THE ROLE OF IMPLICIT BIASES IN PROTECTING CHILDREN

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THOUGHTS?

- John Fetterman
  - Mayor of Braddock, PA (a suburb of Pittsburgh)
    - Running for Lt. Governor of PA
    - Tattoo = Braddock zip code
  - Master's degree in public policy from Harvard
  - Served in the Americorps
  - Received international media attention for the economic revitalization programming started in his community

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THOUGHTS?

- Ted Bundy
  - American serial killer and rapist
  - Confessed to killing 30 women

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THOUGHTS?

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WHAT IS IMPLICIT BIAS?

Beliefs…Stereotypes…Attitudes…Bias…

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STEREOTYPE

- Stereotypes are the belief that most members of a group have some characteristic
- A widely held but fixed and oversimplified image or idea of a particular type of person or thing.
  - Members of a group have some characteristic
  - May be explicit or implicit
    - Gender
    - Nationality
    - Religion
    - Race
    - Background

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Explicit bias	Implicit bias
Expressed directly	Expressed indirectly
Aware of bias	Unaware of bias
Operates consciously	Operates sub-consciously
Example -- "I like whites more than Latinos."	Example – sitting further away from a Latino than a white individual.

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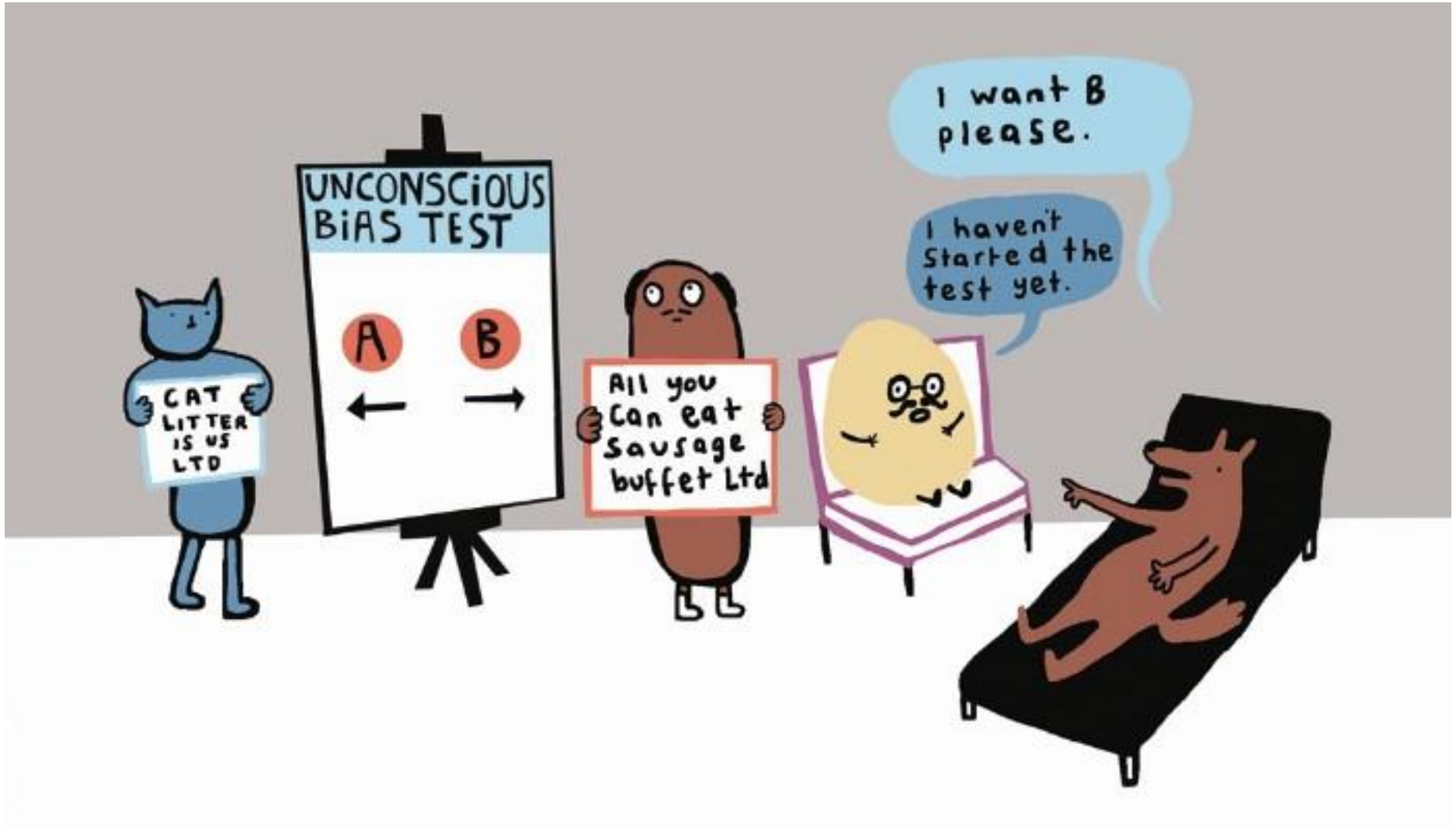

