PIJPSM
49,2

Received 18 August 2025
Revised 12 November 2025
Accepted 17 November 2025

Measuring suicide among active and former sworn law enforcement personnel: a state-level, proof-of-concept methodology

Matthew H. Sharp, Zachary J. Durrett, Chadwick L. Brown and Melissa J. Bujeda
Criminal Justice Excellence Unit, Criminal Justice Professionalism, Standards and Training Services Division, Florida Department of Law Enforcement, Tallahassee, Florida, USA
Mike Phillips, David B. Binder and Matthew J. Walsh
Florida Department of Law Enforcement, Tallahassee, Florida, USA, and
Brett H. Kirkland
Criminal Justice Excellence Unit, Criminal Justice Professionalism, Standards and Training Services Division, Florida Department of Law Enforcement, Tallahassee, Florida, USA

Abstract

Purpose – Accurately determining suicide statistics in law enforcement (LE) occupations has long presented challenges. The purpose of this report is to demonstrate a novel, state-level approach for determining suicide cases by active and former sworn LE personnel.

Design/methodology/approach – All Florida (FL) death records from 2013 to 2023 of descendants at least 18 years of age (n = 2,371,848) were screened to include records with the manner of death marked as suicide (n = 36,970). These suicide records were cross-referenced with a database that serves as a central repository of individuals who have ever been certified as sworn officers in FL. The resulting case matches were used to quantify standardized and proportionate mortality ratios (SMRs/PMRs).

Findings – There were 332 suicide deaths among former officers, and 112 suicide deaths were observed in active officers. The standardized mortality ratio values calculated for the active officer population were below the null value (i.e. <1.00). The proportionate mortality ratio for active officers was 1.98 (95% confidence interval (CI) = 1.63–2.39) and 1.72 (95% CI = 1.54–1.91) for former officers. The results indicate that while officer suicide mortality is below the expected outcome based on the general population (lower SMRs), suicide is a disproportionately high cause of death within the occupation (high PMRs).

Originality/value – The methodology described here offers a demonstration for states to accurately and consistently determine the number of suicide cases by active and former sworn LE personnel. This can pave the way to better understanding the true scope of suicide in this population and better-informed policy focused on suicide prevention.

Keywords Psychological health, Suicide, Suicidal ideation, Well-being, Law enforcement deaths, Officer stress

Paper type Technical paper

Policing: An International Journal
Vol. 49 No. 2, 2026
pp. 344-357
Emerald Publishing Limited
e-ISSN: 1758-695X
p-ISSN: 1363-951X
DOI 10.1108/PIJPSM-08-2025-0153

Funding statement: No funding was received for this research.
Declaration of interest statement: The authors report there are no competing interests to declare.

Introduction

Death by suicide is an ongoing concern within the law enforcement (LE) community. Considerable resources have been devoted to understanding the underlying causes, identifying risk factors and developing preventative measures to combat the crisis. Data regarding LE deaths by suicide are inconsistent throughout the literature. For example, studies investigating LE suicide rates are equivocal, as there have been higher rates (Lindsay and Lester, 2001; Violanti *et al.*, 2013; Violanti and Steege, 2021), similar rates (Hem *et al.*, 2001; Marzuk *et al.*, 2002) and lower rates (Josephson and Reiser, 1990; Loo, 1986) of LE suicide compared to the general population. When comparing the manner of death in LE personnel, death by suicide frequently outpaces line-of-duty homicide; however, the reported magnitude is highly variable, ranging from 2 to 8 times the rate of homicide (Bishopp and Boots, 2014; Kelly and Martin, 2006; Miller, 2005; Stuart, 2008; Violanti, 2010; Violanti *et al.*, 1996). Others report that homicides are more common than suicides (Hill and Clawson, 1988; Tiesman *et al.*, 2010). It is likely that differences in methodological rigor evoke discrepant LE suicide data. Hence, quantifying LE suicide is confounding. Correspondingly, researchers have focused on identifying risk factors and predictors of suicide incidences in LE (Chae and Boyle, 2013; Chopko *et al.*, 2013; Krishnan *et al.*, 2022) and preventative strategies to counteract them (Community Oriented Policing Services, 2019; Ramchand *et al.*, 2019; Thoen *et al.*, 2020). While much noble work has been done on these topics, recent reports have revisited the inconclusive nature surrounding LE suicide quantification (Dixon, 2021; National Officer Safety Initiatives, 2020; Stanley *et al.*, 2016). This is a chief factor impeding the ability to profile the extent of the LE suicide predicament and recommend better-informed prevention strategies aimed at reducing LE suicide. As stated by Dixon (2021), "Can we prevent police suicides if we do not actually know the true scope of the problem?"

