA LEMSAs
  - 26 Single County
  - 7 Multi-County (Regional)

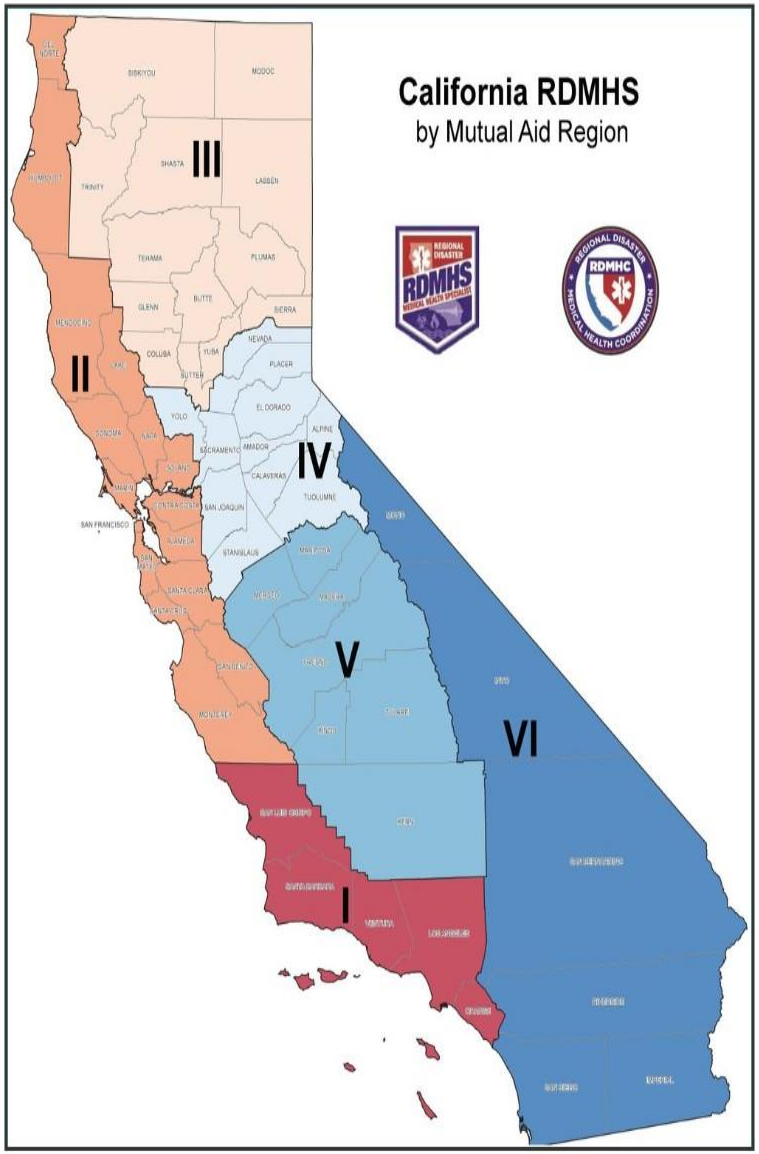


MHOAC

- H&S Code § 1797.153
- Local Heath Officer & LEMSA Administrator may act jointly as the MHOAC or appoint another individual
- Monitors, ensures and obtains medical & health resources during a local emergency/disaster

RDMHC/S

- H&S Code § 1797.152
- Regional medical & health system coordination
- Monitors and assists with acquiring medical & health resources during emergencies/disasters
- Initiates and responds to MHOAC mutual aid requests



Disaster Medical & Health System Challenges

- **Communication & Coordination**
  - Incomplete & rapidly changing SitStat information
  - Conflicting direction (evacuation orders, etc.)
- **Patient Transportation/Movement**
  - EMS transport resource mobilization time & availability
  - Access (road closures, incident environmental factors)
  - Prehospital personnel scope of practice limitations
- **Other Issues/Impacts**
  - Evacuation shelter & evacuee medical needs
  - Healthcare facility closures and staffing shortages

Disaster Medical & Health System Solutions

- Prepare, Plan & Exercise
- Maintain Relationships & Contacts
  - Healthcare coalitions, EMS providers, LEMSA, PHD
- Actively Pursue Accurate Information
  - Maintain EOC/DOC liaisons during incident
  - Establish effective two-way communication
- Flexability/Adaptability
  - Licensing & certification waivers, early transfer of specialty pts, alternate pt. transportation methods

