



Sustaining Essential Health Care Services Related to Intimate Partner Violence During Public Health Emergencies

The National Academies of Sciences,
Engineering, and Medicine
Washington, DC

April 4th, 2023

Hirsch Handmaker, MD

Chairman and CEO, The CACTIS Foundation
Research Professor of Radiology, University of Arizona College of Medicine – Phoenix



<https://drive.google.com/file/d/1HfvD0vOZjG5Tmq2y5OBLZW08jr9NYli0/view>



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https://www.youtube.com/watch?v=4VPpAZ9_qAw



The CACTIS Foundation is a community-based institution focused on advancing the diagnosis, treatment, and prevention of disease. We accomplish this by supporting research-oriented preclinical and clinical programs, and early phase clinical trials and Continuing Medical Education (CME) programs for health care professionals.

Our current focus is in the area of Traumatic Brain Injury (TBI) aka concussions, in young athletes, **victims of domestic violence**, industrial and motor vehicle accidents, the military and first responders, with a **significant attention to addressing health care delivery disparities and underserved populations**

The CACTIS Baseline Concussion Testing Approach



Neurocognitive Testing



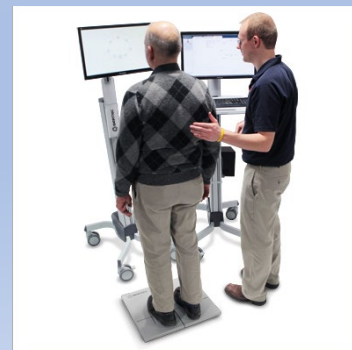
VMET



Near Point Convergence
(VERGEL)



9 Hole Peg Test



Force Plate
Balance Assessment

Concussions in Victims of Intimate Partner Violence

Topics

- Traumatic Brain Injury from combat, falls, sports, MVA
- The Maricopa County Collaboration on Concussions from Domestic Violence (MC3DV) approach
- Epidemiology of TBI related to IPV in Arizona
- Sustaining Essential Health Care Services Related to Intimate Partner Violence During Public Health Emergencies



Maricopa County Collaboration on Concussion from Domestic Violence (MC3DV)

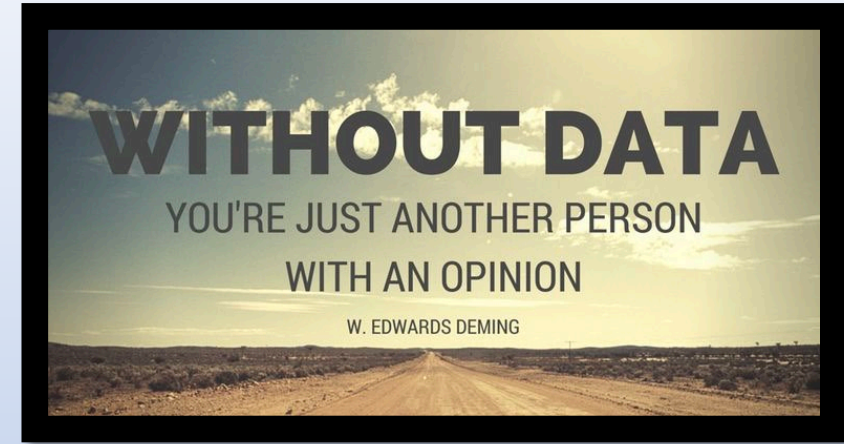


Concussions in Victims of Intimate Partner Violence

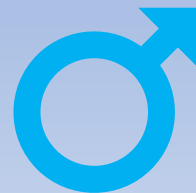
Topics

- The Maricopa County Collaboration on Concussions from Domestic Violence (MC3DV) approach

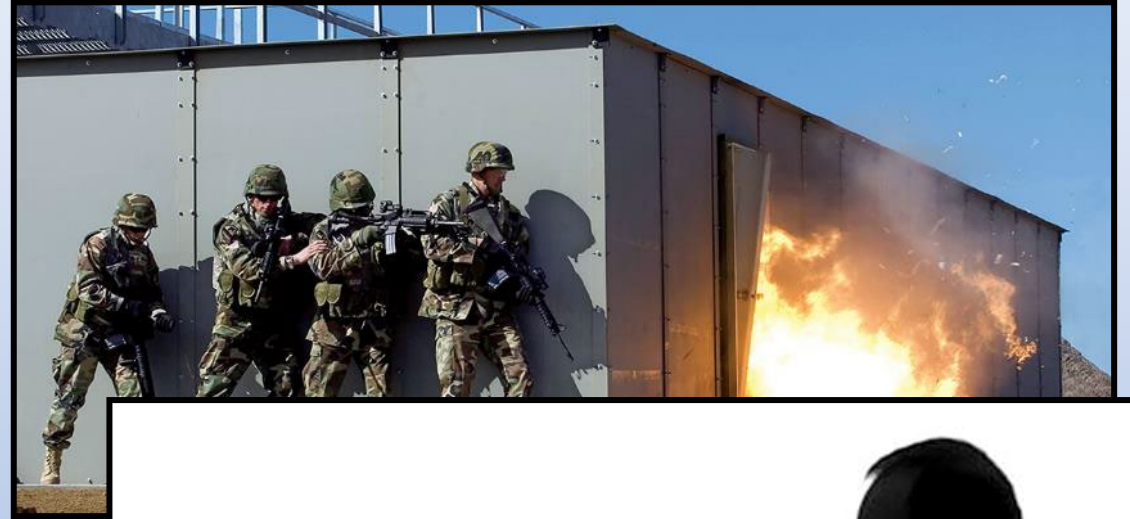




The vast majority of research studies in the laboratory and clinic have been conducted in males.

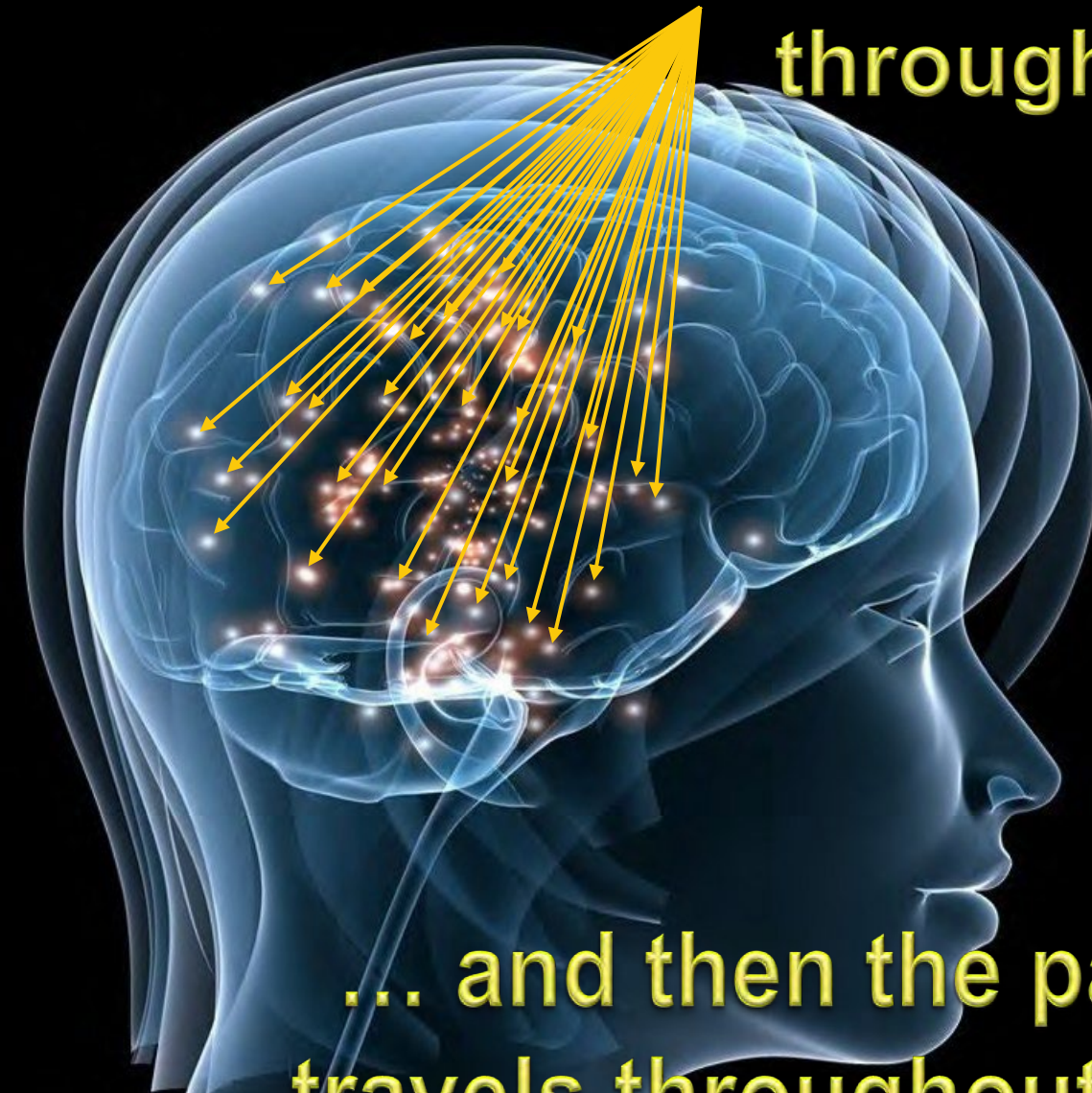


Traumatic Brain Injury is a Mechanical Event

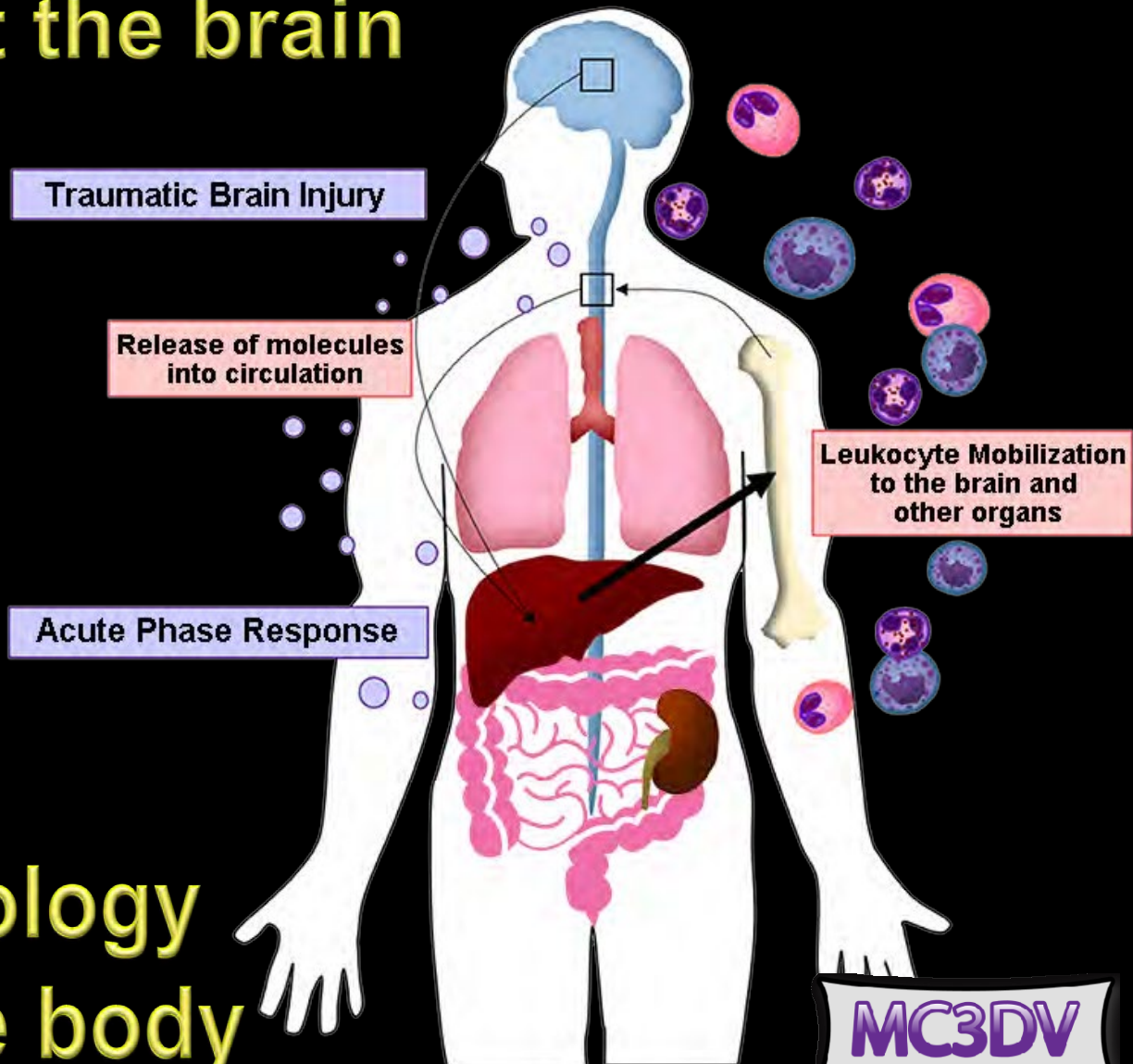


... that leads to a disease process.