The reasons for the LE suicide data variability are multifaceted. Primarily, there is no standardized protocol for obtaining and reporting data on LE-related suicides (Dixon, 2021; National Academies of Sciences, Engineering and Medicine; Division of Behavioral and Social Sciences Education; Committee on National Statistics, 2023), which creates inherent variability in the data. For example, LE suicide research is commonly based on particular regions or agencies, which causes data sampling variation that can be attributed to inconsistencies (Stanley *et al.*, 2016; Violanti, 2004). Next, various data sources have been used to quantify LE suicides, as prior studies have used death certificates (Marzuk *et al.*, 2002; Violanti *et al.*, 2013; Violanti and Steege, 2021), retrospective accounts based on memory and agency records (Lindsay and Lester, 2001) or have phoned local agencies to determine LE suicide cases (Aamodt and Stalnaker, 2001). Another methodological challenge is the difficulty of obtaining precise population totals for LE personnel, which is crucial for determining suicide rates in the occupation. Even the most recent research (Lawrence *et al.*, 2025) uses estimates based on the Federal Bureau of Investigation (FBI)'s LE employees dataset that contains staffing reports for the study period (2016–2022) for approximately 72% of the agencies nationwide, leaving gaps in the denominator data use for rate calculations. These varying data components will inevitably generate different results on LE suicide.

Additionally, the data reported on LE suicide have been derived from a sample of either only active LE or a mix of active and retired LE personnel. However, the distinction between these sampling groups is often unclear or inconsistently applied, which can obscure important differences in suicide risk across employment status. This distinction is particularly important given that, between 2020 and 2021, multiple large agencies experienced a resignation increase of over 40% (National Academies of Sciences, Engineering and Medicine; Division of Behavioral and Social Sciences and Education; Committee on National Statistics, 2023). Such a significant shift in workforce composition increases the risk of misinterpreting the significance of the problem if former LE personnel are not adequately accounted for. Including former LE personnel (retired, terminated or resigned) suicide incidents are relevant, given that trauma experienced on duty was shown to be more strongly related to post-traumatic stress

symptoms and suicide ideation than trauma experienced while off duty (Stephens and Miller, 1998; Violanti, 2004).

Some research has used national databases in an attempt to garner a wide-scoping view of LE suicides (Carson *et al.*, 2023; Violanti *et al.*, 2013; Violanti and Steege, 2021). Commonly used national databases include the Census of Fatal Occupational Injuries (CFOI), National Occupational Mortality Surveillance (NOMS) and National Violent Death Reporting System (NVDRS) databases. While the use of these databases is an upgrade, challenges persist in occupational classifications. In the CFOI, occupation is defined as the job or work activity at the time of the decedent's death, and it uses multiple sources (i.e. death certificates, autopsy reports, workers' compensation reports, LE reports and family interviews) to ensure a consensus on each case (Bureau of Labor Statistics, 2023). The NOMS and NVDRS databases use the decedent's usual occupation (the longest-held occupation) recorded on their death certificate (National Academies of Sciences, Engineering and Medicine; Division of Behavioral and Social Sciences and Education; Committee on National Statistics, 2023). Determination of the usual occupations is subject to error by misreporting from the next of kin informant, recency of the decedent's retirement and job changes. The longer someone is retired, or the more job changes they experience, the less likely it is that a LE occupation will be assigned to them (National Academies of Sciences, Engineering and Medicine; Division of Behavioral and Social Sciences and Education; Committee on National Statistics, 2023). Even if free from error, the databases described here are not complete approaches for encompassing former LE personnel, as the decedent may not have been in LE at the time of death or maintained a LE occupation longer than other occupations. As a result, relying solely on death certificates to provide relevant occupational data can often lead to a gap in occupational history.