Plugging In During Disasters

How Your Hospital Can Get Real-Time Incident Information

The County EOC is the hub…

- County-level multi-agency information sharing
- Up-to-date information on road closures, fire behavior, law enforcement, road/air conditions and ground operations.
- 5 SEMS Functions:
  - Management
  - Operations
  - Planning/Intelligence
  - Logistics
  - Finance/Administration

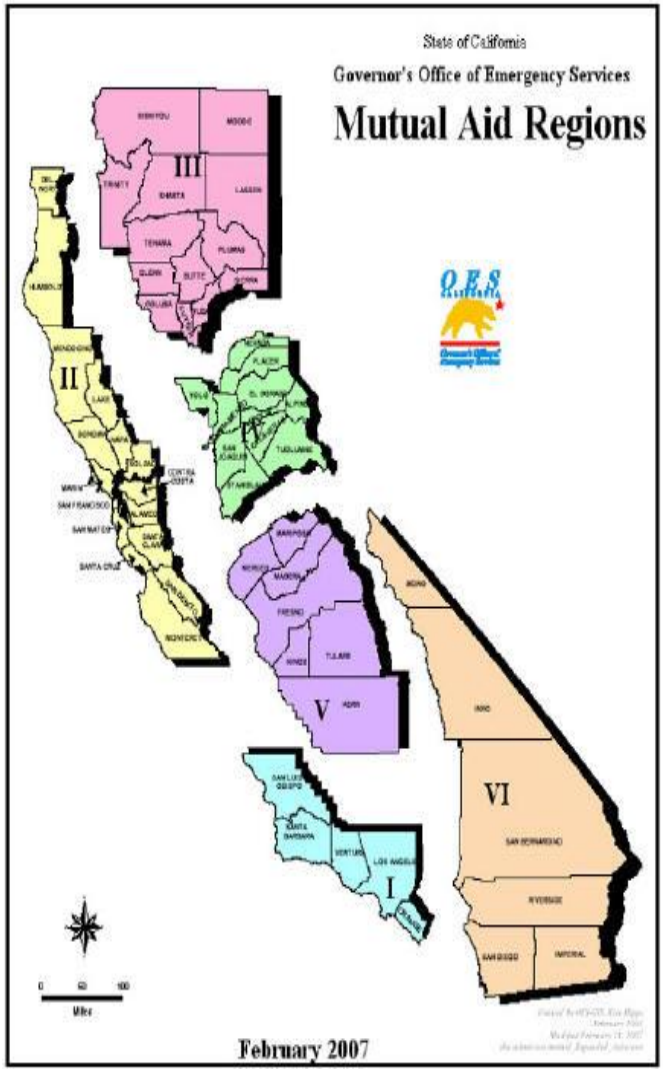
The County EOC- Who has the info that you need?

Operations-

- Law Branch (ESF 13)- evacuations, checkpoints, escorts into closed zones, security
- Fire Branch (ESF 4)- Fire behavior, firefighting resources
- Health and Medical Branch (ESF 8)- Healthcare facilities status, EMS resources, medical care in shelters, bed polling
- Transportation Branch (ESF 1)- Mass transit, buses, road conditions, road closures
- Care and Shelter Branch (ESF 6)- Shelter locations, shelter populations, shelter resources

Regional Emergency Operations Center (REOC)

- 6 mutual aid regions
- REOC collects information from all counties within the region
- Coordinates resource requests between counties in the region
- Liaison between counties and State



State Operations Center (SOC)

- Provides State-level coordination and support to the Regions and Counties
- All Emergency Support Functions (ESF's) represented
- Primary liaison to Federal agencies

Putting It All Together…

- Need Medical or Health Resources?
  - Contact the EOC Medical and Health Branch (or MHOAC program if EOC is not activated)
- Need Road Closure Information?
  - Contact either Transportation Branch (ESF 1) or Law Enforcement Branch (ESF 13) depending on the county
- Need Evacuation Info or Transportation Escort?
  - Contact Law Enforcement Branch (ESF 13)
- Need Updated Fire Info?
  - Contact Fire and Rescue Branch (ESF 4)

Thanks!

Kelly Coleman, Manager, Plans and Training Unit,
Disaster Medical Services, EMSA
916-710-1333
Kelly.coleman@emsa.ca.gov

SITUATION…

- Hospital= medium- sized
- Does do cardiac surgery
- General & cardiac surgeons not in house when on call
- Whereabouts of surgeons not known at this time
- ER= single- physician covered
- Additional info?