Axonal injury scattered throughout the brain



... and then the pathology travels throughout the body



Clinical symptoms of brain injury



Cognitive

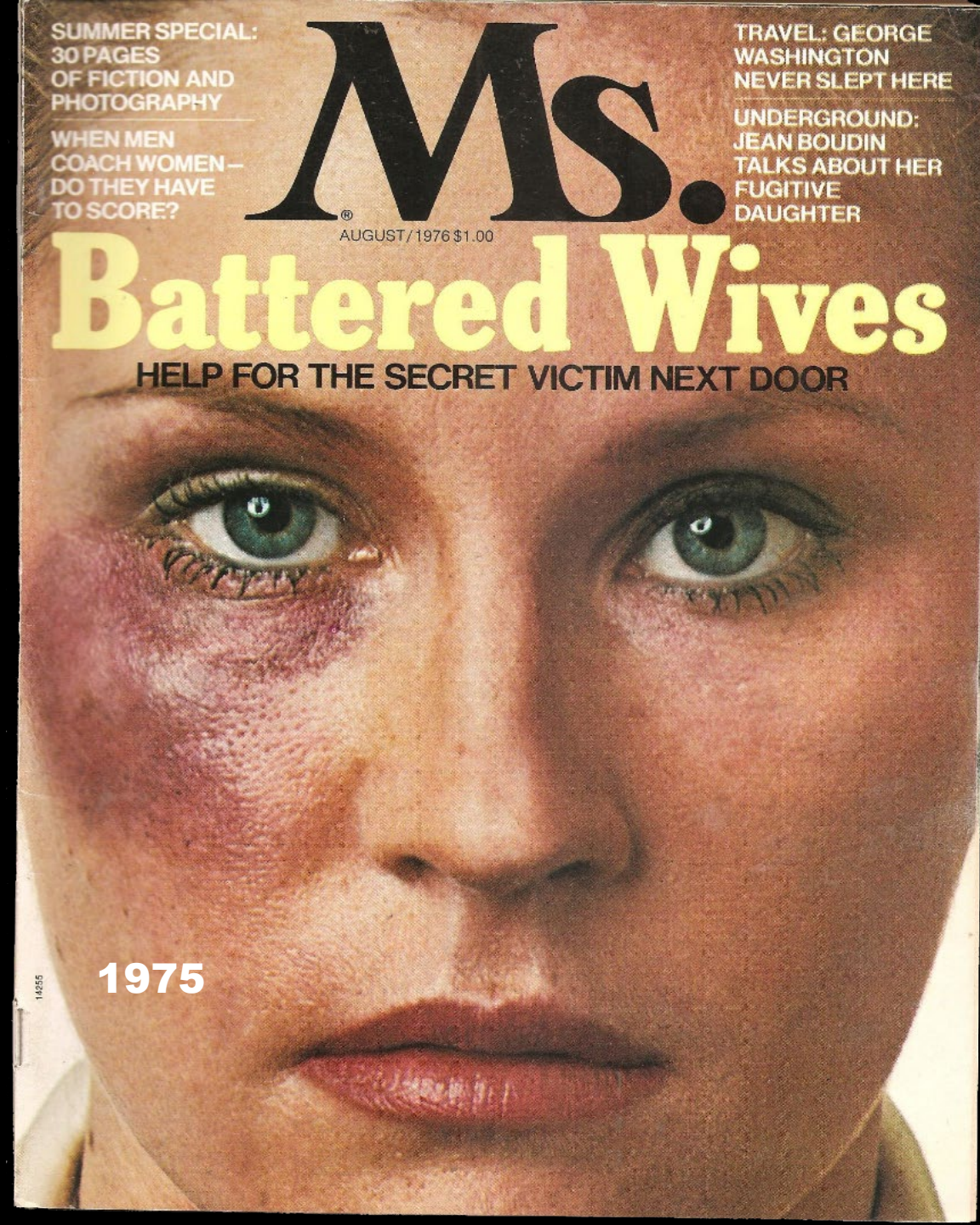
- Poor concentration
- Memory problems / loss
- Feel “slowed down”
- Slurred speech
- Difficulty reading
- Confusion

Somatic

- Sensitivity to light or sound
- Dizziness; Poor balance
- Numbness; Tingling
- Drowsiness; Sleep problems
- Blurred vision
- Seizure
- Chronic pain
- Headache

Emotional

- Drowsiness; Sleep problems
- Depression; Sadness
- Lack of motivation
- Appetite changes
- Irritability
- Nervousness
- Impulsiveness
- Aggression



Articles

Domestic Violence Risk Factors and Outcomes

DANIEL C. BERRIOS, MD, MPH, and DEBORAH GRADY, MD, MPH, *San Francisco, California*

Domestic violence is a pervasive and frequently unrecognized cause of injury among women. We reviewed data from standardized interviews with 218 women who presented to an emergency department with injuries due to domestic violence. Victims ranged in age from 16 to 66 years and constituted a wide range of socioeconomic and ethnic backgrounds. Domestic violence often resulted in severe injury; 28% of the women interviewed required admission to hospital for injuries, and 13% required major surgical treatment. The typical presentation was injuries to the face, skull, eyes, extremities, and upper torso. A third of the cases involved a weapon, such as a knife, club, or gun. In all, 10% of the victims were pregnant at the time of abuse, and 10% reported that their children had also been abused by the batterer. Most victims (86%) had suffered at least one previous incident of abuse, and about 40% had previously required medical care for abuse. Victim recognition and referral to appropriate agencies could be improved if primary care physicians were more aware of the prevalence, severity, frequency of occurrence, and typical presentation of domestic violence.

(Berrios DC, Grady D: Domestic violence—Risk factors and outcomes. *West J Med* 1991 Aug; 155:133-135)



TABLE 3.—*Abuse History*

Interview Question	No.	(%)*	% Not Recorded
Previous incidents of abuse	187	(86)	3
Requiring medical attention	87	(40)	10
Requiring hospital admission . . .	29	(13)	12
Ever abused while pregnant	66	(30)	11
Ever miscarried due to abuse . . .	11	(5)	16

TABLE 4.—*Types of Injury*

Injury	No.	(%)*	% Not Recorded
Bruises	152	(70)	13
Laceration	86	(39)	3
Musculoskeletal injury	54	(25)	4
Choking	49	(23)	4
Internal injuries	29	(13)	5
Loss of consciousness	23	(11)	22
Permanent injury	10	(5)	22
Burn or scald	3	(1)	4

TABLE 5.—*Location of Injury*

Location	No.	(%)*
Face	149	(68)
Extremities	107	(49)
Skull	104	(48)
Eyes	97	(45)
Chest, ribs, upper back	97	(45)
Abdomen, pelvis, lower back	42	(19)
Sexual assault	25	(12)
Neck	12	(6)

*Percentages total > 100% because some women had injuries in more than 1 location.

The HuffPost logo, featuring the word "HUFFPOST" in a bold, sans-serif font. The "H" is green, and the rest of the letters are black. The background of the entire image is a teal color with a repeating floral pattern of small, stylized flowers.

The Women Who Face More Traumatic Brain Injury Than NFL Players

By Melissa Jeltsen

Jun. 2, 2015, 12:01 AM EDT | Updated Dec. 6, 2017

JOURNAL OF AGGRESSION, MALTREATMENT & TRAUMA

2019, VOL. 28, NO. 6, 655–659

<https://doi.org/10.1080/10926771.2019.1644693>




Routledge

Taylor & Francis Group



Traumatic Brain Injury in Victims of Domestic Violence

Jonathan Lifshitz ^{a,b,c,d}, Sonya Crabtree-Nelson^e, and Dorothy A. Kozlowski^f



Routledge

Taylor & Francis Group



JOURNAL OF AGGRESSION, MALTREATMENT & TRAUMA

<https://doi.org/10.1080/10926771.2019.1595803>

Restoring More than Smiles in Broken Homes: Dental and Oral Biomarkers of Brain Injury in Domestic Violence

Timothy W. Ellis^{a,b,c,d}, Sheri Brownstein^a, Kevin Beitchman^e, and Jonathan Lifshitz ^{b,c,f}

Contemporary Themes

Wife Battering: a Preliminary Survey of 100 Cases

J. J. GAYFORD

British Medical Journal, 1975, 1, 194-197

BRITISH MEDICAL JOURNAL 25 JANUARY 1975

Perceptual and Motor Skills, 2001, 92, 682-686. © Perceptual and Motor Skills 2001

NEUROPSYCHOLOGICAL ASSESSMENT OF
BATTERED WOMEN: A PILOT STUDY¹

CHRISTINE DEERING, DONALD I. TEMPLER,
JACQUELINE KELLER, AND MERLE CANFIELD

California School of Professional Psychology-Fresno

Thumb-Finger Circle
Tandem Walk Finger
Tapping Delayed
Recall



A



B



J Neuropathol Exp Neurol
Vol. 80, No. 6, June 2021, pp. 624-627
doi: 10.1093/jnen/nlab015

LETTER TO THE EDITOR



Chronic Traumatic Encephalopathy (CTE)-Type Neuropathology in a Young Victim of Domestic Abuse

Travis Danielsen, MD, Christopher Hauch, MD, Leon Kelly, MD, and Charles L. White, III, MD

Acute Concussion Evaluation (ACE)

HELPS

H = Were you **hit** in the head?
E = Did you seek **emergency** room treatment?
L = Did you **lose** consciousness? (Not everyone who suffers a TBI loses consciousness.)
P = Are you having **problems** with concentration and memory?
S = Did you experience **sickness** or other physical problems following the injury?

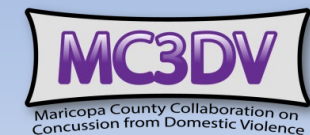
Contemporary Point of Incident Assessments



Involving Police Departments in Early Awareness of Concussion Symptoms during Domestic Violence Calls. Mark Higbee, Jon Eliason, Hilary Weinberg, Jonathan Lifshitz, and Hirsch Handmaker


JOURNAL OF AGGRESSION, MALTREATMENT & TRAUMA

<https://doi.org/10.1080/10926771.2019.165341>





Involving Police Departments in Early Awareness of Concussion Symptoms during Domestic Violence Calls

Mark Higbee^a, Jon Eliason^b, Hilary Weinberg^b, Jonathan Lifshitz ^{c,d,e,f}, and Hirsch Handmaker^{f,g}

^aMesa Police Department, Mesa, AZ, USA; ^bMaricopa County Attorney's Office, Phoenix, AZ, USA; ^cBarrow Neurological Institute at Phoenix Children's Hospital, Phoenix, AZ, USA; ^dPhoenix VA Health Care System, Phoenix, AZ, USA; ^eDepartment of Child Health, University of Arizona College of Medicine - Phoenix, Phoenix, AZ, USA; ^fThe CACTIS Foundation, Scottsdale, AZ, USA; ^gDepartment of Radiology, University of Arizona College of Medicine, Phoenix, AZ, USA

ABSTRACT

Police officers around the world respond to and investigate calls regarding domestic violence (DV) daily. Police departments operate with standard protocols, particularly when engaging in investigations that involve allegations of strangulation or sexual assault. Operating under advisement of the Maricopa County Attorney's Office, the Mesa Police Department (Mesa, AZ) has established protocols for detecting, recording, and prosecuting DV cases that involve strangulation and sexual assault. Allegations of strangulation (defined as impeded breathing) or sexual assault prompt officers to offer a forensic nursing exam (FNE) combined with strangulation treatment by forensic nurses at the Mesa Family Advocacy Center. Recognizing the potential for head injury to the assault victim in all DV situations, including intimate partner violence (IPV), the police department has added concussion-awareness training, as well as a point-of-incident investigative tool for its officers to record neurological function of the victim. Officers were instructed to use the ConQVerge device to measure and record the Near Point of Convergence (NPC) as a test of neurological impairment in suspected head injuries. In this article, we discuss the challenges and opportunities for assisting victims of DV strangulation and sexual assault (including non-DV sexual assault) with on-site assessment and consent for further medical assessment and treatment. Additionally, rates of domestic assault victims that report a crime, but decline to follow through with forensic medical tests, are reported for the first time. Lessons learned from the project that inform strategic operations in this space are offered to other agencies prior to the implementation of similar procedures.

