The Quarterly
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Keeping Up!

New Literature in Child Abuse Medicine

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- Three Disclosures:
  - All selections are drawn from the past year of *The Quarterly* Update, a subscription based publication
  - I am a salaried employee of the Ray E. Helfer Society, as executive editor of *The Quarterly* Update
  - I am not paid per-subscription or per new subscription
- Both selection of articles and commentary is, by necessity, editorial!

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Validation of a clinical decision rule to predict abuse in young children based on bruising characteristics

Pierce MC, Kaczor K, Lorenz DJ, et al.
JAMA Network Open. 2021; 4: e215831
https://doi.org/10.1001/jamanetworkopen.2021.5832

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- Population
  - 2161 children <4-years-old in the ED
  - NO: Car crash, Coag, Neuro, Skin d/o
- Exposure/Intervention
  - Abuse: determined by 9 experts
- Comparison
  - Non-Abuse: determined by panel of 9 experts
- Outcome
  - Characteristics of identified bruising

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- TEN-4-FACES-P
  - Torso
  - Ear
  - Neck
  - Any bruise age 4.99 months or less
  - Frenum
  - Angle of jaw
  - Cheek (fleshy)
  - Eyelid
  - Sclera
  - Patterned
- Sensitivity: 95.6%
- Specificity: 87.1%
- NPV: 98.8%
- PPV: 63.9%

The Q

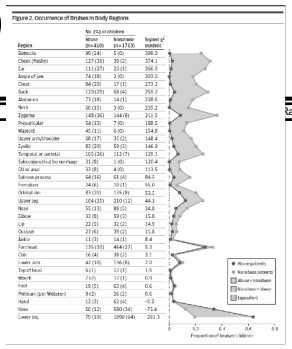

Figure 2. Occurrence of Bruises in Body Regions

Region	No. (%) of children: Abuse (n=410)	Nonabuse (n=1713)	Sigstat χ^2 statistic
Buttocks	99 (24)	5 (0)	388.2
Cheek (fleshy)	127 (31)	39 (2)	374.1
Ear	111 (27)	23 (1)	364.0
Angle of jaw	74 (18)	2 (0)	303.0
Chest	94 (23)	17 (1)	273.2
Back	119 (29)	68 (4)	265.2
Abdomen	73 (18)	14 (1)	238.6
Neck	95 (23)	3 (0)	235.2
Zygoma	149 (36)	144 (8)	211.5
Preauricular	54 (13)	7 (0)	188.5
Mastoid	45 (11)	6 (0)	154.8
Upper arm/shoulder	68 (17)	31 (2)	148.4
Eyelid	83 (20)	59 (3)	146.9
Temporal, or parietal	103 (26)	113 (7)	128.1
Subcutaneous/soft tissue hemorrhage	31 (8)	1 (0)	120.4
Glute area	59 (8)	4 (0)	113.5
Subnasa process	64 (16)	43 (4)	84.5
Fenulum	34 (8)	16 (1)	66.0
Orbital rim	40 (10)	136 (8)	55.5
Upper leg	104 (25)	210 (12)	44.1
Nose	35 (13)	89 (5)	34.4
Elbow	33 (8)	59 (3)	15.6
Lip	22 (5)	32 (2)	14.5
Occiput	21 (6)	39 (2)	11.8
Ankle	13 (3)	54 (3)	8.4
Forehead	135 (33)	464 (27)	6.3
Chin	16 (4)	38 (2)	3.1
Lower arm	42 (10)	136 (8)	2.0
Top of head	6 (1)	12 (1)	1.5
Mouth	7 (2)	17 (1)	0.9
Hand	16 (5)	62 (4)	0.6
Palmar (per Webster)	9 (2)	28 (2)	0.5
Hand	12 (3)	62 (4)	−0.3
Knee	50 (12)	580 (34)	−73.8
Lower leg	75 (19)	1090 (64)	−261.3

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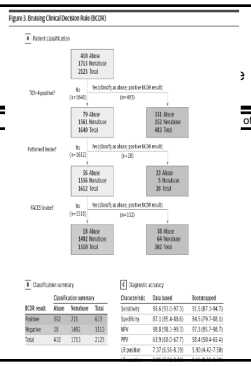

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Chronic subdural hemorrhage predisposes to development of cerebral venous thrombosis and associated retinal hemorrhages and subdural rebleeds in infants

Vaslow DF.