YOU ARE THE ED DOC: YOU…

- A. Treat the patient as an OD- the chest injury is a red herring. Besides, if it is a SW, it's a done deal- we can't handle it- we're not a trauma center.
- B. Start ABCs, get more information with CXR and FAST/Echo while CPR is ongoing
- C. Attempt diagnostic (and maybe therapeutic) pericardiocentesis and chest tube
- D. Continue with resuscitation with ABCs and call the on- call thoracic & general surgeons
- E. Immediately transfer the patient to the trauma center (13 min drive)
- F. Perform ER Thoracotomy (done it once on a pig, helped on one, seen two others)
- Additional info?

IN ED…

- Thoracotomy is done
- Pericardium is opened- heart wound is found
- Staples placed- partially controlled
- Blood noted coming from back of heart; staples placed- also partially controlled

- Intermittent ROSC for 3 min, then req 2 min cardiac massage
- 2 cycles go by (10 min)
- During this time both surgeons are contacted and are willing to come but are 30 minutes away at home
- An OR will be at least 45 minutes
- Additional info?

YOU ARE THE ED DOC: YOU…

- A. Wait for the surgeons and OR and do your best
- B. Call it- he had his best shot, he can't be maintained (and barely at that) with epi and transfusions
- C. Transfer to the trauma center 13 mins away- it will be faster way to get the patient into the hands of a surgeon
- Additional info?

April 24, 2019

Trauma Summit: Bay Area RTCC

UC East Bay – Hayward, CA

RTCC Activity

- Every other month meeting
- Standing items
  - admin. / Updates
  - Classes and events
- Regional Data
  - Transfer and re-triage
- “Interesting case” and local issues
  - Fire disaster response
  - Bridge Jumpers protocols
  - Scooters coding

Examples:

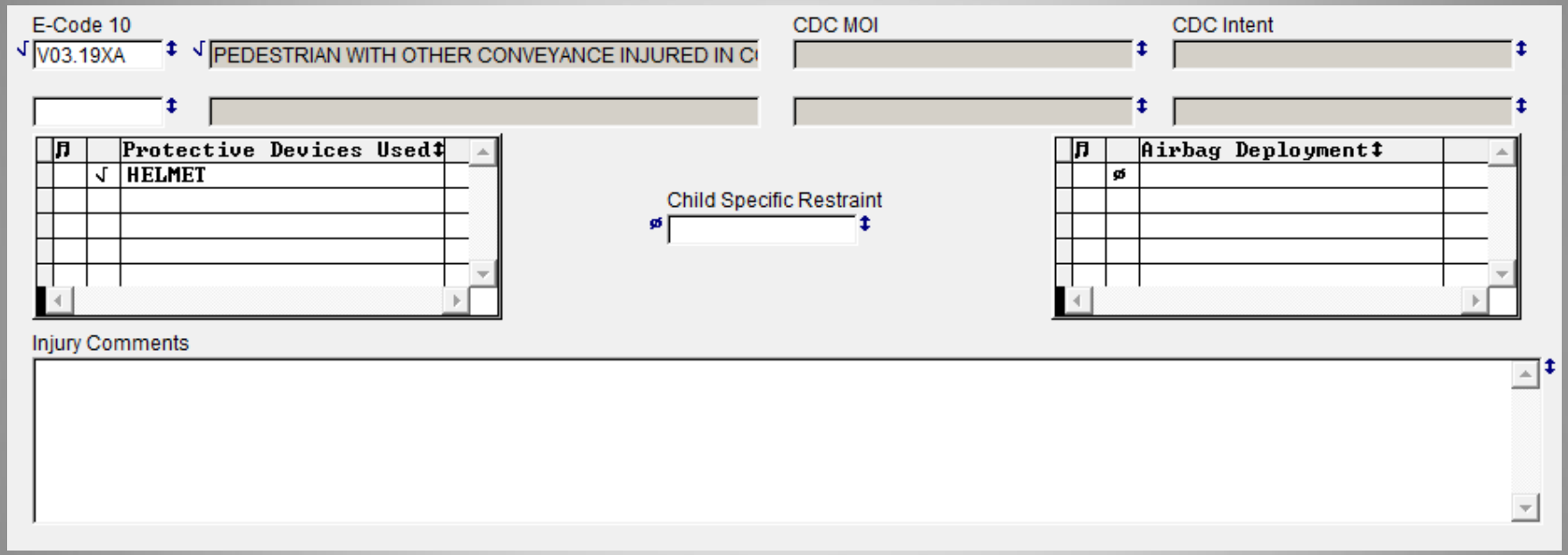
"Florida man riding a scooter"

