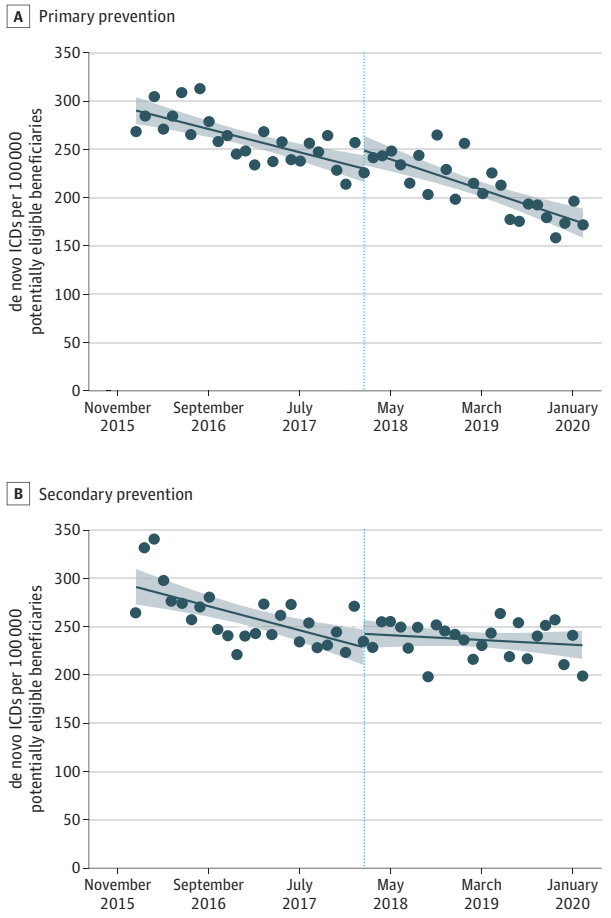
Figure. Primary and Secondary Implantable Cardioverter Defibrillator (ICD) Use, Before and After the Mandate (2016-2020)



Each observation represents the number of de novo ICD implantations per 100 000 Medicare beneficiaries eligible for a primary-prevention (A) or secondary-prevention (B) ICD per month. The vertical dashed line represents the month the shared decision-making mandate went into effect. The solid lines are the result of ordinal-least squares regression models using Newey-West standard errors to adjust for the autocorrelation and heteroskedasticity of time-series data. The shaded areas represent the 95% CIs. There is no statistical difference between the premandate trends of the primary- and secondary-prevention groups (estimated difference, 0.19 procedures per 100 000 per month; 95% CI, −1.68 to 2.06; $P = .84$).

Limitations include the inability to ascertain key patient factors to determine eligibility for ICDs (eg, ejection fraction); thus, we may have overestimated the number of eligible patients. Furthermore, we could not explore whether this policy resulted in more frequent SDM for ICDs due to a lack of routine tracking of this outcome. Future policy aimed at increasing patient-centered care through SDM should identify the key outcomes that the policy aims to improve and incentivize clinical activities that enable tracking of these outcomes.

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Acquisition, analysis, or interpretation of data: All authors.
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Injuries From Legal Interventions Involving Conducted Energy Devices

Police departments use conducted energy devices (CEDs), such as TASERs (TASER Self-Defense), as less lethal alternatives to firearms. With CEDs, compressed nitrogen charges propel metal barbs with wires that implant into the target. Electrical pulses up to 50 000 V are transmitted through barbs, causing incapacitation and loss of neuromuscular control.[1] In 2019, *International Statistical Classification of Diseases and Related Health*

Table 1. Characteristics of Law Enforcement–Related Conducted Energy Device Injuries by Body Region[a]

