

Domestic and sexual violence

98 PEDIATRIC MORTALITY DURING AN INTIMATE PARTNER HOMICIDE: THE ROLE OF FIREARMS AND PROTECTION ORDERS

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Statement of Purpose To describe the proportion of intimate partner homicides (IPH) that include pediatric deaths in the same incident, whether that differs by whether or not a firearm was used, and describe use of protection orders (PO) among IPH victims.

Methods Using the National Violent Death Reporting System we identified all IPH in one of the reporting states from 2003–2017 to define our cohort. We used descriptive statistics to describe incident, perpetrator and victim characteristics in IPH cases where a firearm was used versus not, and where children (<18 years) were also killed or not. Finally, we conducted narrative reviews of Coroner/Medical Examiner and Law Enforcement reports to identify instances with a PO and used descriptive statistics to describe PO use.

Results We identified a total of 8,375 incidents, with 9,130 victims, that were IPH-related. Over half of all victims (58.8%) were killed in a firearm-related incident. A greater proportion of children were killed when a firearm was used than not (proportion difference = 1.6%; 95% CI: 0.8–2.4). Based on narrative review, 5.9% of incidents had a PO filed. No PO explicitly mentioned firearm removal. The majority were granted (95% of those filed), and 23% had been granted within 2 weeks of the incident.

Conclusion The presence of firearms increases the risk of death to children in homes with domestic violence. POs were rarely obtained in our sample of IPH-related deaths, but often granted. Prior literature suggests that POs with firearm removal may be effective strategies for reducing risk of IPH, but we found no mention of firearm removal in POs.

Significance Results highlight the additional risk posed to children in homes with firearms and domestic violence. POs were infrequently endorsed in the narratives, highlighting a potential opportunity to promote awareness and support their use, especially with firearm removal.

Firearm violence

99 SUICIDE MORTALITY AND FIREARM INVOLVEMENT AMONG PERSONS RELEASED FROM NORTH CAROLINA PRISONS, 2000–2015

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Statement of Purpose Suicide mortality has been increasing across the United States over the last several years. Formerly incarcerated persons (FIPs) often have high prevalence of mental health disorders and are especially vulnerable to self-harm. We estimated the burden of suicide mortality among persons released from North Carolina (NC) state prisons, as compared

to the NC general population, and examined key characteristics of these fatal injuries.

Methods/Approach We conducted a retrospective cohort study of persons released from NC prisons during 2000–2015. Incarceration records were matched to death records from 2000–2016. Suicide deaths were categorized as firearm-involved or non-firearm-involved. We used indirect standardized mortality ratios (SMR) adjusted for year, gender, race, and age to compare suicide mortality among FIPs with the general NC population.

Results There were 228,556 individuals in NC who were released from incarceration 386,895 times during 2000–2015 and contributed 2,050,745 years of post-release person-time and 636 post-release suicide deaths (387 non-firearm-involved, 249 firearm-involved). Over the complete follow-up period, the suicide mortality rate among FIPs was 2.0 (95% CI=1.8, 2.1) times as high as the general NC population. When compared to the general population, the SMRs for non-firearm-involved and firearm-involved suicides among FIPs were 2.9 (95% CI=2.6, 3.0) and 1.3 (95% CI=1.1, 1.5), respectively.

Conclusions Formerly incarcerated persons have an increased rate of suicide death compared to the general population in NC, potentially attributable to high prevalence of mental health disorders among FIPs. While NC laws restrict persons with certain criminal histories from owning or purchasing firearms, firearm-involved suicide rates were higher among FIPs than the general NC population.

Significance and Contributions to Injury and Violence Prevention Science We highlight the need for suicide prevention efforts among this high-risk population. Prevention programs during incarceration and post-release, including lethal means restriction, should be explored.

State policy and violence prevention

103 INCREASING ADOLESCENT FIREARM HOMICIDES AND RACIAL DISPARITIES FOLLOWING FLORIDA'S 'STAND YOUR GROUND' SELF-DEFENSE LAW

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Statement of Purpose Stand your ground (SYG) laws extend the right to use lethal force in self-defense. These laws have been controversial with media attention focusing on adolescent deaths – particularly Black adolescent deaths – including Trayvon Martin. Despite evidence that SYG law increase firearm homicides in adults, its impact on adolescents is unclear. We estimated the impact of Florida's SYG law on adolescent firearm homicide and racial disparities.

Methods/Approach We used an interrupted time series analysis of quarterly firearm homicides rates of adolescents aged 15–19 years in Florida during 1999–2017. Micro-data files were obtained by special request from the CDC's Restricted Use Vital Statistics. We used segmented quasi-Poisson regression to examine the impact of Florida's SYG law, enacted in October 2005, on underlying trends in adolescent firearm homicides (ICD-10: X93-X95) and disaggregated by race (Black/White). We used a synthetic control (derived from comparison states

without SYG laws) and negative control (firearm suicide) to address time-varying confounding.