Could mean *anything*

Case: 1

- Injury report:
  - 10 y/o male helmeted scooter rider.
  - Auto vs pedestrian
- Taken to OSH:
  - femur fx
  - kidney lac
  - nasal fx
  - multiple abrasions

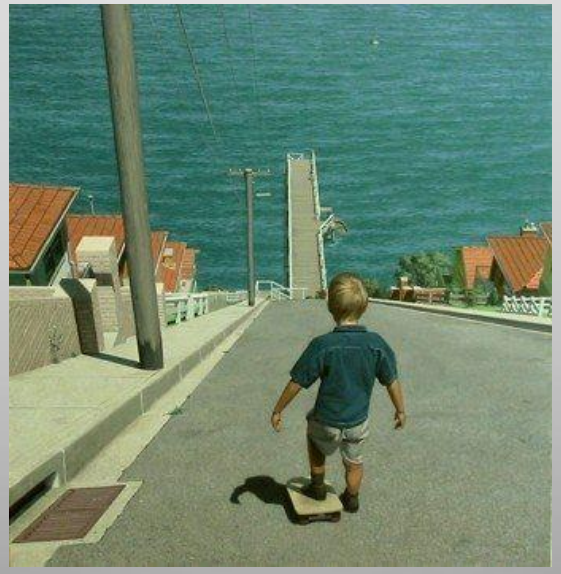
ICD 10 Code used for injury is:



V03.19XA – Pedestrian with other conveyance injured in collision with car, pick-up truck or van in traffic accident

The truth:

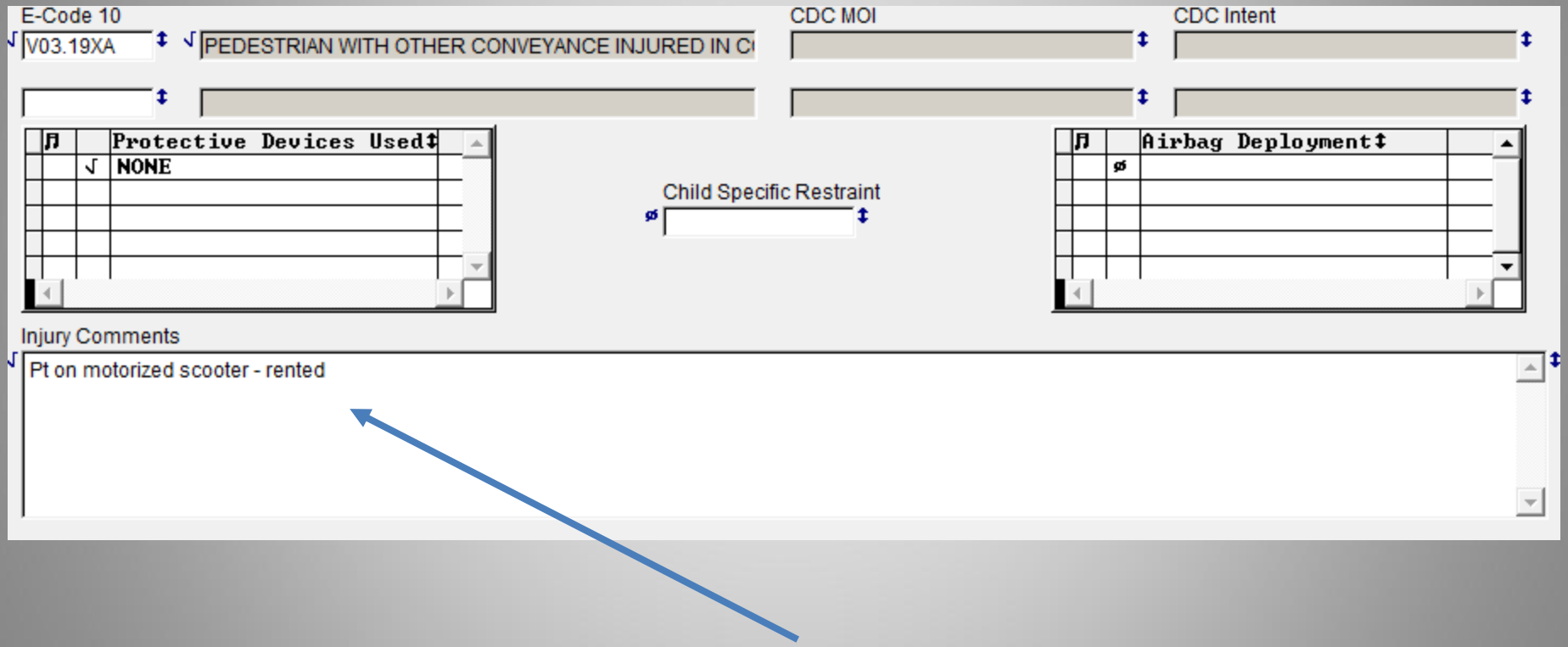
- Personal owned non-motorized push scooter
- Big hill
- Daredevil kid
- Lost control and hit the side of a parked car