ARTICLE HISTORY

Received 25 March 2019
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KEYWORDS

DV; intimate partner violence; traumatic brain injury; officers; assessment; strangulation; sexual assault

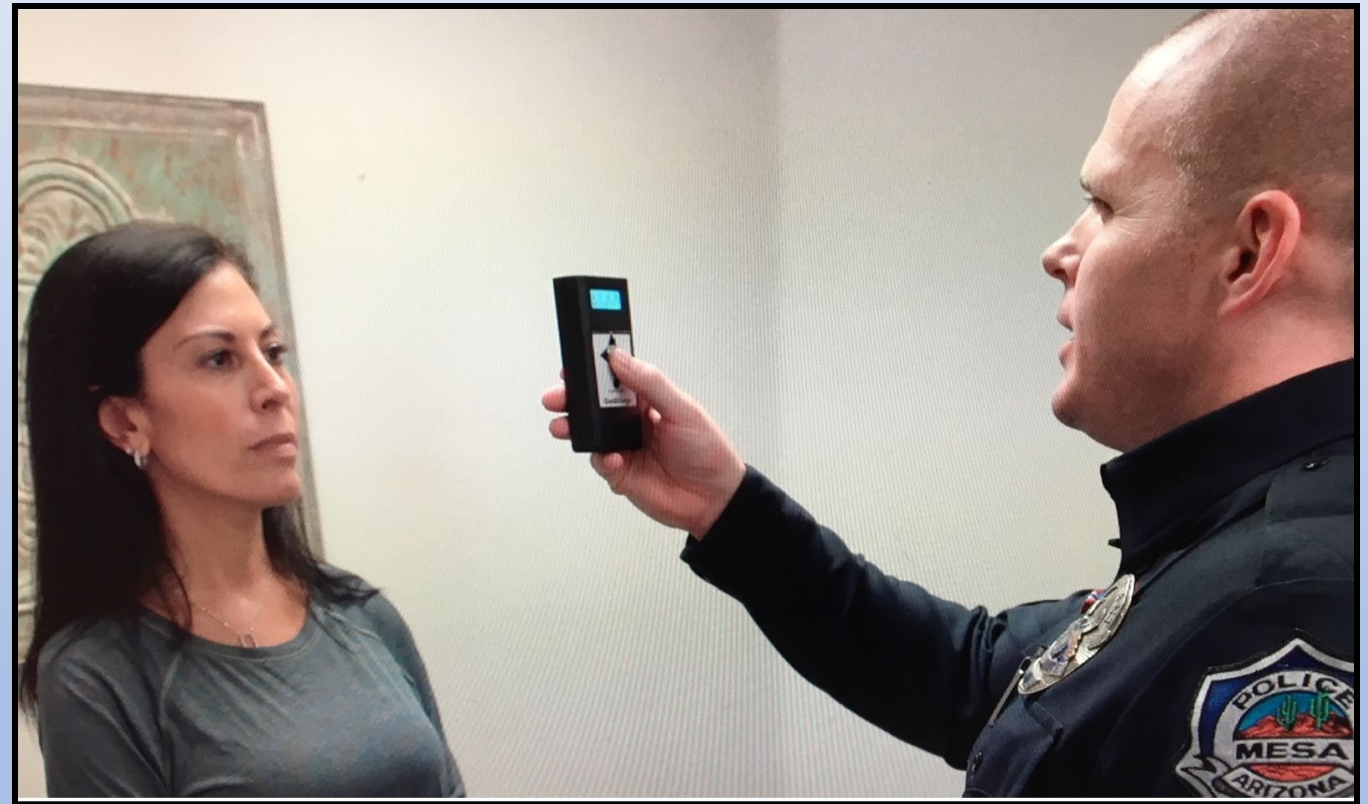
Introduction

In 2012, the Maricopa County Attorney's Office (MCAO) implemented protocols to provide more effective medical care in instances where a domestic assault

CONTACT Hirsch Handmaker  hhandmaker@gmail.com  The CACTIS Foundation, 4400 N Scottsdale Rd #9704, Scottsdale, AZ 85251, USA

Color versions of one or more of the figures in the article can be found online at www.tandfonline.com/wam.

Involving Police Departments in Early Awareness of Concussion Symptoms during Domestic Violence Calls

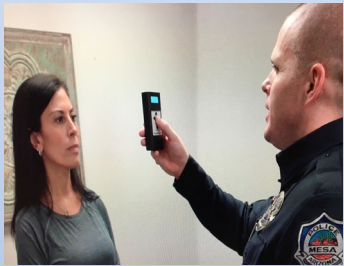


ConQVerge field test for Near Point of Convergence (NPC)

Applying what has been learned about point assessment of NPC in victims of IPV and TBI at point of incident

:

- 1). NPC data collected by the Tempe and Mesa PDs, and CARE7 Advocates through November 2022 for a total of 684 post-DV interactions after Point-of-Incident visits with Police Department officers and detectives have been recorded for 474 individual victims.
- 2). 90 victims (19%) consented to 214 total NPC tests (mean = 2.4 tests/victim).
- 3). The mean NPC score immediately following DV was 17.
- 4). The mean NPC score at follow-up at a later date was 16.
- 5). The data suggests that the majority of victims (85-93%) have had brain injuries that were severe enough to cause prolonged impairments.
- 6). Among the 90 victims that consented to NPC tests, 49 of those victims (54%) also consented to a forensic nursing exam.

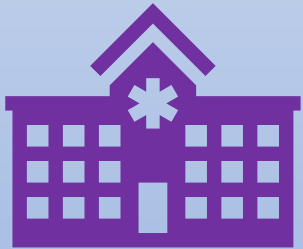




Innocent until proven guilty



Injured until proven healthy



TBI

Test all people
who experience
IPV for TBI

Screen using objective
tests to decrease reliance
on patient symptom report

Approach examination
with a diagnosis
of exclusion

Fewer people who
experience IPV go
untreated for TBI



Higbee



Penner



Lomeli



Ward



Erikson



Alexander



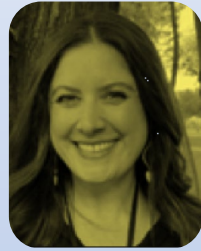
Pardini



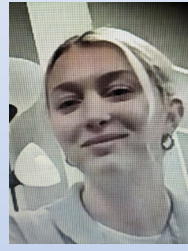
Lacorte



Stinchfield



Martin



Coe



Peterson



Walker



Mitchell



Eliason



Weinberg



Larson



Rable



Martinez



Handmaker



Lifshitz



Murphy



Rowe



Ober

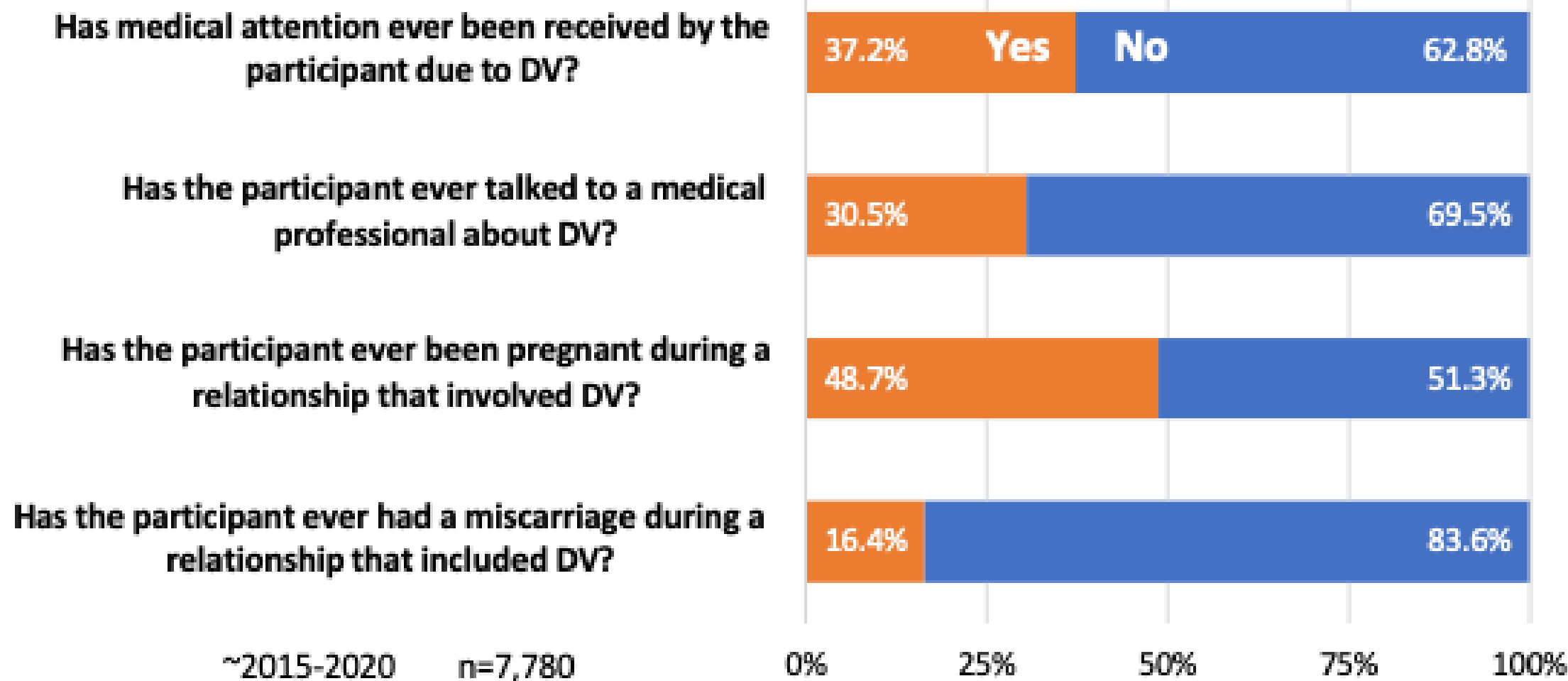


Hand-drawn calendar for the month of May, showing dates from Sunday to Saturday. The calendar is filled with handwritten notes in various colors, including dates, events, and names. A hand is visible in the bottom left corner, holding a blue pen and pointing at the calendar. To the right of the calendar, there is a small clock and a yellow notepad. Below the calendar, there is a handwritten note that reads: "OPEN SAV. BANK ACCT. for SoFia - 8-day".

A stylized illustration of a woman with multiple arms, symbolizing multitasking. She is wearing a blue shirt, a white apron, and dark pants. Her arms are engaged in various activities: holding a hammer, a frying pan, a clock, a laptop, a pair of socks on a hanger, a vacuum cleaner, a broom, a mop, a bucket, a long receipt, a sponge, and a list. There are also vegetables like a pepper, eggplant, and carrot floating around her. The background is a solid light blue.

A busy kitchen scene. A pregnant woman with blonde hair, wearing a black tank top and red pants, sits on a wooden stool at a kitchen island, holding a white mug. Two young children, a boy and a girl, sit on the wooden floor in front of the island, eating. A large brown dog stands on the floor, eating from a bowl. In the background, a person wearing a pink top and a purple tutu stands on a kitchen counter, reaching into a cabinet. The kitchen has light-colored wooden cabinets, a stainless steel refrigerator, and a microwave. Various items like a red jacket, a bowl of fruit, and a toy car are scattered on the floor.