Results Before Florida's SYG law, the mean quarterly rate was 1.53 firearm homicides per 100,000 adolescents. There was no significant underlying trend. After adjusting for trends, the enactment of Florida's SYG law was associated with a 44.6% significant increase in quarterly rates of adolescent firearm homicides (RR=1.45; 95% CI=1.17–1.79; p=0.0006). Black adolescents comprised 63.5% of all adolescent firearm homicides before and 71.8% after the law. No equivalent increases were seen in our synthetic control and negative control analyses.

Conclusions We found preliminary evidence that Florida's SYG law is associated with an increase in adolescent firearm homicides and may also exacerbate racial disparities.

Significance and Contributions to Injury and Violence Prevention Science Determining the impacts of legalisation is key to identifying opportunities to reduce adolescent death by firearms and promote health equity.

Policy efforts in substance use and abuse

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INTENDED AND UNINTENDED CONSEQUENCES OF A STATE POLICY TO COMBAT OPIOID OVER-PRESCRIBING AMONG PATIENTS RECEIVING HIGH DOSE LONG TERM OPIOID THERAPY

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Statement of Purpose In May 2016, the North Carolina Medical Board (NCMB) launched the safe opioid prescribing initiative (SOPI) to limit overprescribing of opioids by investigating high volume prescribers and prescribers who have had two or more patient deaths due to opioid overdose. In this study we examined the immediate and sustained effects of NCMB's SOPI on tapering and discontinuation of opioids among patients receiving high doses (>90 MME) of long-term (>90 days) opioid therapy (LTOT).

Methods We conducted an interrupted time series study to examine change in temporal trends of opioid discontinuation and appropriate and inappropriate tapering among high dose LTOT patients in NC, following the NCMB's implementation of SOPI in May 2016. We used de-identified data from January 2010 through March 2017 from the NC Controlled Substances Reporting System (CSRS).

Results During the study period 205,255 people received high dose LTOT in NC. Compared to ~0.01% monthly decline in discontinuation and tapering pre-SOPI, immediately after the implementation of SOPI, the rate of abrupt discontinuation, inappropriate tapering, and appropriate tapering of opioids among high dose LTOT patients increased by 1% (95% CI: -0.22, 2.23), 2.2% (95% CI: 0.91, 3.47) and 1.3% (95% CI: 0.96, 1.57), respectively. Those receiving opioids from one prescriber were more frequently discontinued, while multiple prescriber patients were more frequently inappropriately tapered post-SOPI.

Conclusions The increase in appropriate tapering can be considered a success of SOPI, but, the simultaneous increase in

discontinuations and inappropriate tapering may be cause for some concern as these results represent a chilling effect on opioid prescribing that may adversely affect those receiving high dose LTOT.

Significance to Injury and Violence Prevention Science Well-intentioned policies such as the SOPI may have harmful effects when not well communicated and combined with education of prescribers to prevent potential unintended consequences.

Opioids: epidemiology and interventions

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SOCIODEMOGRAPHIC AND CLINICAL PREDICTORS OF PRESCRIPTION OPIOID USE IN A LONGITUDINAL COMMUNITY-BASED COHORT STUDY

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Purpose While opioids have commonly been prescribed for pain management, their use may be more likely in certain patients. The objective of this study was to assess predictors of prescription opioid use in an adult population with a high prevalence of chronic pain.

Methods Data were from a community-based cohort of White and African American adults aged 50–90 years residing in Johnston County, North Carolina. Univariable and multivariable logistic regression models were used to evaluate sociodemographic and clinical factors in non-opioid users (n=795) at baseline (2006–2010) as predictors of opioid use at follow-up (2013–2015). Variables included age, sex, obesity (body mass index ≥ 30 kg/m²), employment status (unemployed, employed/retired), Census block group household poverty rate (<12%, 12%–24%, $\geq 25\%$), depressive symptoms (Center for Epidemiologic Studies Depression Scale ≥ 16 and/or depression diagnosis), perceived social support (moderate/poor [< 19], strong [≥ 19]; Strong Ties Measure of Social Support), insurance (uninsured, public, private), polypharmacy (5+ medications), pain sensitivity (sensitive [< 4 kg], normal [≥ 4 kg] pressure-pain threshold), and pain catastrophizing (high [≥ 15], moderate/low [< 15]; Pain Catastrophizing Helplessness Subscale).

Results At follow-up, 13% (n=102) of participants were using prescription opioids. In univariable models, younger age, female sex, obesity, unemployment, higher poverty rate, depressive symptoms, poorer perceived social support, public (vs. private) health insurance, polypharmacy, pain catastrophizing, and elevated pain sensitivity were independently associated (p<0.05) with opioid use. In the multivariable model, younger age (60 vs. 70 years; adjusted odds ratio, 95% confidence interval=1.76, 1.12–2.77), polypharmacy (2.21, 1.27–3.85), high pain catastrophizing (2.12, 1.29–3.48), and depressive symptoms (1.93, 1.12–3.31) remained significant independent predictors.

Conclusion/Significance The simultaneous assessment of a breadth of clinical and sociodemographic factors identified polypharmacy, pain catastrophizing, and depressive symptoms as modifiable predictors of prescription opioid use. These findings support the incorporation of behavioral approaches and pharmacological review into chronic pain management strategies. Further research is warranted to track changes in these factors as prescription opioid use declines nationwide.