Case: 2

- Injury Report:
  - 13 y/o male
  - Auto vs pedestrian
  - Left leg injury
  - Brought by ground ambulance from scene to BCHO
- Injury – Tib/Fib fx

ICD 10 Code used for injury is:
V03.19XA – Pedestrian with other conveyance injured in collision with car, pick-up truck or van in traffic accident



Injury Comment is the only difference

The truth:

- Riding a rented electric scooter (illegally)
- In the crosswalk when struck by a car
- No Helmet
- Moderate speed

ZSFGH and Vision Zero Team

Megan Wier

Shamsi Soltani

Sue Peterson

Rebecca Plevin

Emerging Mobility Services & Technologies

VISION ZERO SF

Vision Zero In Action

EDUCATION

ENGINEERING

ENFORCEMENT

EVALUATION

Vision Zero Injury Prevention Research Collaborative (VZIPR)

ZSFG Hospital & Trauma Center and the San Francisco Department of Public Health staff including:

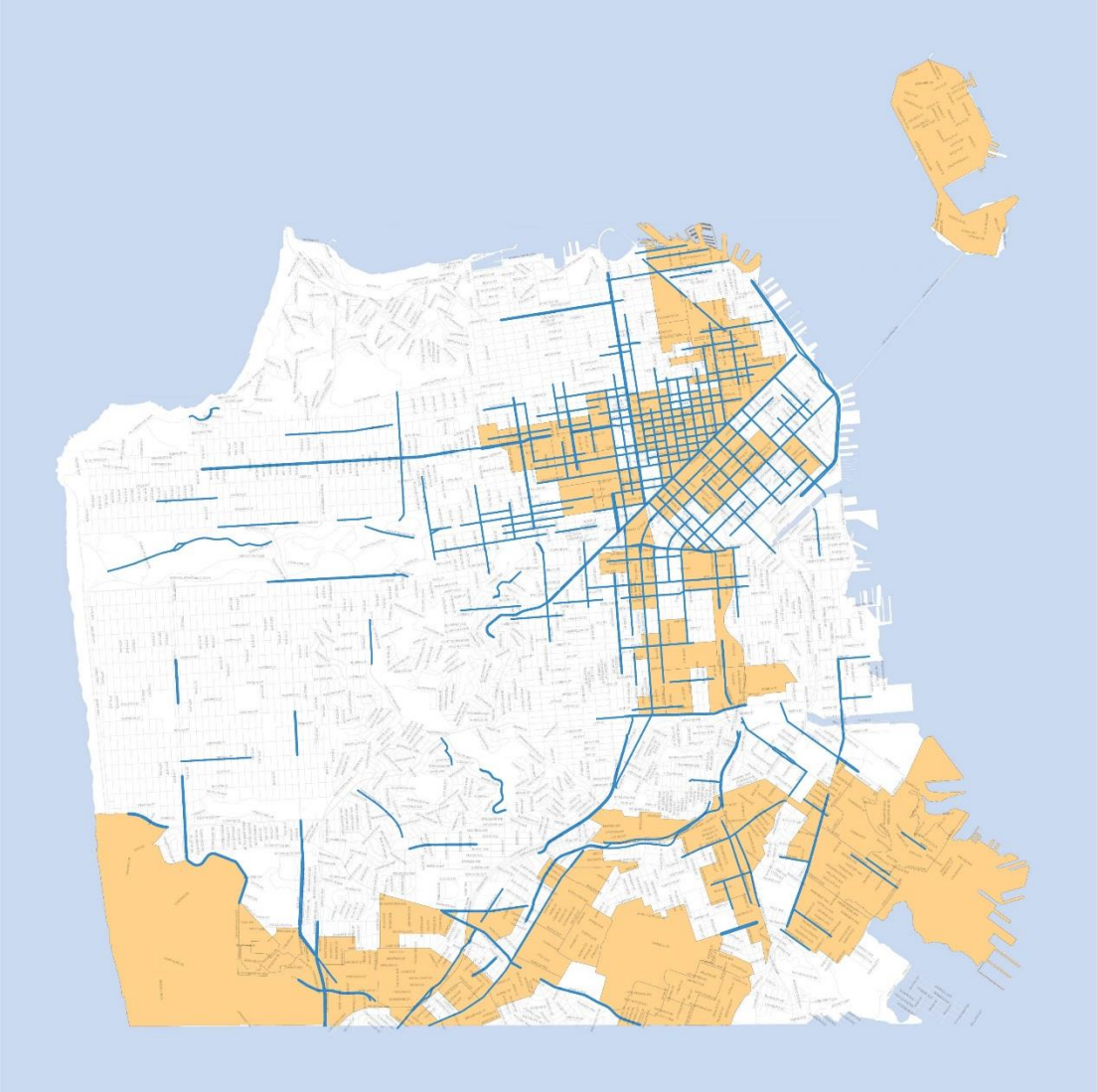
- Epidemiologists
- Geospatial analysts
- Trauma Surgeons
- Emergency Physicians
- Nurses and Trauma Program staff