In sum, non-uniform data practices remain a prominent obstacle in acquiring the full scope of suicides among LE personnel. The purpose of this report is to demonstrate a state-level, cross-government collaboration for the determination of suicide cases involving active and former law enforcement officers (LEOs) and corrections officers (COs). Death certificate data from 2013 to 2023 were obtained from the State of Florida's Department of Health, Bureau of Vital Statistics (DOH-BVS). All of the death by suicide cases were cross-referenced with a database maintained by the Florida Department of Law Enforcement (FDLE) that contains records of all individuals who have ever been certified as a sworn LEO or a CO in FL. The resulting filtered cases from cross-referencing illustrate a methodological proof-of-concept to account for all active and former certified FL LEOs and COs who died by suicide in FL. This report demonstrates a standardized methodology to identify current and former officer suicide cases, overcome the occupation misclassification issue and determine a precise count of active officers statewide. After applying the methodology to verify suicide cases, statistical analyses were carried out on suicide rates, proportionate mortality ratios and standardized mortality ratios (PMRs/SMRs) to profile suicide mortality among active and former sworn LEOs and COs in FL. With participation from other states, this approach serves as a steppingstone to profile the extent of the officer suicide crisis consistently and accurately across the nation.

Materials and methods

Suicide case selection

Death certificate records for all deaths in FL from 2013 to 2023 were obtained from the FL DOH-BVS, totaling 2,371,848 records of decedents at least 18 years of age. These records were screened to include all records with the manner of death marked as suicide (intentional self-harm, ICD-10 codes X60-X84 and Y87). This process provided 36,970 suicide death records. These resulting records were searched in the FDLE's Automated Training Management System database, a comprehensive database housing profile information of all individuals who have been a certified LEO or CO in FL. To be considered a certified officer, one must graduate from the basic recruit training academy for their respective discipline (LEO

or CO), subsequently pass the state officer certification exam for their respective discipline and subsequently obtain employment in that discipline by taking the officer's oath at a state-level or local-level agency. The variables used in this search were first and last name, date of birth and the last four digits of the social security number. Of the 36,970 records searched, 773 records were matched with a profile in the FDLE's Automated Training Management System database. The FDLE database profile information includes training history, officer certifications attained, employment history, reasons for employment separation and demographics. The resulting profiles from the FDLE database were manually examined, one by one, in the database server by an FDLE researcher to verify attainment of a LE certification at any time in the individual's profile history. A total of 440 records were verified at this step. After this quality control step, another FDLE researcher applied an automated text mining query to mine the officer certification text fields of the initial 773 records acknowledged in the FDLE's database for verification. Four unique cases from the text mining search were re-examined manually, verified in the database server and merged to create a comprehensive list of profiles verified as certified LEO, certified CO or concurrent (certified LEO and CO). Concurrently certified profiles were classified as LEO or CO according to the longest-tenured employment class to avoid double counting the suicide case. In sum, 444 of the 773 records were verified as certified LEO or CO in the state of FL (Figure 1). If the date of death coincided with the employment separation date, the decedent was determined to be an active officer ($n = 112$); all other decedents were considered to be former ($n = 332$).

Statistical analysis

Officer suicide rates in FL from 2013 to 2023 were calculated as the total number of suicides in the population of interest (i.e. FL officer suicides) during a year divided by the total population at risk (i.e. FL officer population) and expressed as the number of suicides per 100,000. The per-year population of certified officers in FL was obtained by totaling the number of distinct person numbers (a unique record identifier) that had an active LEO or CO certification in the FDLE's Automated Training Management System database. The PMR compares the proportion of all deaths due to suicide in the population of interest (LEO or CO) to the corresponding proportion in a reference (general) population, which is based on the 2020 Census for this report (US Census Bureau, n.d.). A PMR of 1.00 means that there is no difference between the ratio of suicide deaths to all deaths in the population of interest and the reference population. A PMR of 0.50 indicates that the proportion of deaths from suicide in the population of interest is half that of the reference population, whereas a value of 2.00 indicates that the population of interest has double the proportion of suicide deaths of the expected suicide deaths in the reference population. The SMR indicates the relative excess or decrement in the actual observed mortality experience in the population of interest with respect to what might have been expected had it experienced the force of mortality in the reference population. An SMR greater than 1.00 indicates that the observed suicide deaths exceed the expected deaths based on the reference population, and the opposite is indicated for a value less than 1.00. Suicide rates and SMRs could not be calculated for former officers because these equations' denominator value requires the number of living former officers, and this value was not readily available within the current dataset. The PMR for former officers was calculated as the denominator value requires death totals of former officers rather than the living population of former officers.