Intake questions at domestic violence shelters



Phoenix
Children's

VA



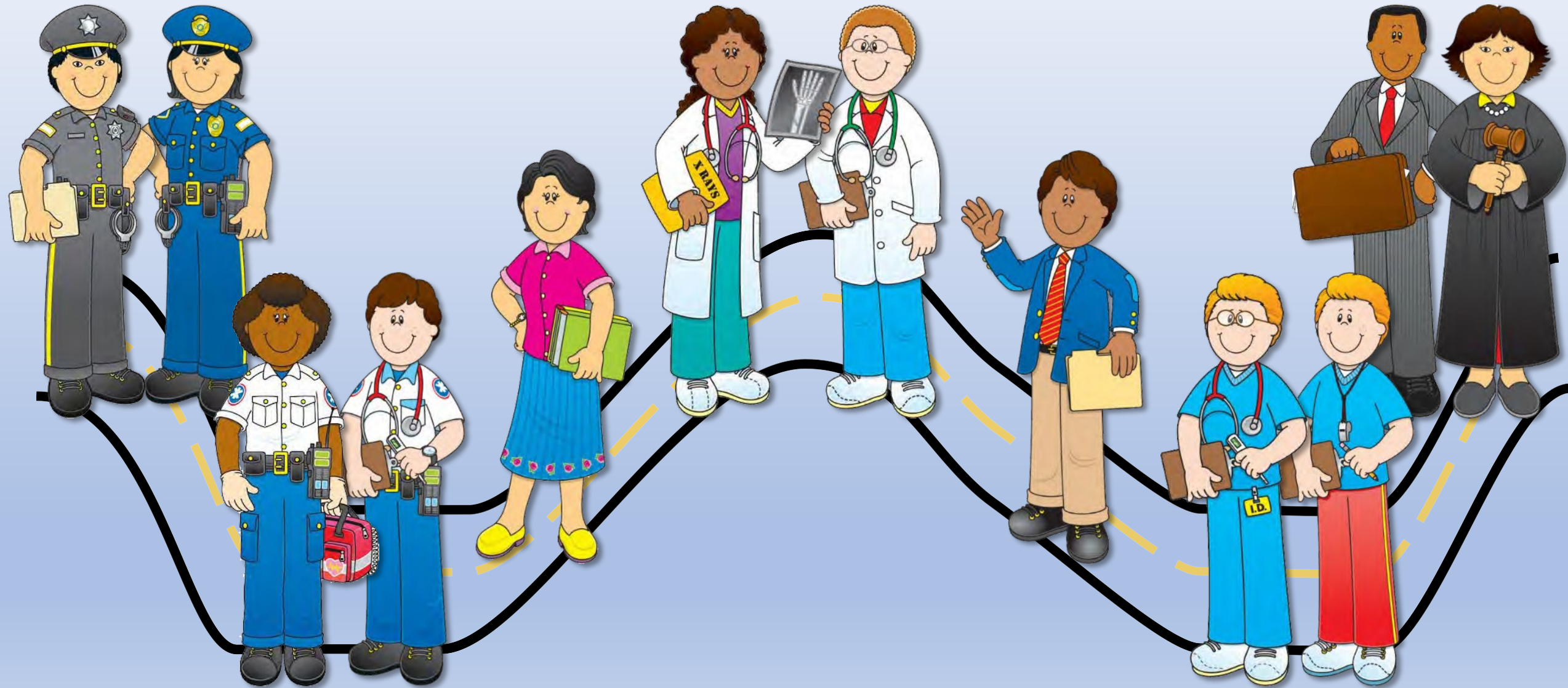
U.S. Department of Veterans Affairs
Veterans Health Administration
Phoenix VA Health Care System



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PHOENIX

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Management relies on a community of helpers



Population-Level Epidemiology of Concussion Concurrent with Domestic Violence in Arizona, USA

Rachel K. Rowe,^{1-3,†} Sean M. Murphy,^{2,4,†} Hirsch Handmaker,^{4,5} and Jonathan Lifshitz^{1-4,*}

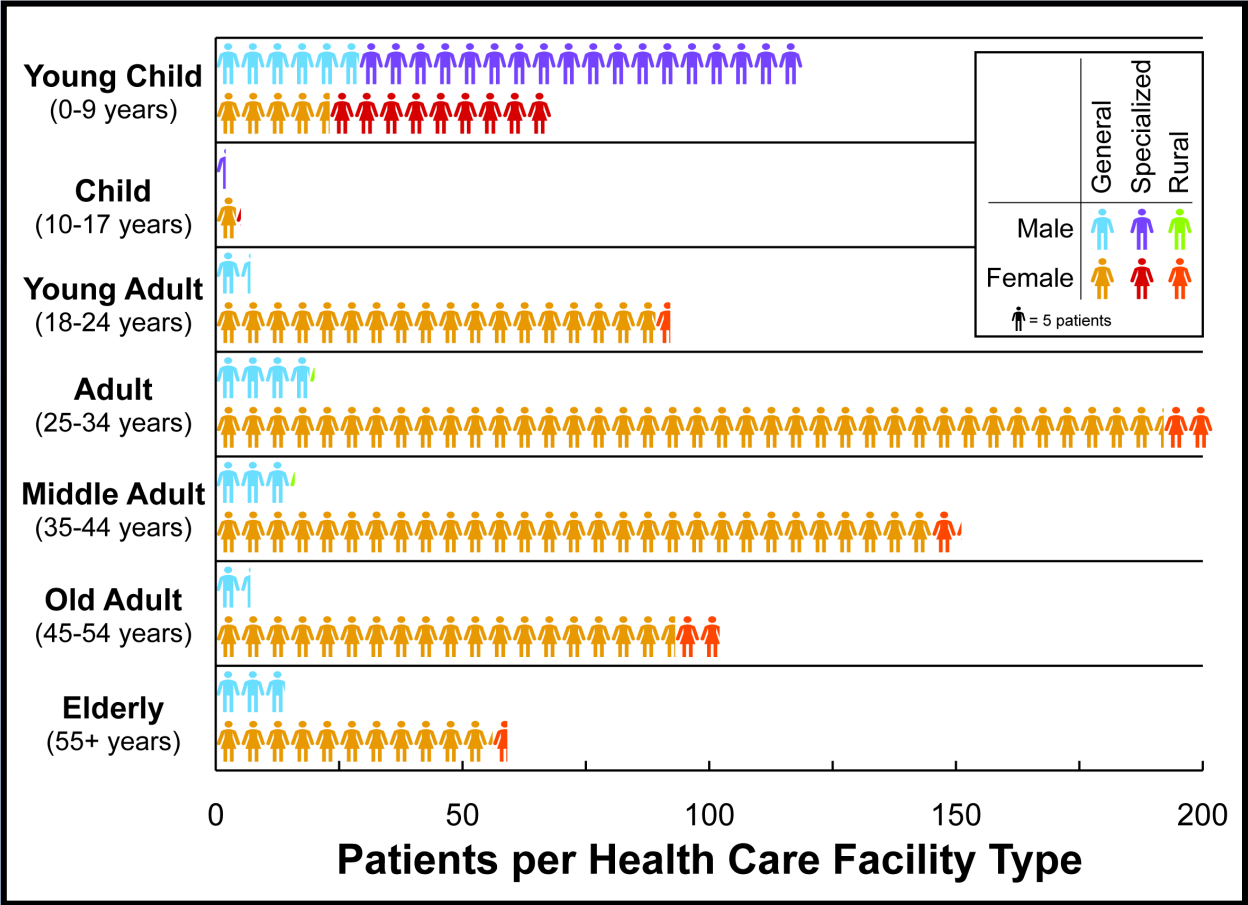
Abstract

Domestic violence (DV) is a chronic societal epidemic that often involves physical assault to the head, neck, and face, which increases the risk of traumatic brain injuries (TBIs) in DV victims. However, epidemiological data on the extent of TBI-DV at the population scale remain sparse. We performed a statewide, multi-institution, retrospective review of all medical records for patients diagnosed with a concussion, the most common type of TBI, at health care facilities in Arizona, USA, that were licensed by Arizona Department of Health Services (ADHS) during 2016-2018. De-identified records were extracted from discharge data reported to ADHS, which we decoded and transformed to spatiotemporal demographic data of patients who were diagnosed with concussion concurrent with DV. Among 72,307 concussion diagnoses, 940 were concurrent with DV. Sixteen patients died as a result of TBI-DV injuries, where TBI is defined as concussion. Although females were most of the TBI-DV diagnoses, median ages for males and females were 1 and 32 years, respectively, demonstrating that males were predominantly child abuse victims. Whites and Hispanics were victims most diagnosed with concussion and DV, but Native Americans and Blacks comprised a much greater proportion of diagnoses compared with the representative state demographics. Although likely underreported, approximately half of the cases were inflicted by intimate partners, which corresponded closely to marital status. Surprisingly, 61% of victims sought medical treatment for non-concussion injuries and then concussion was entered as a primary diagnosis. The demographic and health care facility disparities demand TBI/concussion screening in suspected DV patients, education and training of care providers, and potential redistribution of resources to select health care facilities.

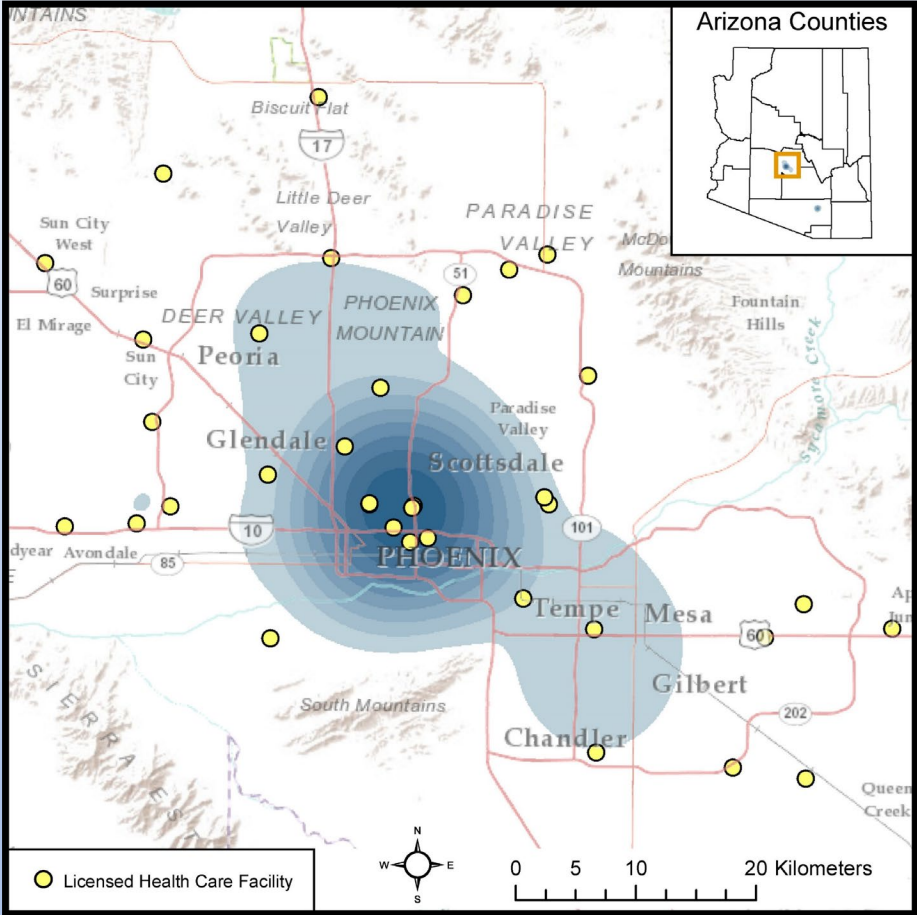
Keywords: abusive head trauma; child abuse; concussion; domestic violence; epidemiology; interpersonal violence; intimate partner violence; traumatic brain injury

Rowe, RK, Murphy SM, Handmaker H, Lifshitz J. Population-Level Epidemiology of Traumatic Brain Injury Concurrent With Domestic Violence In Arizona, USA. 2021 Journal of Neurotrauma