The Neuroradiology Journal. 2021; Online ahead of print

https://doi.org/10.1177/19714009211026904

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- Case series of 11 consecutive cases reviewed for the defense in preparation for trial on charges of child abuse!
- Cases with skeletal injuries excluded.
- 11 of 11 cases had Chronic SDH, Cerebral Vein Thrombosis, Subarachnoid hemorrhage, and Seizure.
- 8 of 11 probable Cerebral Venous Sinus Thrombosis, only one fully occluding
- 10 of 11 had retinal hemorrhage, not otherwise characterized

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- Two short fall, one parent falling against the child
- One "dysphagic choking" => BRUE
- Various legal outcomes
- NO evaluation for predisposing conditions to CVST other than trauma
- Limited longitudinal follow-up (One CSVT was cleared the next day.)
- No case with previously identified cSDH

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- Assertion of author opinion
- Argument from first principles
- Makes many of the common arguments proposed in defense of AHT

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Subdural hemorrhage in a cohort with cerebral sinovenous thrombosis: application to abusive head trauma

Anderst J, Carpenter S, Frazier T, et al.
Child Abuse & Neglect. 2021; 117: 105119
https://doi.org/10.1016/j.chiabu.2021.105119

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- Population
  - Children birth to 19 years in an international stroke and CSVT registry
- Exposure/Intervention
  - Imaging evidence of CSVT
- Comparison
  - No comparison, descriptive study
- Outcome
  - Presence of SDH
  - Related symptoms
  - Related causative etiologies
  - 216 CSVT (56 perinatal)
  - 69 Intracranial hemorrhage
  - 20 subdural, 49 other

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- Symptoms/outcome
  - NO deaths
  - 11 Impaired neurologic outcome
  - Seizure
  - Vomiting
  - Lethargy
  - Irritability
  - LOC
  - Focal neuro deficit
  - Incidental on imaging for risk factor
- Etiology/risk factor
  - 8 SDH consistent with intra-partum
  - 1 other peri-natal SDH
  - 3 accidental trauma
  - 2 severe trauma (multi-system)
  - 2 meningitis
  - 2 severe dehydration
  - 2 coagulopathy
  - 2 post ECMO/bypass
  - 3 post neurosurgery

In NO case was CSVT the primary explanation for the SDH

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Subdural hemorrhage in asymptomatic neonates: neurodevelopmental outcomes and MRI findings at 2 years

Zamora C, Sams C, Cornea EA, et al.
Radiology. 2021; 298: 173-179
https://doi.org/10.1148/radiol.2020201857

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- Population
  - 311 Newborns consecutively enrolled in the North Carolina Early Brain Development Study AND having a neonatal MRI (1-5 weeks of age)
  - No twins, significant brain anomalies, major medical conditions
- Exposure/Intervention
  - Subdural hematoma on neonatal MRI n=57
- Comparison
  - No subdural hematoma on neonatal MRI n=254
- Outcome
  - Development at 1 and 2 years
  - Neurological problems in first 2 years
  - Follow-up MRI at 1 and 2 years

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- NO differences on Mullen Scales of Early Learning
- 2% identification of Chiari malformation in cases AND controls
- NO differences in Gray matter volumes
- All SDH resolved with no intercurrent hemorrhage
- NO rebleeding found during 2-years of follow-up
- NO neurological deterioration or events
- Under-powered: AHT incidence of 30/100,000 infants in the first year