Transportation-related Injury Surveillance System (TISS)

- Links hospital, police, emergency response and other data
- Data supports safety project prioritization, evaluation, and monitoring & informs Vision Zero efforts

Transportation-related Injury Surveillance System (TISS)

San Francisco was the first city in the country to use the linked and mapped data to update its Vision Zero High Injury Network.



- *March 2018* – Shared scooter companies deploy in San Francisco
- *April 2018* – BOS grants SFMTA power to permit scooter share
- *May 2018* – SFMTA Board establishes scooter share pilot permit program
- *June 2018* – un-permitted operators ordered off streets
- *August 2018* – SFMTA announces two permittees – Scoot & Skip
- *October 2018* – Powered scooter share pilot program begins

Thousands of shared electric scooters arrived on the streets of San Francisco this year. The scooters — $1 to get started and then 15 cents per minute — are unlocked with a smartphone app.
Jason Henry for The New York Times

The New York Times

WHEELS

Health Officials Prepare to Track Electric Scooter Injuries

After a brief absence, shared electric scooters will soon return to San Francisco, and the city and its doctors want to track the injuries that result — from skinned knees to head trauma. Jason Henry for The New York Times

By Bradley Berman

Aug. 2, 2018

A hospital conference room is an unlikely place to assess a budding transportation revolution, but a team of San Francisco trauma specialists and researchers who gathered there sees its work as essential to ensuring the safety of residents in a city of high-tech guinea pigs.

Standardized Data Collection

- Accurate and consistent determination of ICD 10 external cause code
- Collection of vehicle type
- Indicate if an emerging mobility service or technology (EMST) was involved in the collision
- Indicate if an autonomous vehicle was involved in the collision

ICD 10 External Cause Codes

Fall	accidental	V00.891A	Fall from other pedestrian conveyance (E.scooter, E. skateboard, hoverboard, segway, E. unicycle)
Struck by/against	accidental	V00.892A	Pedestrian on other pedestrian conveyance colliding with stationary object
Struck by/against	accidental	V00.09XA	Pedestrian on foot injured in collision with other pedestrian conveyance (E.scooter, E. skateboard, hoverboard, segway, E.
Pedestrian	accidental	V01.19XA	Pedestrian with other conveyance injured in collision with pedal cycle in traffic accident
Pedestrian	accidental	V03.19XA	Pedestrian with other conveyance injured in collision with car, pick-up truck or van in traffic accident
Pedestrian	accidental	V04.19XA	Pedestrian with other conveyance injured in collision with heavy transport vehicle or bus in traffic accident
Pedestrian	accidental	V05.19XA	Pedestrian with other conveyance injured in collision with railway train or railway vehicle in traffic accident