Region stratification of DV-TBI by age in Arizona from 2016-2018 → 1,024 records

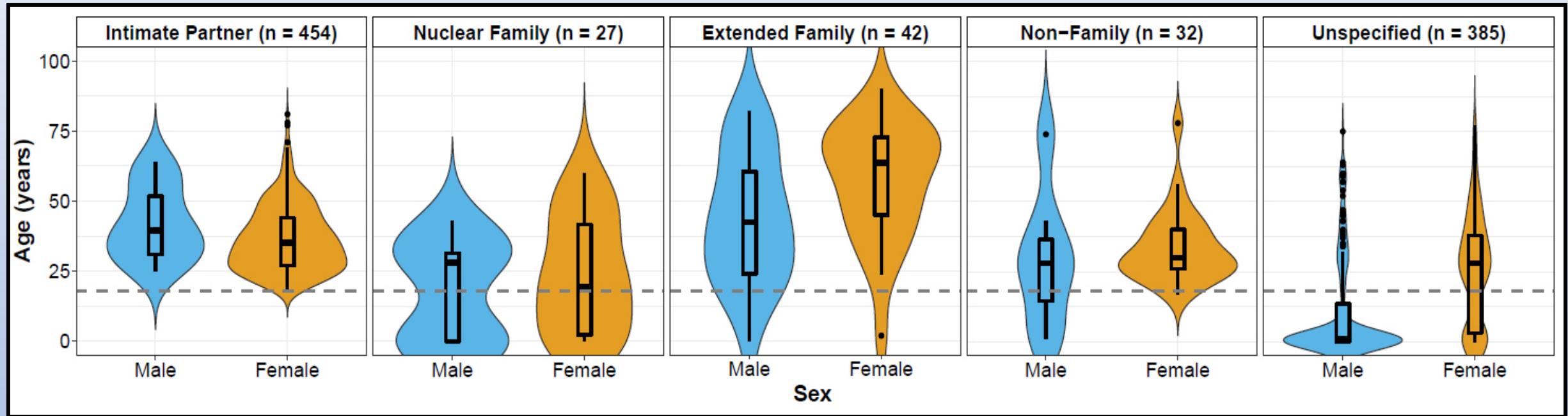


Kernel density estimate of medical facilities in Phoenix metro area that cared for DV-TBI victims (2016-2018)



Rowe, RK, Murphy SM, Handmaker H, Lifshitz J. Population-Level Epidemiology of Traumatic Brain Injury Concurrent With Domestic Violence In Arizona, USA. 2021 Journal of Neurotrauma

Perpetrator of DV-TBI in Arizona



Rowe, RK, Murphy SM, Handmaker H, Lifshitz J. Population-Level Epidemiology of Traumatic Brain Injury Concurrent With Domestic Violence In Arizona, USA. 2021 Journal of Neurotrauma

Rural Pharmacy Safe Zone Initiative (RPSZ)

A collaboration of:

- The CACTIS Foundation and UA College of Pharmacy Rural Health Professions Program (RHPP)/Professional Certificate in Health Disparities, The University of Arizona College of Medicine – Phoenix, and The Arizona Coalition to End Sexual and Domestic Violence (ACESDV).

Purpose

- An initiative to establish rural community pharmacies as a Safe Zone for Victims of Intimate Partner Violence conversations and intervention.
- The Pharmacy Safe Zone Program will engage rural pharmacists, educate the future pharmacy workforce, display signage, and provide informational material and local resources addressing the issue of IPV.
- The primary outcomes are to facilitate access to services, enter a system of support, and acknowledge the chronic consequences of ongoing IPV.

Relevance May Be Heightened During Public Health Emergencies

Rural Pharmacy Safe Zone Initiative

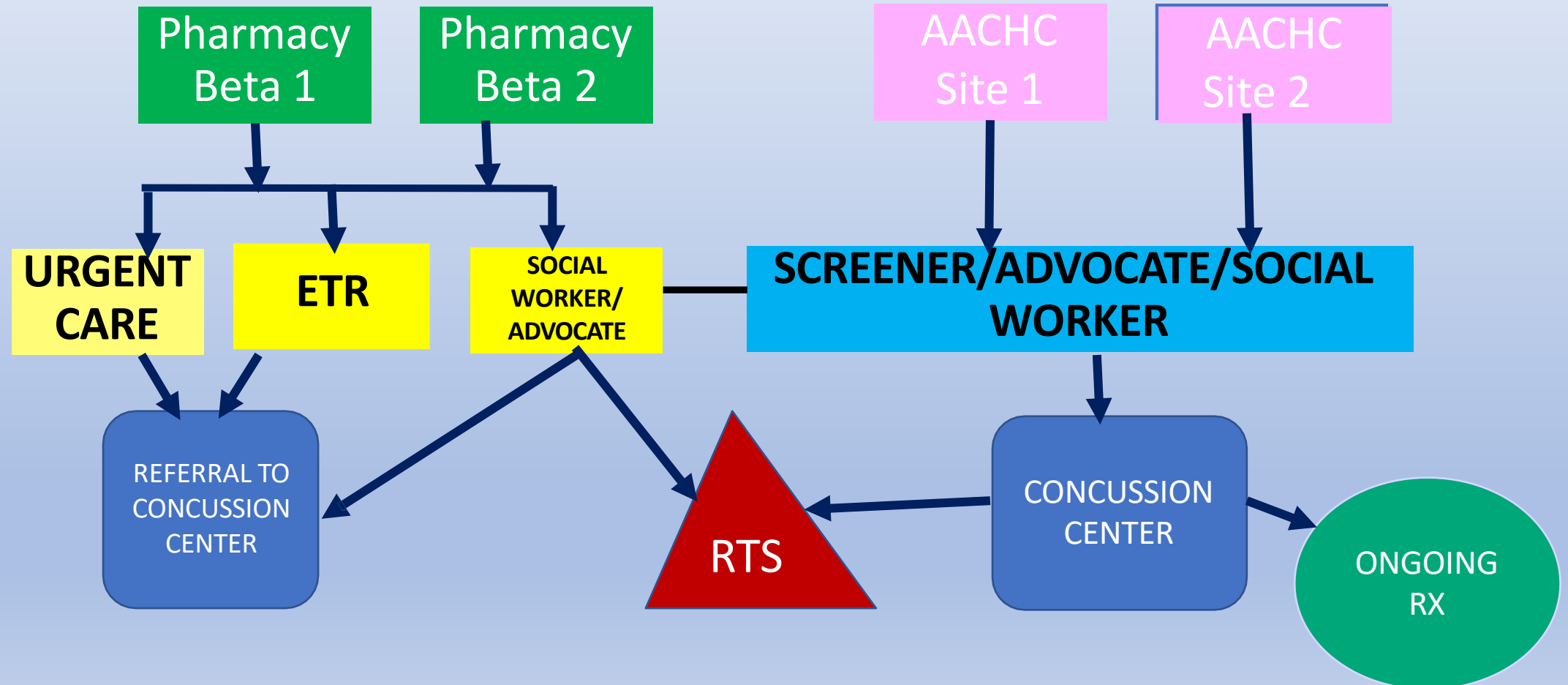
- The materials to promote education, awareness, and resources have been developed among partners and students. These “Train the Trainer” materials will be transported and deployed by PharmD students on community pharmacy rotations as they represent the College of Pharmacy and the Pharmacy Safe Zone Program as advocates and a resource for victims of IPV, Including members of Indigenous Population tribes. Planned materials include:
 - Poster/flyers that acknowledge the pharmacy as a Safe Zone, similar to safe baby sites at hospitals and emergency departments;
 - Take-away shoe and wallet cards for victims with details on local, state, and national support services;
 - Local referral sources to establish a relationship for the pharmacy.
- Initial materials were drafted by the RHPP team leader in cooperation with the ACESDV representative, based on materials available to beauticians through the “CUT IT OUT” program (probeauty.org) from the Professional Beauty Association. Similar to the regional support for the Pharmacy Safe Zone Program, the CUT IT OUT training was supported by The Women’s Fund of Greater Birmingham and the Alabama Coalition Against Domestic Violence. In 2017, California Gov. Jerry Brown signed into law legislation that mandates that beauticians, barbers, and stylists undergo such training on sexual assault and domestic violence when applying for or renewing a license. ***The outlook for the Pharmacy Safe Zone Program is training and certification of pharmacists during training at the College of Pharmacy and through continuing education programs.***





RPSZ/AACHC PILOT

DVTBI VICTIMS





**Phoenix
Children's**

VA



U.S. Department of Veterans Affairs

Veterans Health Administration
Phoenix VA Health Care System



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Traumatic Brain Injury During Pregnancy

Jonathan Lifshitz, Ph.D.

Neurotrauma & Social Impact research team



@Ganglion11

To empower clinical providers to make informed decisions with their patients regarding diagnosis, prognosis, and treatment of traumatic brain injury (TBI)

Battered and Pregnant: A Prevalence Study

ANNE STEWART HELTON, RN, MS, JUDITH MCFARLANE, RN, DRPH, AND
ELIZABETH T. ANDERSON, RN, DRPH

Abstract: We interviewed 290 pregnant women randomly selected from public and private prenatal clinics, 80 per cent of whom were at least five months pregnant (ages 18–43, 42 per cent Latino, 22 per cent Black). Twenty-four women reported physical battering during this pregnancy (44 reported physical battering before the current pregnancy). Eight of the 24 pregnant women had sought medical treatment for injuries sustained; none reported having been assessed by prenatal care providers for abuse. (*Am J Public Health* 1987; 77:1337–1339.)

Introduction

Physical battering of women is an underreported crime, associated with health consequences.^{1–3} Estimates of the number of women battered each year range from 1.6 million⁴ to 12 million.⁵ It is thought that at least 25 to 30 per cent of

The sample of 290 Black, White, and Latino women ranged in age from 18 to 43 years; the average age of public clients was 25 years, that of the private clients was 28.5 years. The majority (70.6 per cent) of the sample was married; 58.3 per cent had graduated from high school; 25.8 per cent reported some college; and 22.4 per cent were employed. The racial and ethnic distribution of the total sample was as follows: Black, 22.4 per cent; Latino, 43.1 per cent; White, 32.1 per cent; American Indian or Asian, 2.4 per cent. Racial distribution of births for the metropolitan area was: Black, 27.6 per cent; Latino, 32.7 per cent; White, 35.2 per cent; and other, 4.5 per cent.¹⁰ The modal month of pregnancy when interviewed was eight months, with 80 per cent of the women at least five months pregnant.