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CHARACTERISTICS OF IMPLICIT BIASES

- **Unconscious and automatic**
  - Activated without individuals' intention or control.
- **Pervasive**
  - Everyone possesses them, even those avowing commitments to impartiality
  - Across all disciplines
- **Do not always align with explicit beliefs**
- **Have real-world effects on behavior**
  - Employment, education, health care, and criminal justice
- **Malleable**
  - The biases and associations we have formed can be"unlearned" and replaced with new mental associations.

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THE ROLE OF IMPLICIT BIASES IN EVALUATING AND REPORTING SUSPECTED CHILD ABUSE/NEGLECT

- Medical Providers evaluating suspected victims
  - Must obtain detailed history for diagnosis and treatment
    - The history in cases of suspected child abuse/neglect is often MOST important
    - Important historical information may be lacking
      - False history provided by caregiver
      - History not known to caregiver
      - Patient nonverbal
    - Inadvertently allow implicit biases to enter into assessment of risk and decision making
      - Risk of over- and underdiagnosis
  - Must decide what to include in the differential diagnosis
    - Based, partially on a patient's risk profile
      - Social History
      - Unconscious stereotypes can influence medical decision-making by causing erroneous assumptions about a patient's risk profile

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SOCIAL INTUITION AND SOCIAL INFORMATION IN PHYSICAL CHILD ABUSE EVALUATION AND DIAGNOSIS (KEENAN HT, COOK LJ, OLSON LM, ET AL. *PEDIATRICS.* 2017;140(5):E20171188)

- Background
  - Poor and minority children with injuries evaluated and diagnosed for abuse differently.
- Hypothesis
  - Two steps in decision-making process would influence evaluation and diagnosis
    - Social intuition from meeting family
    - Objective social information associated with child abuse risk
  - 2009-13
    - 32 CAPs submitted 730 child abuse consultations
      - Median age of 7 months
      - 58.5% boys
      - 51% minority
      - 74.5% publicly insured
    - CAPs evaluated/diagnosed each other's cases
    - Comparisons of evaluations and diagnoses made by levels of social understanding available to CAP
      - Meeting the family (social intuition <u>and</u> social information)
      - Reading the case (social information)
      - Reading the case <u>without</u> social information

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SOCIAL INTUITION AND SOCIAL INFORMATION IN PHYSICAL CHILD ABUSE EVALUATION AND DIAGNOSIS (KEENAN HT, COOK LJ, OLSON LM, ET AL. *PEDIATRICS.* 2017;140(5):E20171188)

- RESULTS
  - No access to social intuition
    - Approximately twice as likely to perform gold standard evaluations for neurotrauma and long bone fractures
  - Diagnostic agreement fell from 73.3% (when social information present) to 66.5% when social information restricted.
    - In cases with less certainty, agreement dropped to 51.3%

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KEY POINTS

- Intuitive (the "gut feeling") leaning toward a leading diagnosis may distort subsequent decisions.
- Medical providers use the intuitive pathway because efficient and frequently correct.
  - HOWEVER, if intuition is based on child/family characteristics associated with but not causal for abuse, this may lead to over evaluation/under evaluation of groups.
    - Evaluation pattern reported in literature with over evaluation of Black children in the ED for fractures and under evaluation of white children for AHT.
- Evaluation may be improved by interventions that switch providers from intuitive to analytic thinking

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KEY POINTS

- Social information influenced medical diagnosis
  - **More apparent in less certain cases**
- Reliance on a child's social risks in medical decision-making may open the diagnostic process to bias.
  - Knowledge of social information reversed 1 in 5 diagnoses when all other information held constant
- Social information is critical to recognizing and responding to child abuse risk, but medical providers must be mindful of how this information is used to shape a diagnosis of child abuse.