Vehicle Type

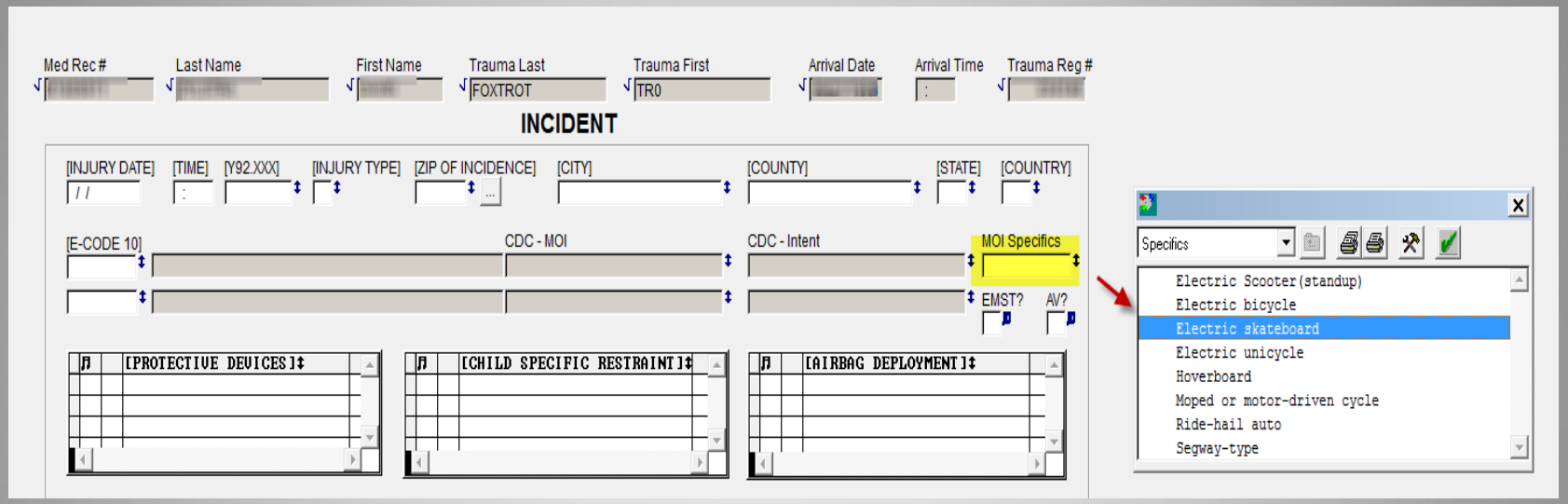
Electric bicycle (or e-bicycle, e-bike)	
Powered standup scooter (or e-scooter)	
Moped or motor-driven cycle	
Electric skateboard (or e-skateboard)	
Hoverboard, electric unicycle, other electrically motorized board	
Segway-type vehicle	

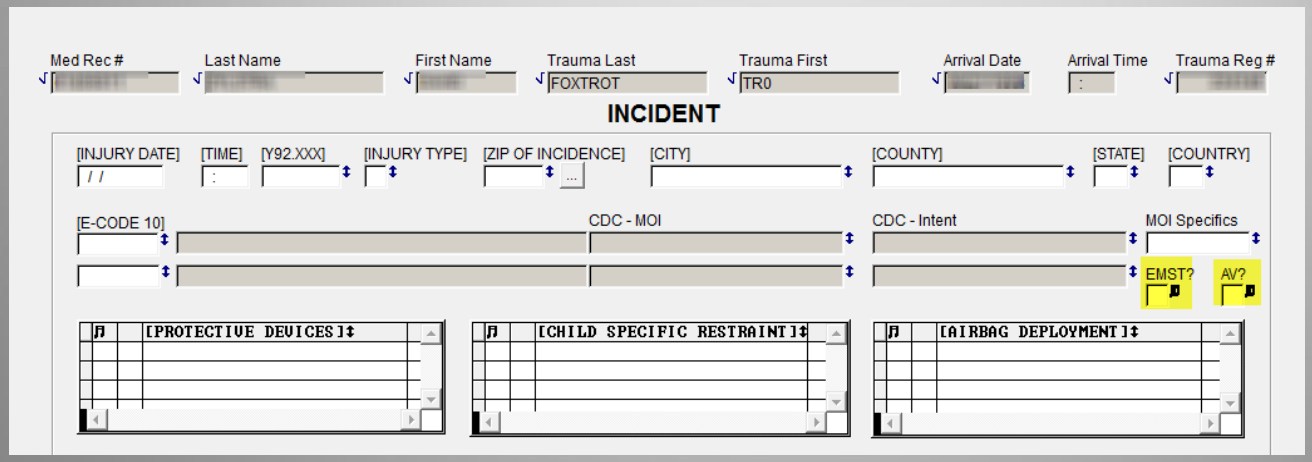
Emerging Mobility Services and Technologies (EMST) & Autonomous Vehicles

Ride-hail vehicle, Transportation Network Company car (TNCs; e.g. Uber, Lyft)