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Human papillomavirus type distribution in anogenital lesions of prepubertal children

Braun SA, Silling S, Schloer SM, et al.
J Eur Acad Dermatol Venereol. 2021; 35: 1219-1225
https://doi.org/10.1111/jdv.17114

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- Population: 55 pre-pubertal children with surgical removal of anogenital verucca
- Exposure/Intervention: Mucosal DNA type
- Comparison: Cutaneous DNA type
- Outcome: Age, Sexual abuse suspicion

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- Mucosal types, particularly type 6, more predominant in children 1-4 years old
  - Age at which vertical transmission from birth is most likely to present
- Cutaneous types predominate in children 5-12 years old
  - ?Fondling, acquisition during genital care by adults, auto-inoculation?
  - 9 children had hand or body warts, but 1 had a type 6 wart
- Only 3 cases "highly suspicious" for sexual abuse
  - Each had type 6 warts (non statistical)

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HPV Type	All	1-4 Yrs	5-12 Yrs	P
All	53	25	28	
2	6	0	6	0.014
6	27	20	7	<.0.001
11	1	1	0	0.285
16	2	1	1	.935
27	2	0	2	0.173
33	1	1	0	0.285
57	15	4	11	0.060
61	1	0	1	0.340
Mucosal	31	22	9	<0.001
Cutaneous	23	4	19	<0.001

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Anogenital warts and relationship to child sexual abuse: systematic review and meta-analysis

Awasthi S, Ornelas J, Armstrong A, Johnson JA, Eisen DB. *Pediatr Dermatol*. 2021; 38: 842-850
https://doi.org/10.1111/pde.14650

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- Population: 791 children from 25 international studies with anogenital warts
- Exposure/Intervention: Sexual abuse
- Comparison: Sexual abuse excluded
- Outcome: Age, wart location

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- Qualitative analysis
  - 20% of all children with AG warts were abused (9% 0-2Y, 47% 3-4Y, 43% 5-8Y, 50% 9-12Y)*?Typo in the paper?*
  - Standards for defining abuse varied, some studies used diagnostic standards from the 80s and 90s
  - Some countries diagnosed abuse more frequently (Australia, Brazil, Togo)
  - Overlap in DNA types between abuse and non-abuse

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- Quantitative analysis (only includes 209 children)
  - Likelihood of abuse rises with age >2 years

Age	Odds ratio	95% CI
3-4	7.45	(2.19 – 25.4)
5-8	6.52	(2.04 – 10.86)
9-12	6.93	(1.94 – 24.8)

- VS Only Anal, Genital location had an Odds ratio of 5.93 (2.25 – 15.63)

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Patterned bruises from abusive squeezing

Petska HW, Frasier LD, Livingston N, Moles R, Sheets LK. *Pediatr Emerg Care.* 2021; 37: e351-e353 https://doi.org/10.1097/PEC.0000000000001717

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- Case series: No PECO
- 4 Cases
  - 1 confessed hard squeezing
  - 1 witnessed hard squeezing
  - 1 additional fracture
  - 1 "innocent, non-traumatic" gripping reported

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Palm bruising in infants: a recognizable pattern of abuse

Ruiz-Maldonado TM, Johnson KL, Sabo JL, Sheets LK, Laskey A. *J Emerg Med.* 2021; 61: 198-204
https://doi.org/10.1016/j.jemermed.2021.02.018

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- Case series: No PECO
- 11 Cases, all <6-months-old
  - 2 admitted grabbing squeezing hands
  - 10 additional abusive trauma

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Discrepancies in physician and coroner findings in cases of fatal suspected physical child abuse

Arnold TS, Siekmann T, Thackeray JD, Bridge JA, Cohen DM. *Pediatr Emerg Care.* 2021; 37: e367-e371
https://doi.org/10.1097/PEC.0000000000002476