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CASES IN THE "GRAY AREA:" SOMEWHERE BETWEEN THE DIAGNOSES OF ABUSE AND NOT ABUSE

- Uncertainty has a substantial presence in many medical diagnoses and must be successfully managed
- In evaluating suspected victims of child abuse, the stakes are high
  - Unsafe environment; possible risk of death
  - Inappropriately disrupting a child's/family's life
- VERY CHALLENGING
- What is the role of social risk factors?

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GRAY CASES OF CHILD ABUSE: INVESTIGATING FACTORS ASSOCIATED WITH UNCERTAINTY

(BH CHAIYACHATI ET AL. *CHILD ABUSE & NEGLECT* 51(2016) 87-92)

- 17% of 134 consecutive children hospitalized at a single pediatric hospital and referred to a CAP
  - Similar to previous study involving three other children's hospitals
- Gray cases
  - Defined by 3, 4, or 5 on 7-point clinical judgment scale of likelihood of abuse
  - Compared to abuse and accidental cases
- Unique and shared characteristics between abuse and accidental cases identified based upon:
  - Incident history
  - Medical history (including developmental history)
  - Family history
  - Social history
  - Studies
  - Injuries noted (studies and PE)

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GRAY CASES OF CHILD ABUSE: INVESTIGATING FACTORS ASSOCIATED WITH UNCERTAINTY

(BH CHAIYACHATI ET AL. *CHILD ABUSE & NEGLECT* 51(2016) 87-92)

- GRAY CASES
  - Ambiguous histories
  - Incident histories similar to both abuse and accidental cases
    - "Found" injuries and delay in seeking care (abuse cases)
    - Unwitnessed events (accidental cases)
  - Medical and social histories more similar to abuse cases
    - More frequent reports of social risk factors
  - Injuries similar to accidental injuries
  - No significant differences found among three groups for risk factors
    - Pre-term birth
    - Chronic medical conditions
    - Intimate partner violence
    - Providers more likely to refer patients with risk factors?

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LACK OF IDENTIFIED/REPORTED SOCIAL RISK FACTORS DOES NOT PRECLUDE THE POSSIBLITY OF CHILD ABUSE

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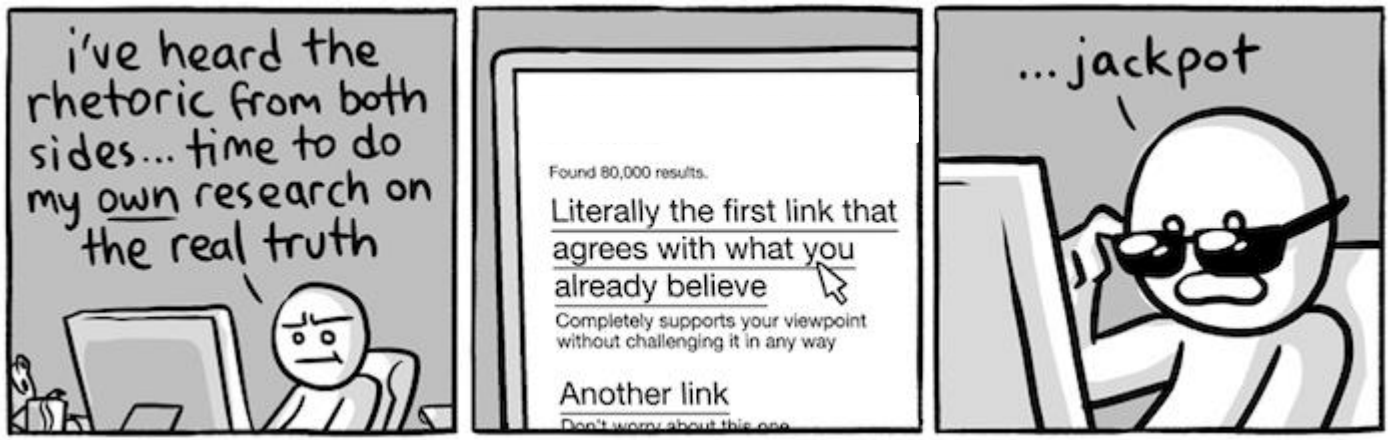
CONFIRMATION BIAS