Characteristic	Overall	Body region					
		Abdomen	Face	Chest	Head and neck	Extremities	General
No. of patients with injuries (%)[b]	904 (70.8)	224 (24.2)	73 (8.7)	256 (27.4)	224 (25.6)	329 (36.9)	43 (5.0)
Weighted % of patients by injury type[c]							
Abrasion	28.0	20.7	49.1	23.0	40.1	40.7	3.4
Concussion	1.2	NA	NA	NA	4.5	0.4	NA
Contusion	12.0	7.6	20.2	10.0	22.1	16.1	4.0
Foreign body	10.1	14.0	1.7	14.7	4.1	8.9	NA
Fracture	4.3	NA	27.7	2.8	6.5	4.6	NA
Laceration	13.2	6.5	34.0	9.0	23.7	14.7	2.4
Pain	10.2	10.4	11.9	7.1	14.9	12.7	10.1
Punctures	31.4	54.3	12.5	48.0	13.2	30.7	5.3
TBI	0.3	NA	1.3	NA	1.4	NA	NA
Unspecified	17.4	11.3	8.8	14.0	23.9	11.1	93.5
Weighted % by maximum AIS severity							
1: Minor	61.1	61.8	67.1	53.0	51.8	71.1	3.9
2: Moderate	25.4	20.3	22.9	30.2	37.6	20.2	45.3
3: Serious	9.0	6.1	8.6	12.8	6.6	6.0	50.7
4: Severe	2.9	10.8	NA	1.3	0.5	1.8	NA
5: Critical	1.6	1.0	1.4	2.8	3.5	0.9	NA

Abbreviations: AIS, Abbreviated Injury Scale; NA, not applicable; TBI, traumatic brain injury.

[a] Authors' analysis of Nationwide Emergency Department Sample (NEDS). All percentages were weighted by NEDS discharge weights.

[b] Percentages indicate the likelihood of sustaining an injury to the specified body region. The denominator includes all injured patients.

[c] Indicates the number of injuries by type and conditional percentages among patients who sustained an injury to the specified body region. Patients may have multiple injury types and body regions reported; thus, the number of region-specific injuries may exceed overall totals.

Problems, Tenth Revision (ICD-10) codes were added to indicate CED use by law enforcement. We evaluated sociodemographic and clinical characteristics of patients presenting with law enforcement–related CED injuries.

Methods | We sampled US emergency department (ED) visits with *ICD-10* code Y35.83X from the 2019-2020 Nationwide Emergency Department Sample (NEDS),[2] which provided a 20% stratified sample of all EDs and weights to allow calculation of nationally representative estimates for all ED visits. Data included patient sociodemographic characteristics, clinical features of encounters, and institutional characteristics. Unit of analysis was the individual ED visit. Vanderbilt University Medical Center Institutional Review Board deemed this cross-sectional study exempt from review. Organizations participating in NEDS waived informed consent because research could not practicably be conducted otherwise. We followed the STROBE reporting guideline.

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Supplemental content

We provided descriptive statistics for patient, visit, and hospital characteristics and calculated 2 *ICD-10*–based measures of injury severity: Abbreviated Injury Scale (AIS), which grades injuries for each body region from 1 (minor) to 5 (critical),[3] and New Injury Severity Score (NISS), which is the sum of squared AIS scores for 3 most severe injuries, ranging from 1 to 75.[4] We evaluated injury severity by race and ethnicity and median household income for the home zip code. Differences were assessed using 2-sided weighted Mann-Whitney tests. Analyses incorporated NEDS discharge weights, with $P = .05$ indicating significance. Analyses were conducted from June 2022 to December 2023, using Microsoft R Open 4.0.2 (Microsoft Corp) (eMethods in Supplement 1).

Results | We identified 1276 ED visits with Y35.83X codes (5152 visits after weighting). Patients included 1186 males (92.9%) and 91 females (7.1%) (mean [SD] age, 32.9 [10.4] years) residing in zip codes below the 50th percentile for median household income (67.5%). They presented to teaching hospitals (70.8%) in metropolitan areas (86.1%) and had Asian or Pacific Islander (1.4%), Black (35.7%), Hispanic (17.6%), Native American (1.8%), White (39.2%), or other (4.3%) race and ethnicity.

Among patients with injuries (70.8%), 61.1% had minor, 25.4% moderate, 9.0% serious, 2.9% severe, and 1.6% critical injuries (**Table 1**). Most common injured body regions were the extremities (36.9%), followed by chest (27.4%), head and neck (25.6%), abdomen (24.2%), and face (8.7%).

Percentage of serious, severe, or critical injuries ranged from 14.9% for Native American patients to 7.3% for Hispanic patients (**Table 2**). However, differences were not significant nor were there significant race-based differences in NISS or maximum AIS score.