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- Population: 33 children <6 YO died in the ED with suspicion of abuse
- Exposure/Intervention: Coroners determination
- Comparison: ED clinicians opinion
- Outcome: Agreement and findings

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- Of 33 suspected abuse
  - 3 Homicide/Trauma
- Of 12 positive skeletal survey
  - 5 Undetermined, 4 Natural, 2 Accident, 1 Homicide
  - 4 radiologist ID'd Fx absent at autopsy
  - 17 Fx not addressed by coroner

Age	MOD	COD	Skeletal Survey Fracture(s)	Related Findings on Autopsy
7 mo	Undetermined	Undetermined	Rib (healing): right lat 8th; left post 9th	Liver laceration, subgaleal hemorrhage, hemoperitoneum (massive), and old healed fracture of post left 9th rib
2 mo	Undetermined	Undetermined	Rib: left post 1st, 2nd, 4th, 5th, 6th, 7th, 8th, 11th; right post 1st, 10th Femur: left metaphysis corner	"The axial and appendicular skeleton shows no abnormalities"
1 mo	Undetermined	Undetermined	Femur: right distal corner	Subacute leptomeningitis and ventriculitis. Noted that "ribs and vertebral bodies are grossly intact." No documentation of other bones examined
4 mo	Undetermined	SUDS	Tibia: bi-lat, proximal torus	"The lower limbs are dissected and bilateral tibiae are visualized. No gross evidence of fractures noted"
4 mo	Undetermined	SUDS	Rib (healing): left lat 6th	Healing left lat 6th rib fracture
6 mo	Accident	Mechanical asphyxia	Tibia corner fracture: right, distal	Fractures of left 4th, 5th, and 6th ribs at costovertebral junction; contusion of left upper lobe of lung; left hemothorax
3 mo	Accident	Mechanical asphyxia	Ribs (healing): lat right 4th, 5th, 6th Metatarsal (healing): right first	Fractures of right 5th and 6th ribs with callous
7 mo	Natural	Panlobar aspiration pneumonia	Femur: left metaphyseal distal corner	Corner fracture not addressed
8 mo	Natural	Complication of GSD	Ribs: left 6th, 7th subacute anterolateral	Fractures of left 6th and 7th ribs, most likely due to CPR; cardiomegaly; hepatosplenomegaly
1 mo	Natural	SIDS	Ribs: right 5th, 6th subacute	Lat fractures of right 4th, 5th, 6th, 7th, 8th, and 9th ribs; lat fractures of left 7th, 8th, 9th ribs; thought to be birth trauma
6 mo	Natural	Viral pneumonia	Skull: occiput	Intact skull

CPR indicates cardiopulmonary resuscitation; GSD, glycogen storage disease; lat, lateral; post, posterior.

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Judges and forensic science education: a national survey

Garrett BL, Gardner BO, Murphy E, Grimes P.
Forensic Sci Int. 2021; 321: 110714
https://doi.org/10.1016/j.forsciint.2021.110714

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- Population: 164 of 938 Judges who attended National Judicial College trainings and responded to a survey
- Exposure/Intervention:
- Comparison: Cross sectional descriptive study
- Outcome: Judges experience and thoughts about dealing with scientific evidence

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- 26 Judges did not have a law degree
- 37.45 (0 – 92%) of their cases had scientific evidence
- In 14.7% of these cases (0 – 100%) the judge had a hearing on admissibility
- In 13.5% of the cases the evidence was ruled inadmissible
- *Frye* vs *Daubert* did not influence this

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- Training in forensic science varied
  - 29.6% >1 week
  - 27% 2-7 days
  - 17.1% 1 day
  - 16.4% <1 day
  - 9.9% NO training
- 92.3% wanted training as Judicial continuing education
- Assessed availability of education varied from "nonexistent" to "excellent"

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- More training correlated to self assessed understanding of statistics and greater desire to exclude "junk science."
- More training did not predict different estimates in the error rates of 7 forms of evidence
- No questions related to child abuse or its differential diagnoses
- More training DID NOT correlate to greater likelihood of having admissibility hearings.
- More training DID correlate with greater likelihood of excluding evidence

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Re-evaluation of medical findings in alleged shaken baby syndrome and abusive head trauma in Norwegian courts fails to support abuse diagnoses.