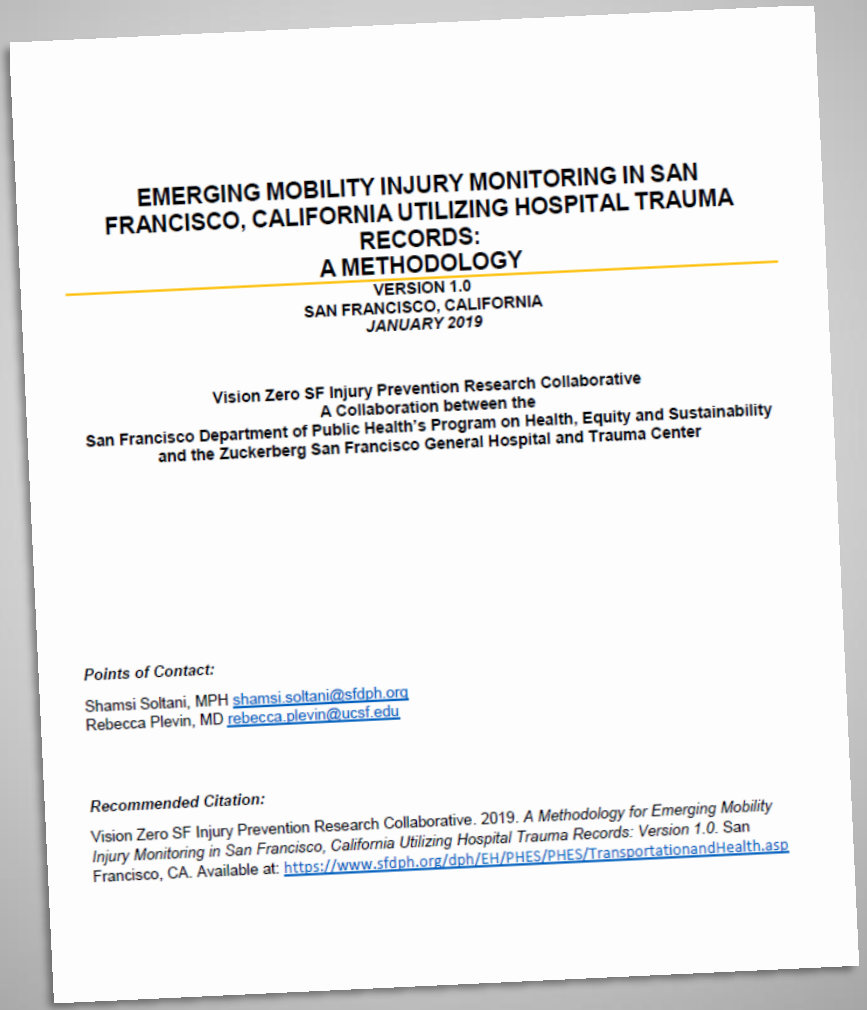
Autonomous vehicle

Trauma Registry Modifications





Emerging Mobility Injury Monitoring Methodology



EMERGING MOBILITY INJURY MONITORING IN SAN FRANCISCO, CALIFORNIA UTILIZING HOSPITAL TRAUMA RECORDS: A METHODOLOGY

VERSION 1.0
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Vision Zero SF Injury Prevention Research Collaborative
A Collaboration between the
San Francisco Department of Public Health's Program on Health, Equity and Sustainability
and the Zuckerberg San Francisco General Hospital and Trauma Center

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https://sfgh.surgery.ucsf.edu/research

Early Data: E-Scooter Injury in Trauma Registry

The group of nine patients who sustained e-scooter related injuries in San Francisco in 2018 had the following characteristics:

- 100% male (N=9)
- Average age 39 years, including three children (aged 17 and younger) injured and one senior (aged 65 and older) who was critically injured[11]
- 33% Asian (n=3), 67% White (n=6)
- 66% admitted to hospital (n=6) and 22% critically injured[2] (n=2), including one pedestrian struck by an e-scooter
- Causes of e-scooter related injury were e-scooter vs. motor vehicle collision (n=4); rider falling from an e-scooter (n=3); collision with a stationary object (n=1); one pedestrian injured by collision with an e-scooter (n=1)
- Six injuries (67%) included involved injury to the head. Injury to the lower body was also prevalent, particularly to knees (n=4, 44%)
- 22% of those injured wore helmets (n=2)

Data best from Oct 2018 onwards & exclude pts not included in TR, e.g. with less severe injuries discharged from ED

From SFMTA's Powered Scooter Share Mid-Point Evaluation, April 2019

Detailed e-scooter collision and injury analysis by VZIPR available at: https://www.sfdph.org/dph/eh/phes/phes/TransportationandHealth.asp

Potential?

- Aligned trauma registry scooter classifications.
- Local or regional data that is comparable.
- Reasonable, effective and coordinated injury prevention programs for emerging modes of transportation

Questions?