AJPH October 1987, Vol. 77, No. 10

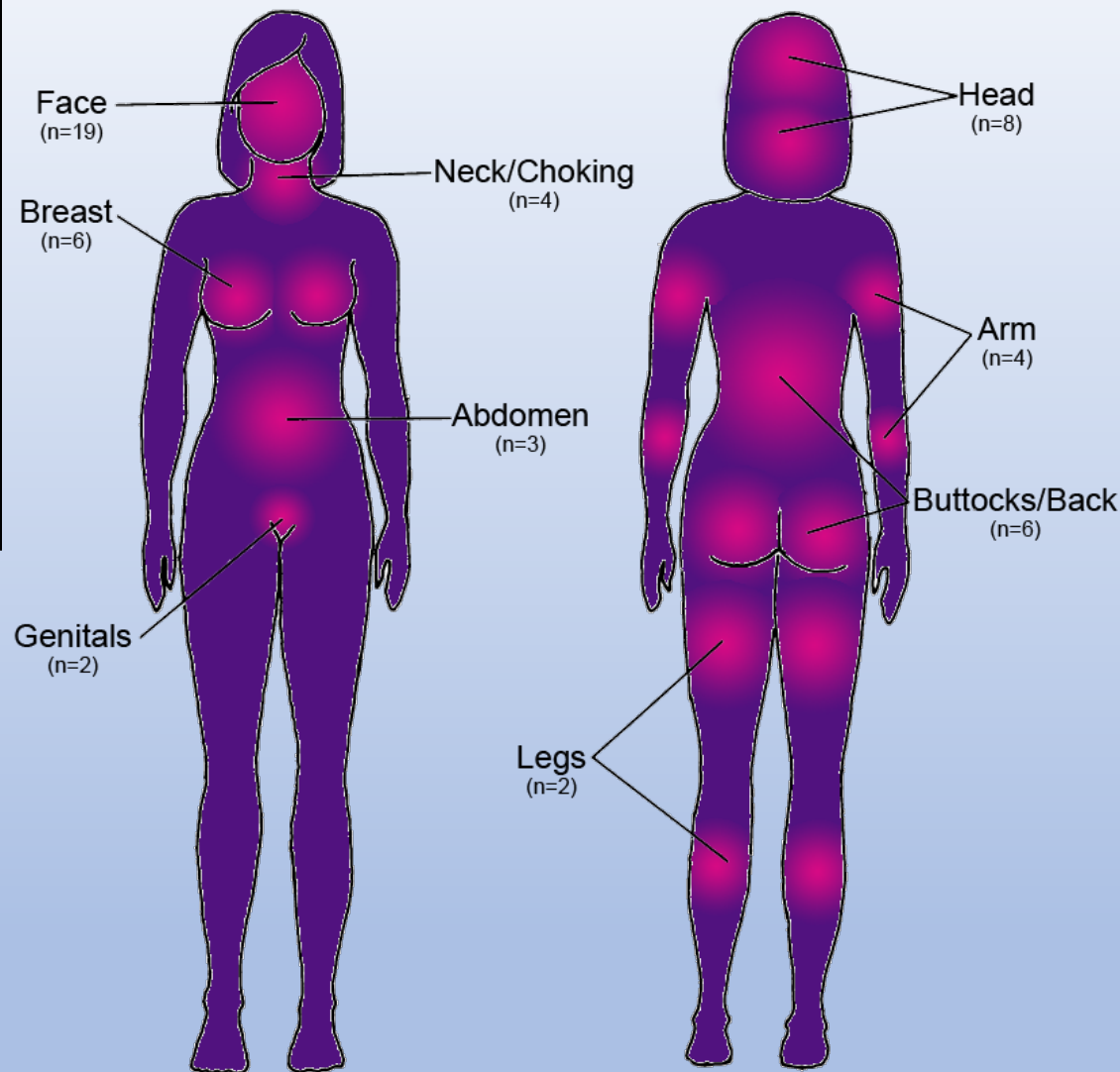


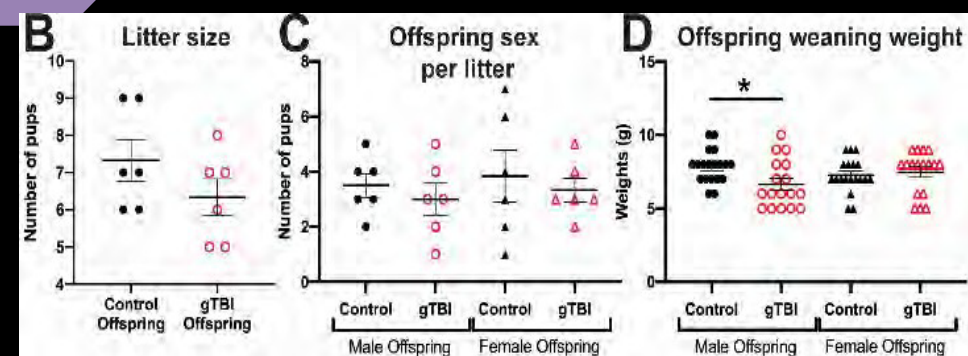
TABLE 1—Characteristics of Women Battered during and before Pregnancy and Non-Battered Women

Characteristics	Battered during Pregnancy (n = 24)	Battered before Pregnancy (n = 44)	Non-Battered (n = 222)
Race/Ethnicity			
% Black	29.2	18.2	22.5
% Latino	33.3	52.3	42.4
% White	33.3	27.3	32.9
% Other	4.2	2.2	2.2
Mean Age (years)	23.6	26.5	26.4
% Married	71	66	71
% Employed	29	18	23
% High School Graduate	62	41	60

1987

Mice Born to Mothers with Gravida Traumatic Brain Injury Have Distorted Brain Circuitry and Altered Immune Responses

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Informatics/Imagenomics/Innovation



ORIGINAL ARTICLE

CLINICAL STUDIES

Population-Level Epidemiology of Concussion Concurrent with Domestic Violence in Arizona, USA

Rachel K. Rowe,^{1-3,†} Sean M. Murphy,^{2,4,†} Hirsch Handmaker,^{4,5} and Jonathan Lifshitz^{1-4,*}

Concussion + DV diagnosis
 at licensed health care
 facilities in Arizona from
 2016-2018 → 1,024 records
 23 were also pregnant



ARIZONA
 DEPARTMENT OF
 HEALTH SERVICES

Young Child
 (0-9 years)

Child
 (10-17 years)

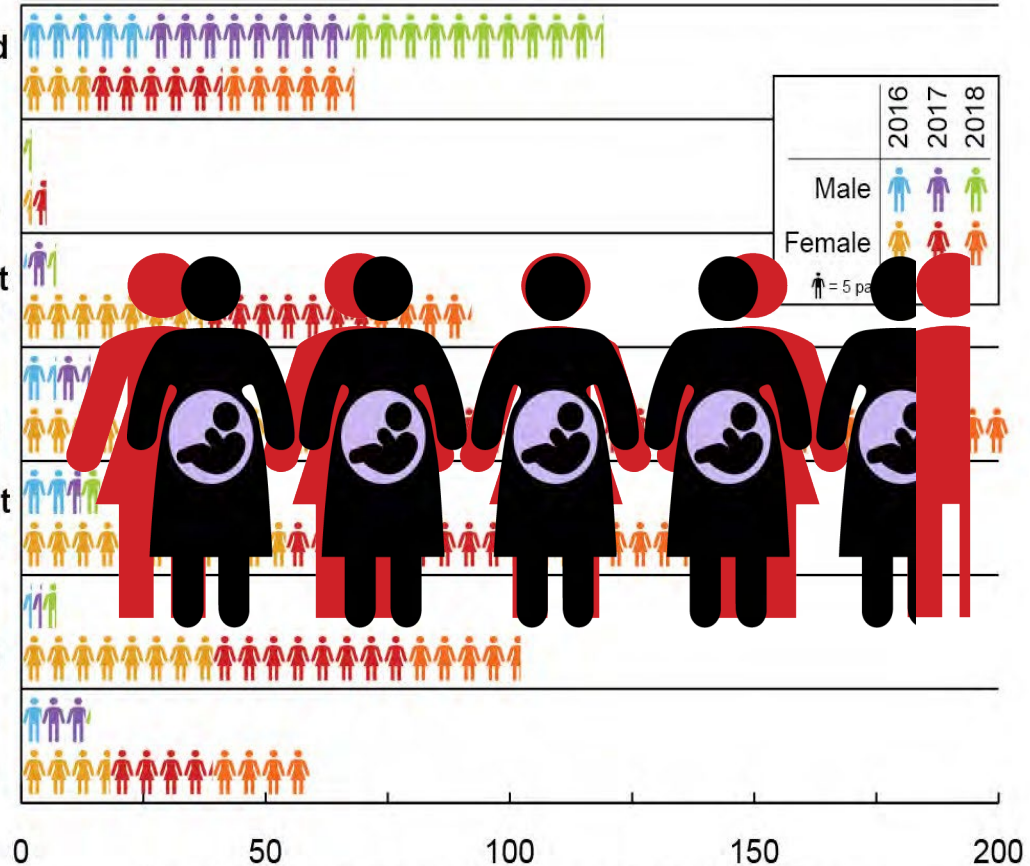
Young Adult
 (18-24 years)

Adult
 (25-34 years)

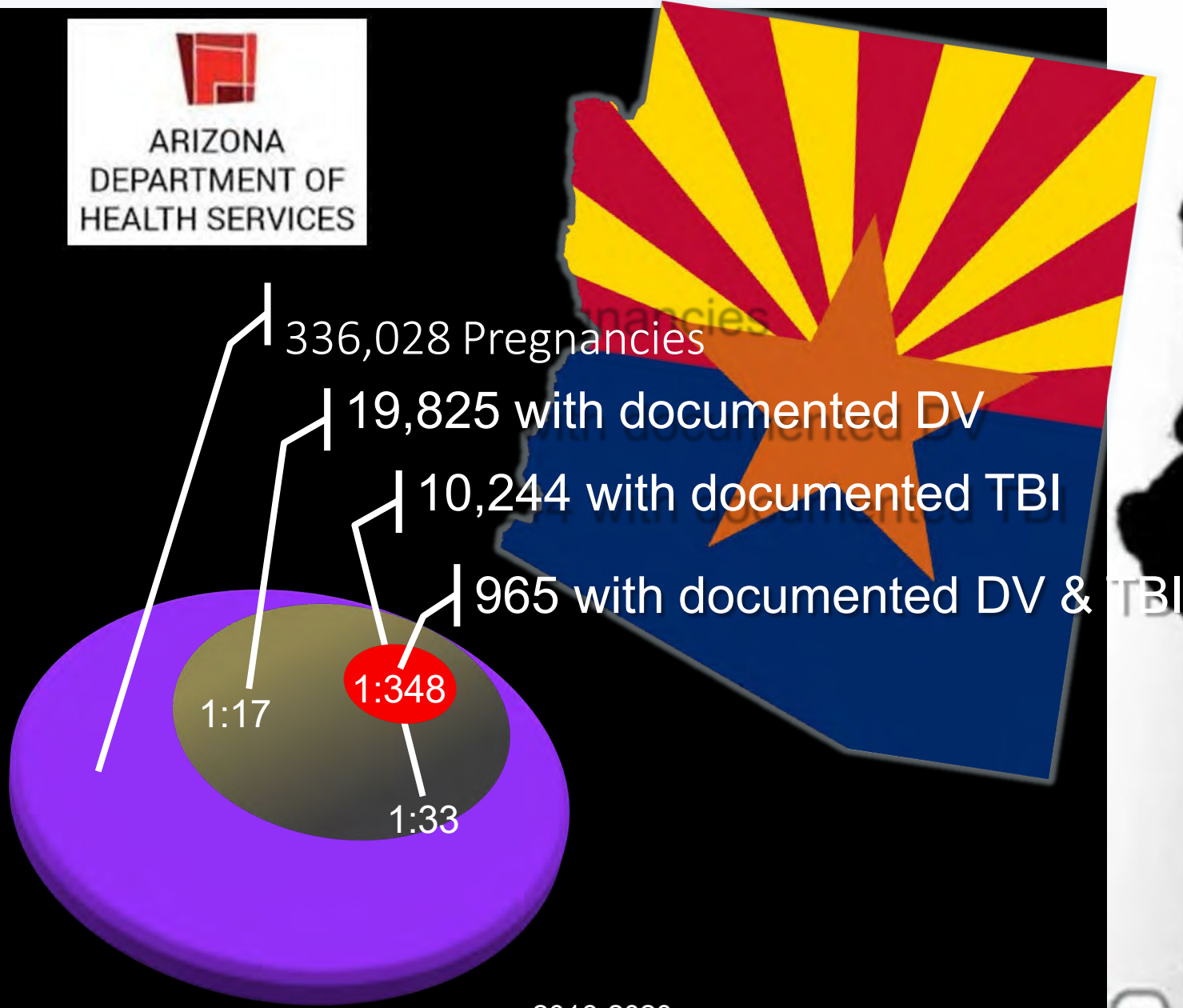
Middle Adult
 (35-44 years)

Old Adult
 (45-54 years)

Elderly
 (55+ years)



Patients per Health Care Facility Type



2016-2020



The association between developmental handicaps and traumatic brain injury during pregnancy: An issue that deserves more systematic evaluation

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Abstract

Aims: Trauma during pregnancy is commonly viewed as benign for the foetus when the delivery occurs normally. This study revisits that point of view.

Method: We included eighteen patients having a neurological handicap with an anamnesis of an accident during pregnancy and a follow-up sufficient to determine a definite outcome.

Results: Pregnancy outcome and observed management. Foetal abnormalities were detected in six cases between the first and the thirteenth day after the trauma. Emergency delivery or rapid birth after signs of foetal distress occurred in five cases. One baby died soon after birth. One-third of cases were not submitted to any investigation.