- The tendency to interpret new evidence as confirmation of one's existing beliefs or theories
  - Social media and traditional media



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ABUSIVE HEAD TRAUMA (AHT)

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MISSED CASES OF AHT

- Risk factors for missed diagnosis
  - Age < 6 months
  - **White**
  - **2-parent family**
  - Milder symptoms
    - Vomiting
    - Fussiness
  - Attributing findings to nonabusive trauma or VGE
- 28% reinjured
  - 9% died
    - 4/5 might have been prevented

Carol Jenny et .al. JAMA Feb. 1999

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- PediBIRN investigators derived and validated a clinical prediction rule
  - Based upon extensive, prospective, demographic, clinic, historical, and radiologic data
    - 500 acutely head-injured children
      - < 3 y/o
      - PICU
  - Patient-specific estimation of AHT probability
    - Based on different combinations of 4 predictor variables
      - Respiratory compromise
      - Bruising involving ears, neck, torso
      - Bilateral/interhemispheric SDH
      - Skull fracture (not simple linear parietal skull fracture)

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RACIAL AND ETHNIC DISPARITIES AND BIAS IN THE EVALUATION AND REPORTING OF ABUSIVE HEAD TRAUMA

(KP HYMEL ET AL *J PEDIATR* 2018 JUL;198:137-143)

- "EVALUATED"
  - Skeletal survey and/or ophthalmological evaluation
- "REPORTED FOR ABUSE"
  - Report made to CPS
- AHT-related practice "disparity"
  - Statistically significant difference in proportion of patients evaluated or reported for suspected AHT
- Clinical prediction rule used to calculate patient-specific estimate of AHT probability for every patient
- Lower risk
  - Non-AHT in parent study
  - ≤25% estimated probability of AHT

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RESULTS

- Minority race/ethnicity
  - 2X more likely to be evaluated and reported for suspected AHT
  - 2-4X more likely to be evaluated and reported when in lower risk category
    - However, not widespread
      - Only 2/18 sites demonstrated extreme disparities
  - Bias vs. true prediction of abuse
    - Previous data suggest bias, as increased evaluation in African-Americans associated with lower testing yield
- Negative Consequences
  - Re-injury; possible death
  - Increased parental stress
  - Exposure to additional risks
  - Increased hospital stay
  - Increased cost

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CLASSIFYING INJURIES IN YOUNG CHILDREN AS ABUSIVE OR ACCIDENTAL: RELIABILITY AND ACCURACY OF AN EXPERT PANEL APPROACH (DJ LORENZ ET AL. *J PEDIATR* 198 (144-50)

- Expert panel
  - 4 Child abuse pediatricians,
  - 4 Pediatric emergency medicine physicians
  - Bioengineer with expertise in pediatric injury.
  - 14-39 years of experience in their respective fields
- Case information received
  - Patient's reason for visit and history
    - Detailed historical data regarding the injury event
  - Photographs of the skin injuries
  - Diagnostic imaging that identified any internal injuries (fractures, brain hemorrhages, chest or abdominal injuries) along with the official radiologist's report.
- Answered structured series of questions regarding:
  - History consistency
  - Injury compatibility
  - Other case characteristics
- Blinded to psychosocial risk factors
- Rated the likelihood of abuse on an ordinal scale with 5 levels
  - Definite abuse, likely abuse, indeterminate, likely accident, and definite accident.
  - No guidance in distinguishing "definite" from "likely"
- Provided a yes or no answer to the question: "Is a report to state child protective services (CPS) indicated?"

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ACCIDENTAL: RELIABILITY AND ACCURACY OF AN EXPERT PANEL APPROACH (DJ LORENZ ET AL. *J PEDIATR* 198 (144-50)

- RESULTS
- Interrater reliability of the expert panel nearly perfect
  - For ordinally-scaled assessments of the likelihood
  - For 3-level and binary classifications (Abuse/Indeterminate/Accident and Abuse/Accident)
  - In decisions to report cases to CPS
- Reliability high regardless of panelists' background training
  - Subsets and pairs of panelists of similar and different backgrounds exhibited consistently high reliability coefficients

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BUT, SOCIAL RISK FACTORS ARE VERY IMPORTANT

- Physical abuse commonly occurs when parenting demands overwhelm emotional resources
  - Young/single parenthood
  - Poverty
  - Substance use
  - Criminal justice involvement
  - Mental health issues