Wester K, Stridbeck U, Syse A, Wikström J.
Acta Paediatr. 2021; Online ahead of print
https://doi.org/10.1111/apa.15956

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- Population: 17 children listed in court records for prosecution of inflicted head trauma
- Exposure/Intervention: Original opinion
- Comparison: Authors' re-assessment
- Outcome: Agreement or revised opinion

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- In 16 of 17 cases the medical authors – two neurosurgeons and one neuroradiologist – disagreed with the original opinions in the case
- 8 children had "external hydrocephalus" (benign expansion of the extra-axial fluid space)
- 6 children were "hypoxic-ischemic injury like"
- Male preponderance in BESS and Female in HII was significant p=0.015

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- 8 to 11 had initial seizure
- 14 had sudden decompensation
- 8 had head impact injury (3 skull fx)
- 14 had retinal hemorrhage (3 limited)
- 5 children had healing rib fractures, 4 skull fractures, 2 healing clavicle fractures, 1 acute femur fracture
- 2 children died, 7 survived with severe brain injury

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Re-evaluation of abusive head trauma in Norway appears flawed

Stray-Pedersen A, Vollmer-Sandholm MJ, Aukland SM, et al.
Acta Paediatr. 2021; Online ahead of print
https://doi.org/10.1111/apa.16069

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- Population: 17 children listed in court records for prosecution of inflicted head trauma
- Exposure/Intervention: Reported details
- Comparison: Treating physicians review
- Outcome: Omitted facts
- Three cases had additional evidence of trauma not reported by Wester et al.
- In one case the defendant confessed to shaking the child violently, causing the injuries.

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The legal challenges to the diagnosis of shaken baby syndrome or how to counter 12 common fake news

Vinchon M, Noule N, Karnoub MA.
Childs Nerv Syst. 2021; Online ahead of print
https://doi.org/10.1007/s00381-021-05357-8

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- Population: Review paper (i.e. editorial)
- Exposure/Intervention: “Shaken Baby Syndrome” critiques and denials
- Comparison: “Shaken Baby Syndrome” conventional view (French)
- Outcome: The authors seek to confront what they see as “fake news”

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Table 1 Two systems of thought following parallel paths

	Mainstream	Dissent
Shaken baby syndrome	Well established entity, backed by evidence	Not proven
Trauma	Violent shaking	None, or play, or accident
No sign of impact	Shaking alone causes SBS	Lesions only if impact
Scientific evidence	Confessions, animal experiments, computer models	None valid
Bleeding	Corticodural veins and other mechanisms	Anoxia alone (CP, birth trauma, SIDS)
Subdural collection	Infarcts; SDH	Hydroma, hygroma
Caused by	Bleeding then CSF accumulation	External hydrocephalus
Subdural clots	Often missing in SBS	If no clots, not a SDH
Denial	Sincere denial of culprit	Sincerely innocent
Confession	Sincere out of guilt	Extorted, plea bargain
Diagnosis of SBS	Unequivocal in most cases	Miscarriage of justice
Differential diagnosis	Beyond reasonable doubt	Must eliminate all possible (even unknown) causes
Incomplete SBS triad	False-negative or delayed diagnosis	Not a SBS
Scientific uncertainty	Factual knowledge is increasing	Doubt mandates acquittal
Acquittal	Does not influence medical diagnosis	Proves the diagnosis was wrong
Expert's ethos	Diagnose and treat	Redress wrongs

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Association of state-level earned income tax credits with rates of reported child maltreatment, 2004-2017