The SMR and PMR, indirectly standardized by age (strata = 18–24, 25–44, 45–64 and ≥65 years), were calculated as the ratio of the total number of observed suicides relative to the total number of expected suicides in the population of interest. For the SMR, expected numbers were based on age-specific suicide rates for the general population in FL according to the 2020 Census, whereas expected suicides were based on the age-specific proportions of deaths by suicide in the general population for the PMR. Examples of SMR and PMR calculations are provided to further delineate their formulas (Supplementary File).

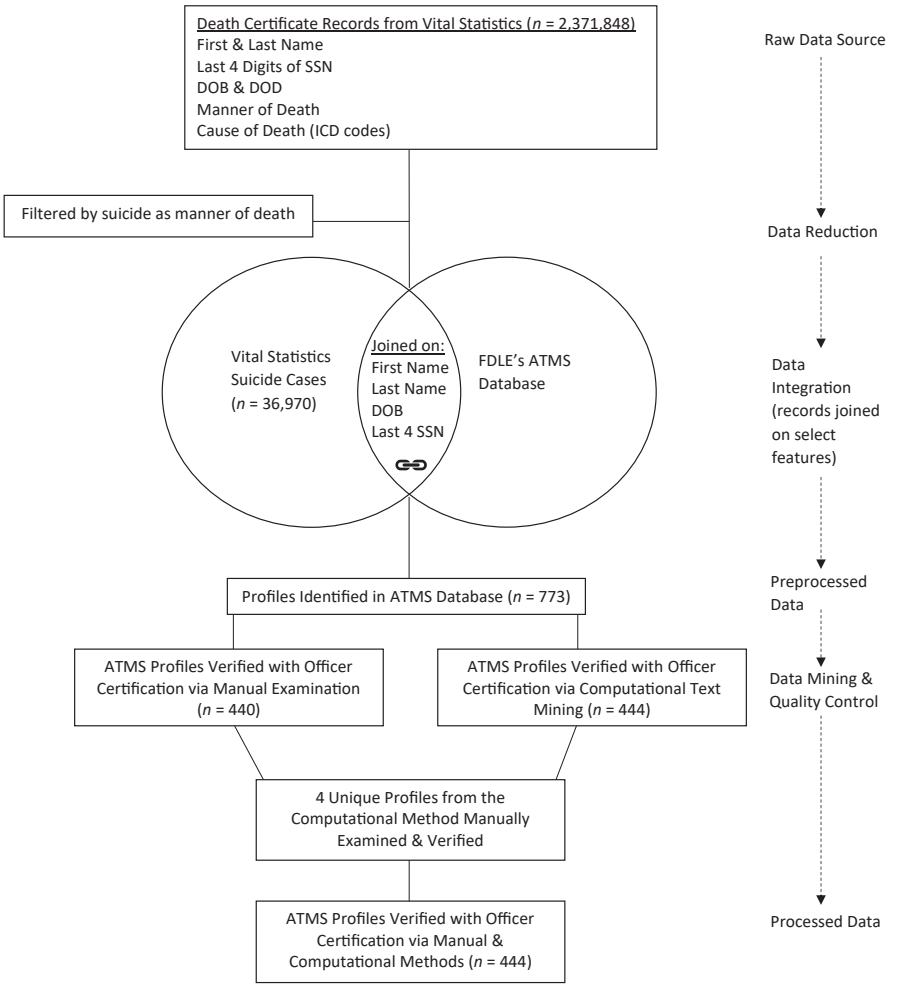

Figure 1. Schematic for suicide case selection. ATMS = Automated Training Management System (database of certified sworn officers in Florida); DOB = Date of Birth; DOD = Date of Death; FDLE = Florida Department of Law Enforcement; ICD = International Classification of Diseases; SSN = Social Security Number. Source: Authors' own work

The two-sided 95% confidence interval (CI) was calculated for suicide rates, SMRs and PMRs using formulas based on the Byar approximation to the exact Poisson test (Breslow and Day, 1987). The SMR and PMR values are considered elevated if the lower bound of the 95% CI is greater than 1.00. Suicide rate, SMR and PMR analyses were conducted separately for LEO and CO to generate independent results, and suicide cases and populations from LEOs and COs were aggregated to generate total officer results.