- Focus on objective data with a standardized approach
  - Identified injuries
  - Age/developmental level
  - Decreased emotional burdens
  - Not "personal"
  - Approach does not question the value of social risk factors
    - Questions feasibility of measuring social risk factors in an objective, reliable way
      - Research
        - Need more sophisticated predictive analytics to weigh the importance of social risk factors

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FACTORS INFLUENCING CHILD PROTECTION PROFESSIONALS' DECISION-MAKING AND MULTIDISCIPLINARY COLLABORATION IN SUSPECTED ABUSIVE HEAD TRAUMA CASES: A QUALITATIVE STUDY (LE COWLEY ET AL *CHILD ABUSE & NEGLECT* 82(2018) 178-191)

- Primary aim
  - To explore factors influencing decision-making in suspected AHT cases
- Qualitative semi-structured interview study
- Pediatricians, PEM, Pediatric radiologists, Neuroradiologist, NSG
- RESULTS
  - Diagnose AHT based on:
    - A wide range of clinical features described in the literature
    - History
    - Risk factors within family
    - Exclusion of potential differential diagnoses
  - Barriers to identifying AHT
    - Lack of experience
    - Uncertainty
    - Emotional factors
    - **Personal biases**
    - Impact on family
    - Fear of making incorrect diagnosis
    - Disagreements between professionals; including expert witnesses
    - Alternative theories of causation proposed in court

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PRIMARY CARE PROVIDERS

- May have a long history with the family
  - May be difficult to avoid social intuition
  - Social history may be:
    - Incomplete
    - Changed over time
    - False
  - Letters in support of family
    - "Doubt this is abuse."
    - "I have known this family for…no concerns regarding abuse."

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NEGLECT

COULD THIS HAPPEN TO ME? TO MY CHILD?

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UNMET NEEDS OF A CHILD = NEGLECT

- Physical
  - **Supervisory**
  - Abandonment
  - Daily needs
- Medical/Dental
  - Treatment
  - Preventive
- Emotional
  - Nurturance/affection
  - Psychological support
- Educational
- "Other"
  - Exposure to violence; IPV
  - Involvement in illicit/dangerous activities
  - Moral neglect

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CASE EXAMPLES

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12 yr old Killed in Fatal Montcalm County ORV Accident (*July 8, 2016*)

Montcalm County Sheriff's Deputies along with Montcalm County Emergency Services responded to a private property crash involving an off road vehicle today, Friday, July 8th, 2016, at approximately 12:41 hours.

They had been dispatched to a young male not breathing due to an off road vehicle rollover.

Deputies responded to the address in the 4000 block of East Boyer Rd. in Bushnell Township. CPR was performed on a **12-year-old** Fenwick boy. A Massimo 4×4 off road vehicle was driven by the boy, with two 7-year-old passengers.

The initial investigation revealed the 12-year-old was ejected when the vehicle struck a bump in the yard and overturned. One 7-year-old female passenger had jumped out prior to the vehicle overturning. The second 7-year-old male passenger rolled over with the vehicle. Both of the 7-year-old passengers sustained minor injuries.

Despite efforts from the Sheriff's Office and rescue personnel, the 12-year-old boy was pronounced dead at the scene.

Helmets were not in use and seatbelts were available, but not in use.

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INGESTIONS

SOCIAL RISK FACTORS and REPORTING SUSPECTED NEGLECT

We do not know what the home environment is without CPS involvement…

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CPS REPORT?
POSSIBLE INFLUENCE OF IMPLICIT BIAS

- GGM is guardian
  - Age
  - Demeanor in ED
- No identified social risk factors for GGM
- Doing the "best she can; she already raised her own children"
- Comfortable with some independence for a 2 year-old
- Mother in home with social risk factors
- Why is he up so late?
- Would never let a 2 year-old be unsupervised for that long

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BOTTOM LINE

- Clearly preventable
- Possible risk for future ingestion or other injury due to lack of supervision with worse outcome; including death
- Do not know if social history or history provided accurate
- Do not know what the home environment is like
- REPORT

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THERE IS HOPE

- Screening algorithms/decisions tools/checklists
  - Objectivity
  - Decreased disparity in evaluations and reporting of suspected abuse/neglect
- Peer Review/Consultation
  - No personal perceptions of the family
  - Review information provided
  - Child Abuse Pediatricians
- BE AWARE OF IMPLICIT BIASES
  - Self-reflection