Kovski NL, Hill HD, Mooney SJ, et al.
Child Maltreatment. 2021; Online ahead of print
https://doi.org/10.1177/1077559520987302

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- Population
  - Children in NCANDS
- Exposure/Intervention
  - Generous Earned Income Tax Credit (State+Federal, Refundable)
- Comparison
  - Less generous Earned Income Tax Credit
- Outcome
  - Maltreatment reports screened in for investigation

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Table 3. Estimates of the Association Between State EITC Presence and Child Maltreatment Rates (2004–2017)

	Overall Reports	Neglect Reports	Physical Abuse Reports	Emotional Abuse Reports	Sexual Abuse Reports	Overall Substantiations
All Children	−193 (−640, 254)	−407 (−851, 37)*	−60 (−152, 32)	−75 (−203, 52)	−11 (−53, 32)	−28 (−142, 86)
By Child Age						
Ages 0–5	−299 (−871, 273)	−544 (−1111, 23)*	−60 (−180, 61)	−98 (−257, 62)	−14 (−57, 29)	−49 (−205, 106)
Ages 6–17	−152 (−542, 238)	−347 (−736, 42)*	−62 (−146, 22)	−67 (−182, 47)	−10 (−52, 32)	−20 (−119, 78)
N	689	689	689	658	689	689

Sources: NCANDS Child File: 2004-2018 and National Bureau of Economic Research's TAXSIM program (www.nber.org/taxsim)
Note. All models include state and year fixed effects, state-specific linear and quadratic time trends, and the full set of state-level control variables for policies, economic characteristics, and demographics 95% confidence intervals in parentheses. Each coefficient indicates changes in the rate of outcome associated with the introduction of a refundable state EITC.
* $p < .10$, ** $p < .05$.

Rates per 100,000 children

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Table 2. Estimates of the Association between State EITC Generosity and Child Maltreatment Rates (2004–2017).

	Overall Reports	Neglect Reports	Physical Abuse Reports	Emotional Abuse Reports	Sexual Abuse Reports	Overall Substantiations
All Children	−220 (−455, 15)*	−241 (−449, −33)**	−21 (−58, 16)	−32 (−106, 42)	6 (−16, 28)	−55 (−120, 10)*
By Child Age						
Ages 0–5	−276 (−563, 9)*	−324 (−582, −65)**	−22 (−69, 25)	−49 (−139, 41)	6 (−21, 33)	−89 (−179, 1)*
Ages 6–17	−194 (−403, 16)*	−201 (−387, −15)**	−19 (−50, 12)	−25 (−91, 42)	5 (−15, 25)	−40 (−95, 15)
N	689	689	689	658	689	689

Sources: NCANDS Child File: 2004–2018 and National Bureau of Economic Research's TAXSIM program (www.nber.org/taxsim)
Note. All models include state and year fixed effects, state-specific linear and quadratic time trends, and the full set of state-level control variables for policies, economic characteristics, and demographics. 95% confidence intervals in parentheses. Each coefficient indicates changes in the rate of outcome associated with a 10 percentage point increase in a refundable state EITC, expressed as a percentage of the federal EITC.
* $p < .10$; ** $p < .05$

Generosity = Per 10% of the federal EITC

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Association between Temporary Assistance for Needy Families (TANF) and child maltreatment among a cohort of fragile families

Spencer RA, Livingston MD, Komro KA, et al.
Child Abuse & Neglect. 2021; 120: 105186
https://doi.org/10.1016/j.chiabu.2021.105186

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- Population
  - Families enrolled in "Fragile Families and Child Well-being" study with mothers between 20 and 28 years
- Exposure/Intervention
  - More generous TANF benefits
  - Likely TANF eligible (estd. by mom's education)
- Comparison
  - Less generous TANF benefits
  - Likely TANF ineligible (estd. by mom's education)
- Outcome
  - Year-Year and State-State changes in Neglect, Physical Abuse, Emotional Abuse self-reported on Parent-Child Conflict Tactics Scale

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Adjusted estimates of policy effect on child maltreatment outcomes by mother's educational attainment (≤HS vs >HS) contemporaneous and one year lagged models.