Compared with patients in the upper 2 quartiles of household income, patients in the bottom 2 quartiles experienced

Table 2. Injury Severity by Patient Race and Household Income

Variable	Injury severity					
	Maximum AIS score[a]		NISS[a]		% Of patients with serious, severe, or critical injuries[a]	
	Weighted mean (SD)[b]	*P* value[c]	Weighted mean (SD)[b]	*P* value[c]	Weighted	*P* value[c]
Race and ethnicity[d]						
Asian or Pacific Islander	0.95 (0.88)	.63	1.73 (2.48)	.46	7.3	.43
Black	1.09 (1.00)		2.63 (4.38)		8.2	
Hispanic	1.11 (1.03)		2.68 (5.00)		7.3	
Native American	1.39 (1.24)		3.90 (5.50)		14.9	
White	1.19 (1.06)		2.99 (4.39)		11.8	
Other[e]	1.05 (1.03)		2.39 (4.12)		10.2	
Median household income for patient's home zip code						
0-25th Percentile	1.16 (1.05)	.03	3.00 (5.02)	.02	10.6	.39
26th-50th Percentile	1.21 (1.04)		2.88 (4.34)		9.5	
51st-75th Percentile	1.08 (1.00)		2.48 (3.72)		9.1	
76th-100th Percentile	0.99 (1.01)		2.31 (4.03)		7.9	

Abbreviations: AIS, Abbreviated Injury Scale (score range: 1-5, with the highest score indicating critical injuries); NISS, New Injury Severity Score (range: 1-41, with the highest score indicating multiple severe or critical injuries).

[a] The AIS score was calculated separately for each body region; these values represent the maximum score on each patient record. The NISS is an overall measure of injury severity. Serious, severe, or critical injuries were defined as a maximum AIS score of 3 or higher.

[b] Authors' analysis of Nationwide Emergency Department Sample (NEDS). Weighted means and SDs for injury severity accounted for the NEDS discharge weights.

[c] Differences between groups were assessed using 2-sided weighted Mann-Whitney tests.

[d] Race and ethnicity data were obtained from NEDS.

[e] No other information was available for this category.

higher NISS ($\chi^2_1 = 2.28$; $P = .02$) and maximum AIS score ($\chi^2_1 = 2.18$; $P = .03$). Patients with lower income were more likely to experience serious, severe, or critical injuries, but these differences were not significant.

Discussion | Most ED visits for CED injuries involved young Black and White males from low-income areas. Black individuals were overrepresented in the sample vs the US population, consistent with research demonstrating increased risk of police violence in Black populations.[5]

Study limitations include injury totals representing a lower bound, because individuals with minor injuries may not visit EDs. We also could not distinguish CED deployment-related injuries from other injuries before or after arrest. Data were deidentified; thus, we could not identify visits from the same individuals. The study may be underpowered to detect differences in injury patterns between populations.

Patients experienced puncture wounds or foreign-body injuries from barb placement and concussions, fractures, or traumatic brain injuries from muscle contractions and falls associated with CED. Police departments should provide adequate CED training to prevent long-term injury and prioritize de-escalation techniques.[6]

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Emergency Department Use Disparities Among Transgender and Cisgender Medicare Beneficiaries, 2011-2020

Transgender and gender-diverse (TGD) people face substantial societal stigma[1] due to their identities in health care settings. TGD individuals often postpone routine medical care due to various reasons, including anticipated discrimination, lack of knowledgeable clinicians, and costs. These delays are associated with medical emergencies and poor long-term health outcomes.[2] We examined national emergency department (ED) use among TGD beneficiaries and explored whether TGD beneficiaries use the ED differently than cisgender beneficiaries.