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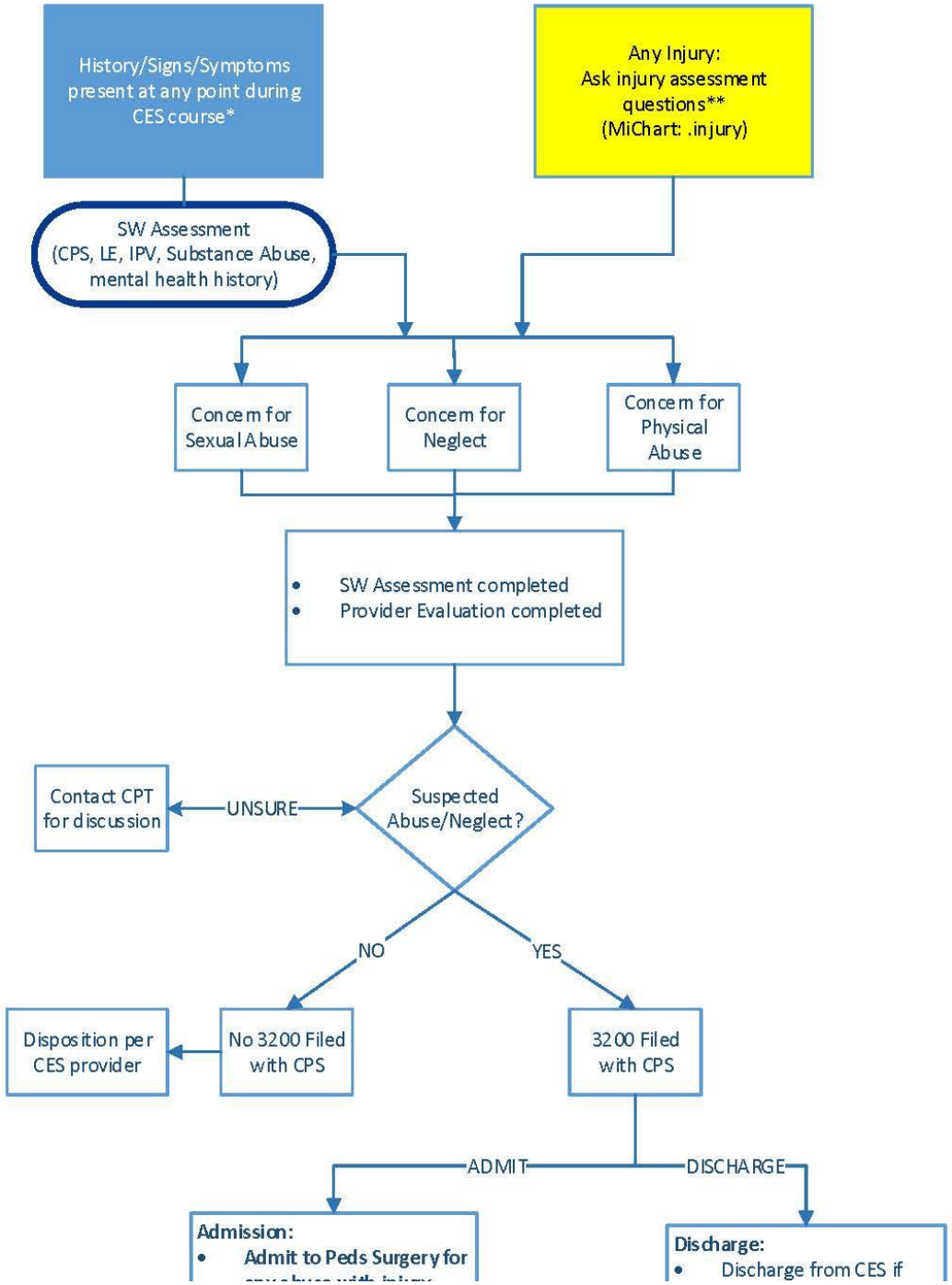

HISTORY/SIGNS/SYMPTOMS PRESENT AT ANY TIME DURING CES COURSE*

INJURY
- Bruises/lacerations (including frenulum) < 9 months or premobile/nonambulatory
- Patterned injury
- Injury on ordinarily protected areas of the body (cheek, neck, torso, genitals, inner thighs, ear)
- Burns at any age
- Unexplained abdominal injury
- Injury not consistent with age or developmental history or history provided