$$\text{Suicide Rate} = \frac{\textit{Observed Suicides}}{\textit{Population}} \times 100,000$$

$$\text{SMR and PMR for Suicide} = \frac{\textit{Observed Officer Suicides}}{\textit{Expected Officer Suicides}}$$

$$\text{SMR Expected Officer Suicides} = \textit{Officer Population} * \frac{\textit{Observed FL Suicides}}{\textit{FL Population}}$$

$$\text{PMR Expected Officer Suicides} = \textit{Observed Officer Deaths} * \frac{\textit{Observed FL Suicides}}{\textit{Observed FL Deaths}}$$

$$95\%\ \text{Lower Confidence Limit} = \frac{O * \left(1 - \frac{1}{9\times O} - \frac{Z}{3*\sqrt{O}}\right)^3}{E}$$

$$95\%\ \text{Upper Confident Limit} = \frac{(O+1) * \left(1 - \frac{1}{9*(O+1)} + \frac{Z}{3*\sqrt{(O+1)}}\right)^3}{E}$$

where O is observed deaths, E is expected deaths, and Z is $1-\alpha/2$ (here $Z = 1.96$ for 95% CI).

Results

In FL, from 2013 through 2023, there were 444 suicide deaths among active and former officers combined. There were 332 suicide deaths among former officers: 184 were former LEOs and 148 were former COs. There were 112 suicides among total active officers, resulting in a suicide rate of 12.3 per 100,000 officers (Table 1). Of the 112 suicide deaths by active officers, 77 were LEOs and 35 were COs, resulting in a suicide fatality rate of 13.0 and 11.0 per 100,000 officers, respectively. Officers aged 18–24 years had the highest suicide rate, followed by officers aged 45–64 years. There were no observed suicide deaths in COs aged greater than or equal to 65 years; therefore, no suicide rate was calculated.

The PMR for total active officers was 1.98 (95% CI = 1.63–2.39), representing a 98% higher proportion of suicide deaths compared to the general population in FL (Table 2). For active LEOs, the PMR was 2.53 (95% CI = 2.00–3.16), indicating a 153% higher proportion of suicide deaths compared to the FL general population. The PMR of 1.34 for active COs indicates more observed suicides than expected; however, the CI (95% CI = 0.94–1.87) contained the null value, implying that the PMR is not significantly elevated above the general population in FL. The PMR was 1.72 (95% CI = 1.54–1.91) for total former officers, 1.46 (95% CI = 1.23–1.71) for former COs, and 2.01 (95% CI = 1.73–2.33) for former LEOs. According to SMR values, suicide mortality was not elevated in active officers (SMR = 0.66,

Table 1. 2013–2023 active officer suicide mortality rates per 100,000

	LEO		CO		Total officers	
	Rate	95%CI	Rate	95%CI	Rate	95%CI
Overall	13.0	10.3–16.3	11.0	7.7–15.3	12.3	10.2–14.9
Age						
18–24	19.4	7.1–42.2	16.6	5.4–38.8	18.0	9.0–32.3
25–44	10.9	7.7–15.1	10.2	6.1–16.2	10.7	8.0–13.9
45–64	15.4	10.6–21.5	11.0	5.7–19.2	13.9	10.2–18.6
≥65	11.1	2.0–61.7	NC	NC	9.0	1.3–49.9

Note(s): CO = corrections officer, LEO = law enforcement officer, NC = not calculated, 95% CI = 95% confidence interval

Source(s): Authors' own work

Table 2. 2013–2023 officer suicide proportionate and standardized mortality ratios

Population	Observed	PMR Expected	PMR (95%CI)	SMR Expected	SMR (95% CI)
CO–Active	35	26.03	1.34 (0.94–1.87)	58.27	0.60 (0.42–0.84)
CO–Former	148	101.64	1.46 (1.23–1.71)		
LEO–Active	77	30.44	2.53 (2.00–3.16)	110.56	0.70 (0.55–0.87)
LEO–Former	184	91.43	2.01 (1.73–2.33)		
Total Officers–Active	112	56.47	1.98 (1.63–2.39)	168.83	0.66 (0.55–0.80)
Total Officers–Former	332	193.06	1.72 (1.54–1.91)		

Note(s): CO = corrections officer, LEO = law enforcement officer, PMR = proportionate mortality ratio, SMR = standardized mortality ratio, 95% CI = 95% confidence interval

Source(s): Authors' own work

95% CI = 0.55–0.80), active LEOs (SMR = 0.70, 95% CI = 0.55–0.87) or active COs (SMR = 0.60, 95% CI = 0.42–0.84).