Policy	Physical abuse Beta (95% CI)		Psychological abuse Beta (95% CI)		Neglect Beta (95% CI)	
	Concurrent	Lagged	Concurrent	Lagged	Concurrent	Lagged
Increased $100 More Generous → Maximum cash	−0.56 (−1.05, −0.04)**	−0.52 (−1.04, −0.005)*	−0.36 (−0.92, 0.20)	−0.37 (−0.92, 0.19)	0.03 (−0.07, 0.23)	0.05 (−0.07, 0.23)
Limits						
No limit/benefit	Ref	Ref	Ref	Ref	Ref	Ref
Lifetime/periodic	2.76 (0.18, 5.35)**	1.26 (−1.13, 3.66)	2.04 (−0.69, 4.77)	0.84 (−1.70, 3.38)	−0.13 (−0.90, 0.64)	−0.29 (−1.09, 0.32)
Family caps						
None	Ref	Ref	Ref	Ref	Ref	Ref
Any	1.72 (−0.34, 3.77)	1.71 (−0.36, 3.77)	1.21 (−0.97, 3.40)	1.17 (−1.03, 3.36)	−0.06 (−0.64, 0.52)	−0.03 (−0.61, 0.55)
Increased 1 unit More Generous → TANF-to-Poverty Ratio	−0.06 (−0.11, −0.004)**	−0.05 (−0.11, −0.0001)*	−0.001 (−0.06, 0.06)	0.01 (−0.05, 0.07)	0.002 (−0.01, 0.02)	0.003 (−0.01, 0.02)

* $p < 0.1$.
** $p < 0.05$.

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Training for mandated reporters of child abuse and neglect: content analysis of state-sponsored curricula

Baker AJL, LeBlanc S, Adebayo T, Mathews B.
Child Abuse Negl. 2021; 113: 104932
https://doi.org/10.1016/j.chiabu.2021.104932

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- Cross Sectional Analysis: No PECO
- 44 State level curricula for mandated reporters
  - 27 Videos,
  - 36 embedded links for additional information
  - 33 self-assessment
  - 17 narrated text
  - 0 animations
  - 20 vignettes

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- Most allowed fast forwarding through the lesson and taking the test multiple times to pass
- Identified domains
  - Reporting legalities
  - Definitions and recognizing abuse
  - Role of the reporter
  - Barriers to reporting

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- Authors set high standards for coverage
  (i.e. for 4 maltreatment types, *definition, case examples, child findings, parent findings*)
- Very few curricula adequately prepared reporters to ID abuse
- Failure to develop a positive rationale to report
- Failure to address impact on the reporter and barriers

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Building skills and resilience in child abuse pediatricians: a novel program to address secondary traumatic stress

Smith J, Cho R, Martin C.
Child Abuse Negl. 2021; 117: 105082
https://doi.org/10.1016/j.chiabu.2021.105082

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- Descriptive study without outcomes: No PECO
  - Program delivered in fellowship targeting secondary traumatic stress
  - **Monthly Mandatory 90'** small group meetings
  - Facilitate trained in education and trauma
  - Supervisors EXCLUDED
  - Physically away from the practice environment

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- Low intensity focusing activity
  - Mindfulness or reflective writing
  - Coloring or similar with time to reflect
- Sharing impactful experiences
  - Active listening, validation, support
- Mental health coaching
  - Creating safe environments
  - Recognizing common impacts of STS
  - Processing and coping strategies
  - Intersection of personal and professional

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- Informal fellow reporting of impact
  - Post session "refreshed"
  - Decreased Sx of STS
  - Greater resilience
  - Development of community
  - Deployment of strategies
- Attending report of impact
  - Bonded peer group
  - Better coping
  - Positive changes in communication and support