HEAD INJURY
- Intracranial injury at any age (not related to MVC or Sports)
- Skull fracture (not related to MVC or sports)

FRACTURES
- Fracture < 12 months
- Multiple fractures in child of any age

NEGLECT
- Ingestions
- Non-adherence to medical care
- Failure to thrive with unknown etiology
- Injury as a result of lack of supervision
- Near drowning
- Unsafe sleep

SEXUAL ABUSE
- Concern for sexual abuse

OTHER
- Referral by CPS or law enforcement
- Delay in seeking medical care
- Suspected abuse or neglect by outside provider
- Stated concern for abuse or neglect
- Concerns about patient's behavior, caregivers' behavior, and/or their interactions
- Concerns about the safety of the patient or other family members
- Unexpected death of any infant/child even if abuse/neglect is not suspected **(A 3200 should be filed with CPS in all cases of unexpected and unexplained infant/child deaths)**

CONSIDER
- BRUE (Brief Resolved Unexplained Event)

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INJURY ASSESSMENT SCREENING QUESTIONS**

- When did the injury happen or when was the child last known to be without signs/ symptoms of the injury?
- Was there a delay in seeking medical care?
- Where did it happen?
- Who was caring for the child at the time?
- Who witnessed the injury?
- What were the circumstances that caused the injury? (i.e. fall surface, fall distance)
- What was the child's immediate response?
- What was the caregiver's response to the injury?
- Was medical care previously sought for this problem?
- What are the child's developmental capabilities? (is he able to do what is reported?)
- Has the child had any injuries in the past that required medical attention?

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CURRENT RESEARCH

- Assessing the Equity and Outcomes of Child Abuse and Neglect Referrals by Healthcare Personnel
  - All CPS reports filed in Michigan Medicine CES
  - Retrospective
  - Data Collected:
    - Age of patient and caregivers
    - Race of patient and caregivers
    - Sex
    - Marital status
    - Insurance type
    - County of residence and zip code
    - Role of reporting source
    - SW Assessment
      - Completed
      - All key information obtained?
    - "Self-referral" or referred by CPS/LE
    - Allegation

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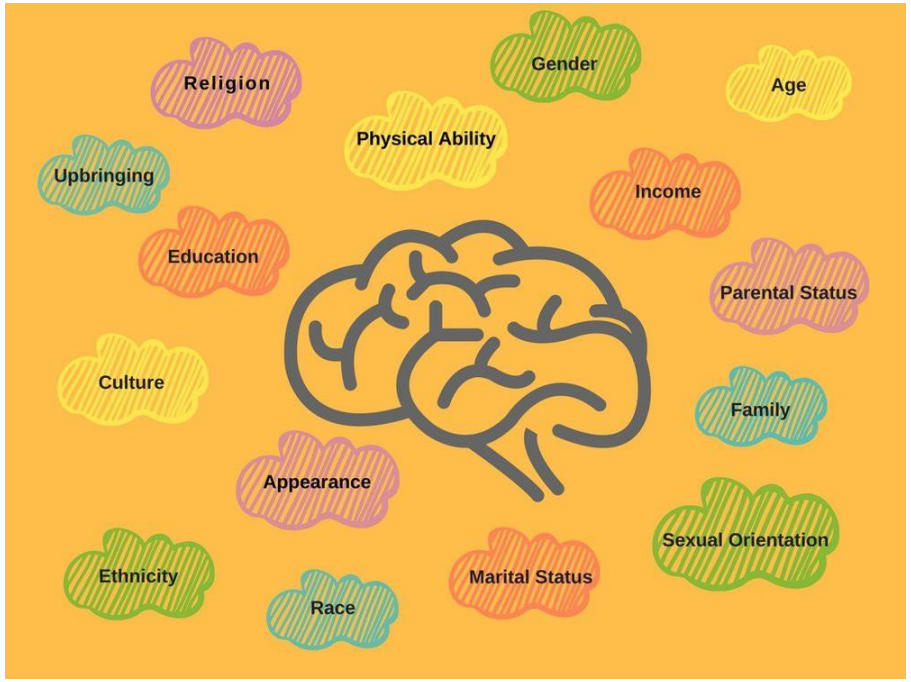
CURRENT RESEARCH

- GOALS
  - Identify any disparities in reporting
    - Trends related to specific pointed
  - QI
  - Education
  - Determine role of algorithm/smart phrase



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QUESTIONS?

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