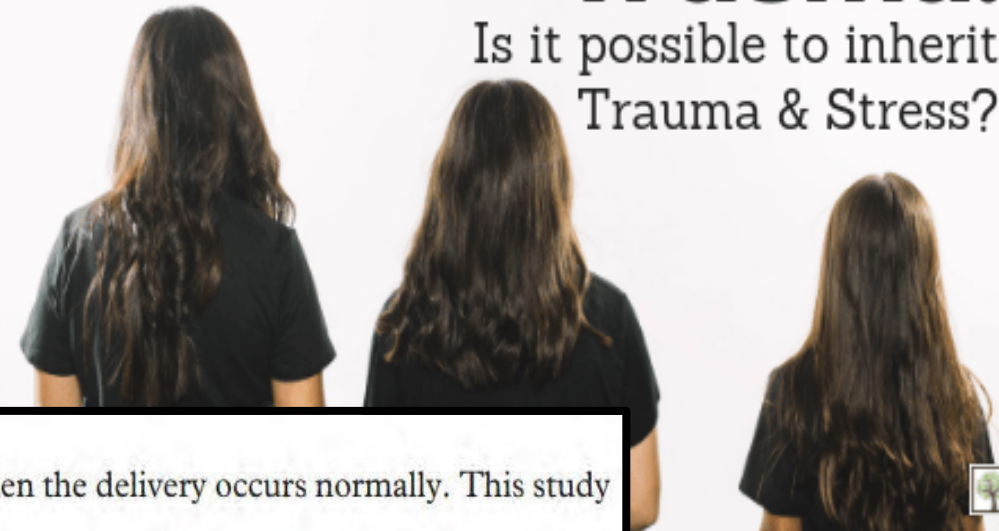
Various neurological handicaps were recorded: Congenital microcephaly (three patients), congenital hydrocephalus (three), Infantile cerebral hemiplegy (six), quadriplegy with severe encephalopathy (four), diplegy (one), clumsiness with cerebellar atrophy (one), Moebius syndrome (one), mental retardation with autistic features (two), learning disability (one) auditory agnosia (one).

Cerebral imaging showed macroscopic abnormalities in fourteen patients, evoking various pathogenetic hypotheses.

Conclusion: The association between maternal trauma and foetal brain lesions lacks sufficient investigation in many cases. Prospective studies are needed to clarify both medical and legal issues. Guidelines are proposed for obstetrical and paediatric management after significant maternal trauma.

Transgenerational Trauma:

Is it possible to inherit Trauma & Stress?



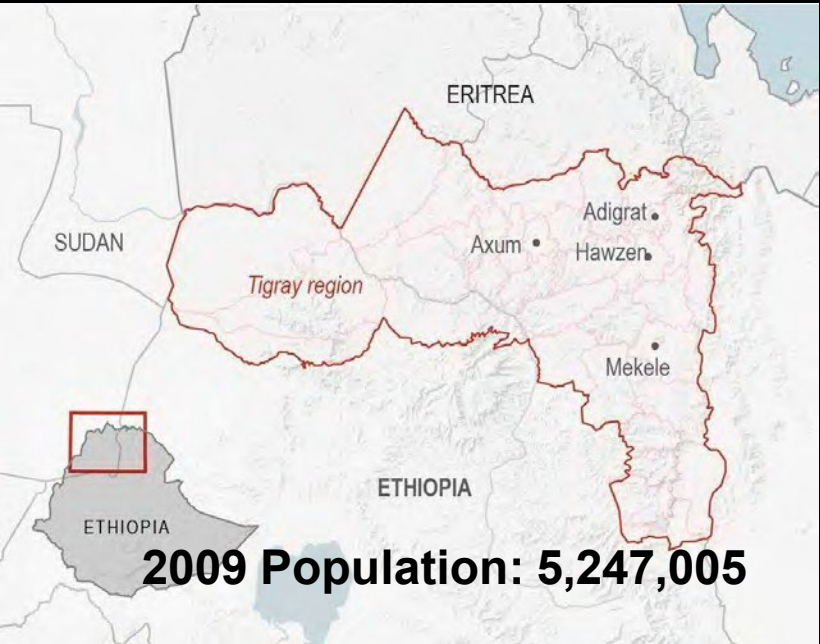
RESEARCH

Open Access

Intimate partner violence during pregnancy and adverse birth outcomes: a case-control study



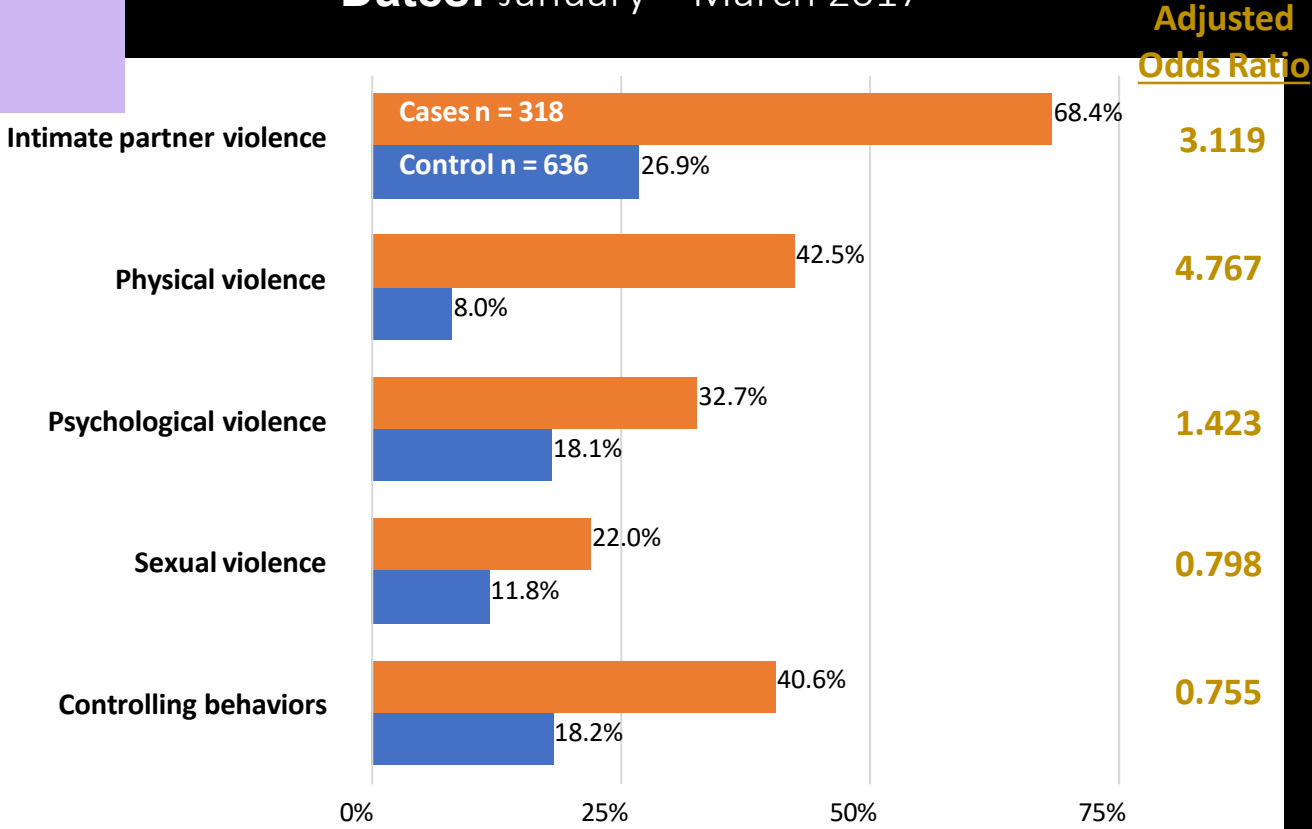
Eskedar Berhanie^{1*}, Dawit Gebregziabher¹, Hagos Berihu¹, Azmera Gerezgiher² and Genet Kidane³

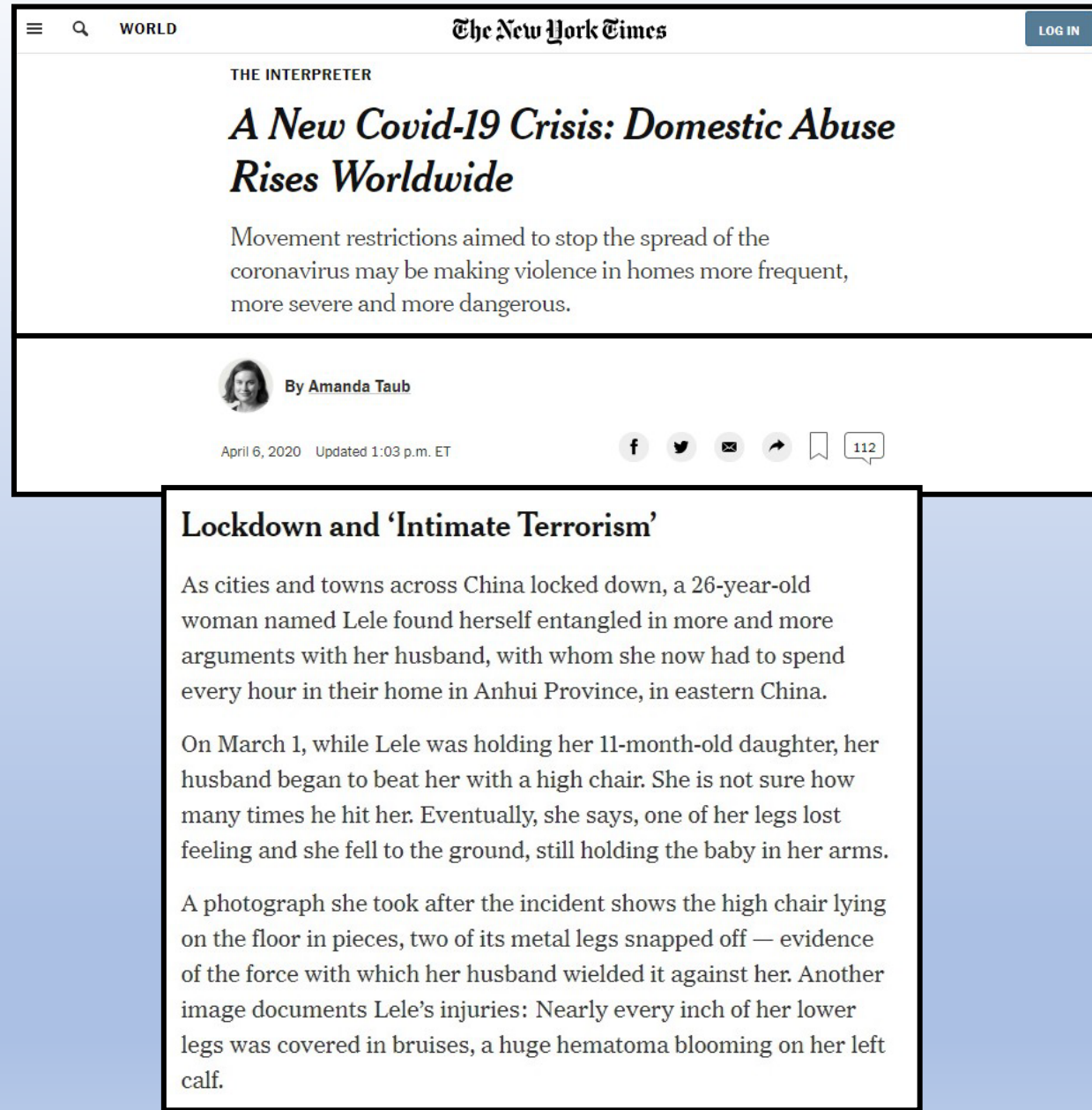
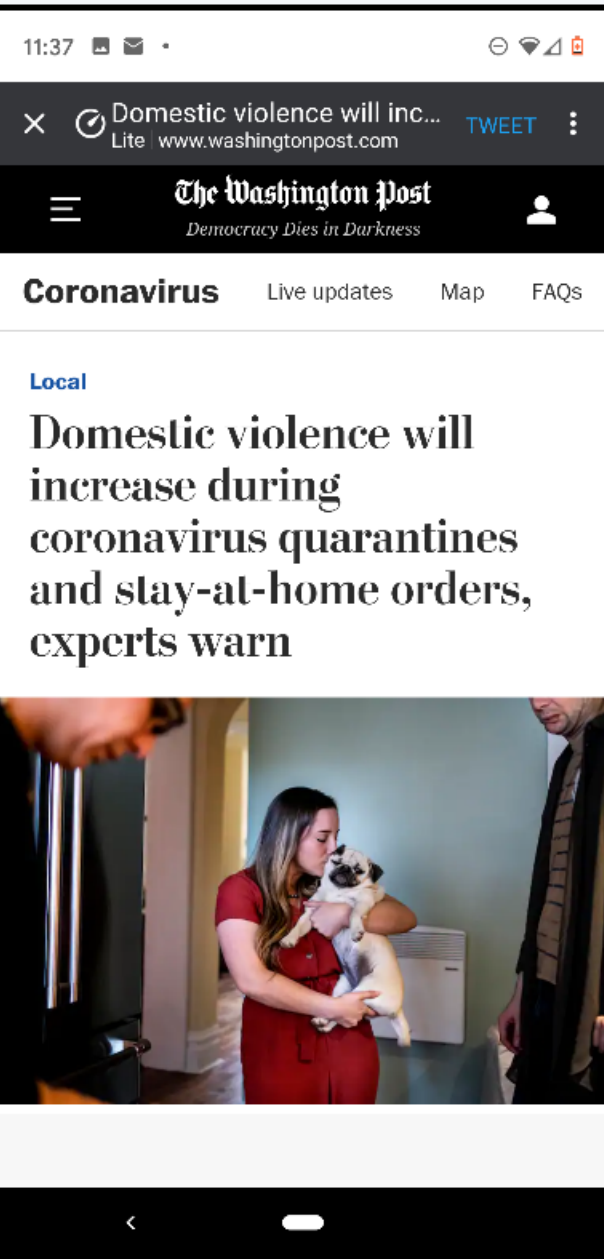


Adverse birth outcomes: low birth weight (<2500 g), preterm birth (born before 37 weeks)

Cases: women who had adverse birth outcomes **Controls:** women who had normal birth outcomes

Dates: January – March 2017





EDITORIAL



Intimate partner violence crisis in the COVID-19 pandemic: how can radiologists make a difference?