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Supplemental content

Methods | We analyzed 2011 to 2020 data from a random 20% sample of the Medicare inpatient, carrier, and enrollment files. We used a claims-based algorithm to identify TGD beneficiaries (eMethods in Supplement 1).[3] Claims-based TGD identification algorithms have high sensitivity and specificity.[4] We used a 50% random sample of non-TGD beneficiaries with at least 1 claim as the cisgender comparison group. We identified ED visits using Healthcare Common Procedure Coding System codes or inpatient claims with an ED charge amount of more than $0. We categorized ED visit severity and reason using an established algorithm.[5,6] We fit a logistic regression using a generalized estimating equation to predict any ED use, any ED in each of the utilization categories, and any inpatient admission from the ED adjusting for age, race and ethnicity, area deprivation index, dual eligibility, disability, chronic conditions, and months enrolled. We used inverse probability weights to account for observable differences between TGD and cisgender beneficiaries. We conducted additional stratified analyses by the original basis of eligibility, given the imbalance of eligibility pathway for TGD and cisgender beneficiaries. The analytical file was prepared using SAS (SAS Institute), and the analyses were performed in Stata (StataCorp). This study followed Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting and was deemed exempt by the institutional review board at Brown

Table 1. Comparison of Demographic Characteristics Among TGD and Cisgender Beneficiaries as Stratified by Basis of Eligibility

Characteristic	All			Aged (≥65 y)			With disabilities		
	Cisgender (n = 6 151 389)	TGD (n = 3693)	SMD	Cisgender (n = 4 701 293)	TGD (n = 1163)	SMD	Cisgender (n = 1 396 300)	TGD (n = 2474)	SMD
Age, mean (SD), y	66.7 (12.1)	49.0 (17.6)	1.18	70.7 (8.3)	67.5 (5.8)	0.45	53.9 (13.5)	40.3 (14.3)	0.98
Race and ethnicity, %									
Asian	2.8	1.5	0.04	3.2	1.7	0.1	1.5	1.4	0.13
Black	10.1	12.5	NA	7.5	5.3	NA	18.0	15.2	NA
Hispanic	6.9	6.2	NA	6.1	5.3	NA	9.3	6.6	NA
North American Native	0.5	0.8	NA	0.4	0.3	NA	0.9	1.0	NA
Other	0.9	0.8	NA	0.9	0.5	NA	0.9	0.9	NA
White	77.2	75.1	NA	80.2	85.0	NA	68.6	71.3	NA
Missing	1.6	3.1	NA	1.8	1.9	NA	1.0	3.6	NA
Dual status, %	NA	NA	−0.57	NA	NA	−0.04	NA	NA	−0.39
Nondual	83.5	58.4	NA	90.0	88.8	NA	62.2	44.1	NA
Partial dual	3.5	7.0	A	2.1	2.5	NA	8.3	8.9	NA
Full dual	12.0	33.0	NA	7.2	7.9	NA	27.8	45.0	NA
Missing	1.0	1.7	NA	0.7	0.8	NA	1.7	2.1	NA
Original basis of eligibility, %	NA	NA	−0.97	NA	NA	NA	NA	NA	NA
Age	76.4	31.5	NA	100	100	NA	0	0	NA
Disability	22.7	67.0	NA	0	0	NA	100	100	NA
ESKD	0.9	1.5	NA	0	0	NA	0	0	NA
Current basis of eligibility	NA	NA	−1.02	NA	NA	0.02	NA	NA	−0.44
Age	80.2	33.9	NA	100	100	NA	16.4	3.4	NA
Disability	19.0	64.7	NA	0	0	NA	83.6	96.5	NA
ESKD, %	0.8	1.4	NA	0	0	NA	0	0	NA
Chronic disease, %	NA	NA	0.18	NA	NA	0.07	NA	NA	0.2
0-1 Chronic diseases	46.8	54.5	NA	46.4	50.9	NA	49.3	57.0	NA
2-3 Chronic diseases	21.4	21.2	NA	21.4	18.9	NA	21.2	22.4	NA
≥4 Chronic diseases	31.8	24.3	NA	32.2	30.2	NA	29.5	20.6	NA
Months enrolled, mean (SD)	82.9 (39.3)	87.6 (38.2)	−0.12	81.4 (39.3)	80.4 (37.9)	0.03	88.4 (38.8)	91.3 (37.8)	−0.08
ADI score	49.1 (27.3)	50.5 (27.1)	−0.05	46.3 (27.0)	44.5 (26.7)	0.07	58.2 (26.5)	53.2 (26.9)	0.19

Abbreviations: ADI, area deprivation index; ESKD, end-stage kidney disease; NA, not applicable; SMD, standard mean difference; TGD, transgender and gender diverse.