Simon Matoori^{1,2,3} • Bharti Khurana⁴ • Marta Chadwick Balcom⁵ • Dow-Mu Koh⁶ • Johannes M. Froehlich^{2,7} • Sonja Janssen⁸ • Orpheus Kolokythas⁹ • Andreas Gutzeit^{2,3,10}



Domestic violence rate increases in North American cities, 2020 compared with 2019 (investigation range, February to April)*

City	Lockdown date	Percent change in domestic violence reports
Boston, MA	March 24	+27%
Chicago, IL	March 21	+10%
Philadelphia, PA	April 1	+7%
Portland, OR	March 23	+20%
Seattle, WA	March 23	+21%
Toronto, ON	March 17	+19%

*Data from city police departments



Tempe Police Department
Domestic Violence Reports
February-June 2019 & 2020



	Offense Type / Report Date			
	DV AGG ASSAULT		DV ASSAULT	
	2019	2020	2019	2020
Number of DV Reports	61	95	428	443
% Change in DV Reports		55.74%		3.50%

- For both DV Aggravated Assaults and DV Assaults there is an increase in reports from 2019 to 2020. The percent change for DV Agg Assaults shows a total percent change increase of 55.7%, and for DV Assaults a total percent change increase of 3.5%. Arizona's stay-at-home order dates are from March 19 - May 30, 2020



GAO-20-534
June 12, 2020

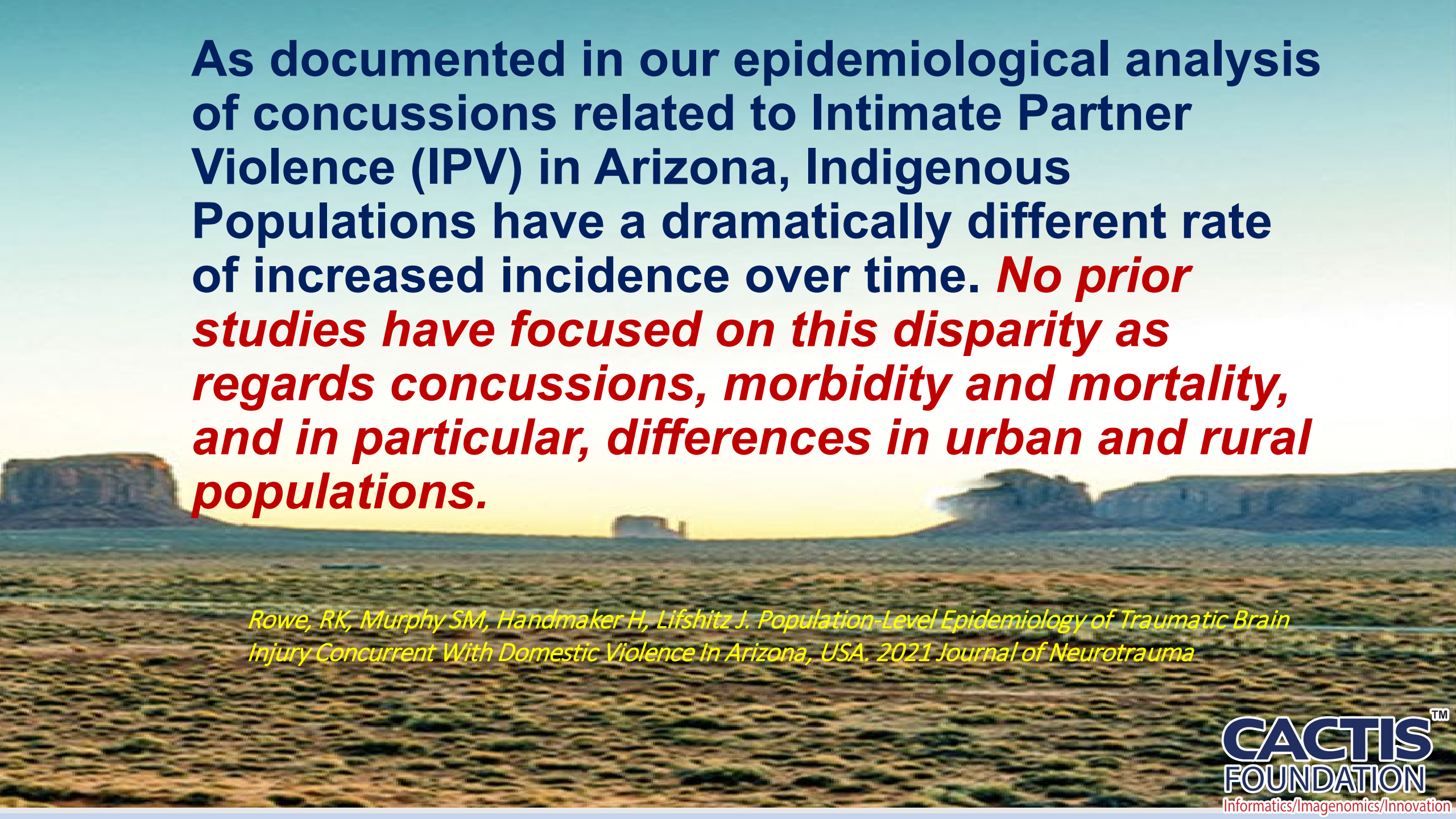
**DOMESTIC VIOLENCE:
IMPROVED DATA NEEDED
TO IDENTIFY THE
PREVALENCE OF BRAIN
INJURIES AMONG VICTIMS**



Protecting Survivors from TBI Act of 2022

Senators Joni Ernst (R-Iowa) and Catherine Cortez Masto (D-Nev.) are introducing bipartisan legislation to require the Department of Health and Human Services to collect data on the connection between domestic violence and TBI. The bill would amend Section 304 of the Family Violence Prevention and Services Act (42 U.S.C. 10404) by adding:

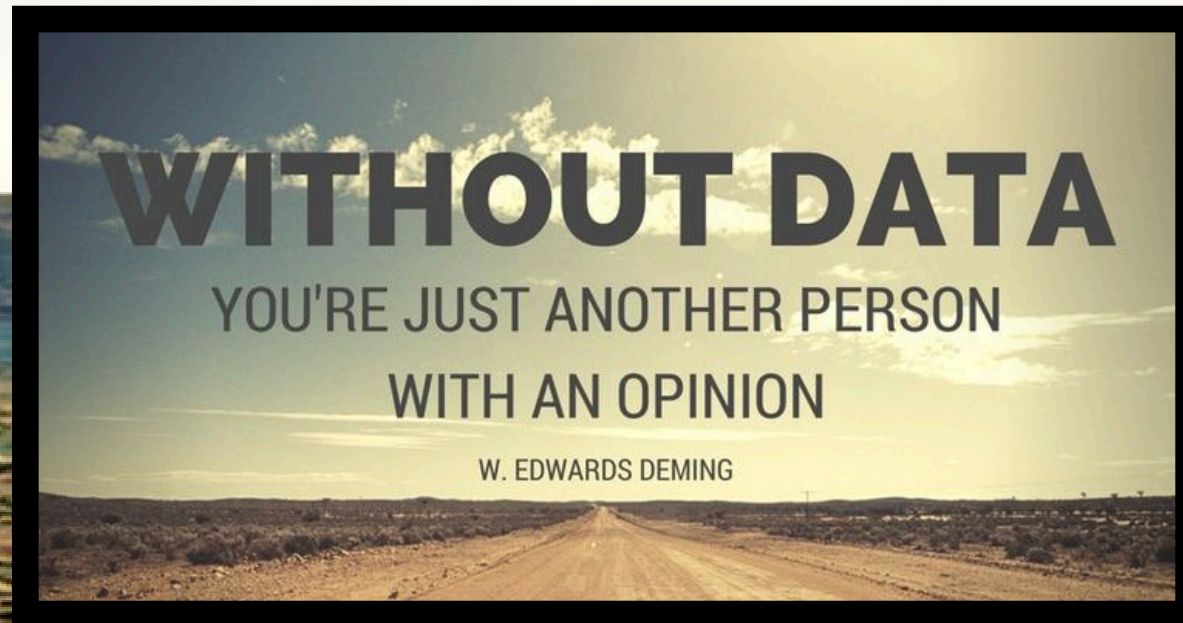
“The Secretary, in consultation with other related entities within the Department of Health and Human Services, shall collect medical data on the prevalence of brain injuries resulting from domestic violence in order to assist the Department in understanding, addressing, and allocating resources to reduce and treat such injuries and the cause of such injuries.”



As documented in our epidemiological analysis of concussions related to Intimate Partner Violence (IPV) in Arizona, Indigenous Populations have a dramatically different rate of increased incidence over time. ***No prior studies have focused on this disparity as regards concussions, morbidity and mortality, and in particular, differences in urban and rural populations.***

Rowe, RK, Murphy SM, Handmaker H, Lifshitz J. Population-Level Epidemiology of Traumatic Brain Injury Concurrent With Domestic Violence In Arizona, USA. 2021 Journal of Neurotrauma

There is a need to obtain access for analysis of information available in the anonymized, deidentified data sets in the Electronic Health Records of the Indian Health Service Resource and Patient Management System – RPMS



Recent Publications

1. Ralston, B, J Rable, H Handmaker, T Larson, J Lifshitz. (2019) Forensic Nursing Examination to Screen for Traumatic Brain Injury Following Intimate Partner Violence. Journal of Aggression, Maltreatment & Trauma 28(6): 732-743.
<https://doi.org/10.1080/10926771.2019.1637988>
2. Higbee, M, J Eliason, H Weinberg, J Lifshitz, H Handmaker. (2019) Involving Police Departments in Early Awareness of Concussion Symptoms During Domestic Violence Calls. Journal of Aggression, Maltreatment & Trauma 28(7): 826-837.
<https://doi.org/10.1080/10926771.2019.1653412>
3. Lifshitz J, S Crabtree-Nelson, D Kozlowski. (2019) Traumatic Brain Injury in Domestic Violence. Journal of Aggression, Maltreatment & Trauma. 28(6): 655-659. <https://doi.org/10.1080/10926771.2019.1644693>
4. Rowe, RK, SM Murphy, H Handmaker, J Lifshitz. (2021) Population-Level Epidemiology of Concussion Concurrent with Domestic Violence in Arizona, USA. J Neurotrauma 38(16):2301-2310 <http://doi.org/10.1089/neu.2021.0022>
5. Saber, M, JB Ortiz, LM Rojas Valencia, X Ma, BR Tallent, PD Adelson, RK Rowe, S Qiu, J Lifshitz. (in press) Mice Born to Mothers with Gravid Traumatic Brain Injury have Distorted Brain Circuitry and Altered Immune Responses. J Neurotrauma <https://doi.org/10.1089/neu.2021.0048>

NB: Podcast <https://drive.google.com/file/d/1HfvD0vOZjG5Tmq2y5OBLZW08jr9NYli0/view>