Discussion

Mortality data collected in the US offer important insights for understanding the etiology of suicide and directing future health policies and intervention programs for suicide prevention. Therefore, it is vitally important to conduct suicide research and analyze reliable data. While a large volume of research exists on officer suicide mortality, the validity of the reported suicide rates is debatable (O'Hara and Violanti, 2009), as rates have varied considerably across dozens of US-based studies reported in systematic reviews (Hem *et al.*, 2001; Loo, 2003). The inconclusive state of officer suicide data is particularly due to inconsistent data practices and methodological shortcomings.

Recently, it has been suggested that the "North Star" for obtaining the best available data on suicide for active and former officers would stem from linking personally identifiable information with official death records (National Academies of Sciences, Engineering and Medicine; Division of Behavioral and Social Sciences and Education; Committee on National Statistics, 2023). In this analysis, we have demonstrated a state-level proof of concept for this approach. With the cohort of officers who have died by suicide in FL and those who are living at the time of this analysis, the overall suicide rates were 12.3 per 100,000 total active officers, 13.0 per 100,000 active LEOs and 11.0 per 100,000 active COs. When examining rates by age strata, the highest rate was seen in the 18- to 24-year-old age strata, followed by the 45- to 65-year-old age strata, across all three active officer categories. The SMR values calculated for the active officer populations were below the null value (1.00), indicating that suicide deaths are less frequent in the LE and corrections occupations relative to the general FL population. However, except for active COs, all reported PMR values are significantly elevated over the general population in FL, indicating that suicide accounts for a prominent proportion of deaths in officers compared with other causes. This presents an apparent paradox – lower suicide death frequency but higher suicide deaths proportionally. The lower SMR may be reflective of a good general health profile of the LE occupation, which is consistent with the "healthy worker effect" (McMichael, 1976). Yet, despite this health notion, LE personnel are not immune from the general suicidal risk factors affecting society such as familial suicide history, alcohol and substance use, social isolation, relationship issues, loss of a loved one and financial difficulties (Steele *et al.*, 2018; Turecki and Brent, 2016). Furthermore, the interplay of a low overall mortality with disproportionately high suicide deaths may indicate a compounding effect of unique LE occupational stressors such as bureaucratic work cultures, rotating shift work, mental health stigma, exposure to traumatic incidents and immediate access to firearms (Chae and Boyle, 2013; Chopko *et al.*, 2013; Karaffa and Koch, 2016; Shane, 2010; Violanti, 2004).

One factor contributing to inconsistent suicide rates is examining relatively short time periods that cover as little as three years (Loo, 2003), which is subject to high variation and does not reflect a reliable suicide rate. A meta-analysis by Loo (2003) indicated that shorter time frames reported in the literature often reflected higher rates (mean = 28.44, standard deviation = 18.99) compared to rates based on longer (≥10 years) periods (mean = 15.53, standard deviation = 15.67). Rates resulting from narrow time periods could capture a "spike", and if a short rather than long period had been chosen, then the reported rate might be considerably higher. This indicates a greater sensitivity to outliers. Consequently, two largely conflicting outcomes of officer suicide can result from an artifact of time sampling. Second, some officer suicide research examined small agencies. In these instances, one suicide each year would present a frightening spike when a suicide rate per 100,000 is calculated. A study by Violanti *et al*. (2012) surveyed 298 US police departments for a 10-year recall of suicide events. A total of 189 suicides were reported, and the overall annual suicide rate was 15 per 100,000, while small departments with ≤50 officers had a significantly higher suicide rate than large departments with over 500 officers (44 per 100,000 vs 12 per 100,000, $p < 0.001$) (Violanti *et al.*, 2012). It is possible that officers in smaller department settings may experience greater organizational stress with more intensive workloads, isolation and fewer mental health resources, but the causes of such association are equivocal (Pienaar *et al.*, 2007). Here, we examined officer suicide cases in an 11-year time window (2013–2023, both limits inclusive) for the state of FL to counter the narrow time frames and small-sized agency limitations. The reported FL statewide LEO suicide rate of 13 per 100,000 active officers in the current research is similar to the rate of 12 per 100,000 in large departments with over 500 officers (Violante *et al.*, 2012) and aligns closely with the rate of 15.5 per 100,000 reported in investigative periods over 10 years long. These similarities are sensible as (1) the statewide rate is essentially a weighted average of all departments, and the larger departments impact the weighted average more so than smaller departments as they encompass more officers, and (2) longer investigative periods tend to smooth out short-term fluctuations (i.e. regress toward the mean) and provide a more stable estimate. Another contributor to inconsistent suicide rates is the difficulty in obtaining accurate population counts for LE personnel. Even the most recent study on LE suicide at the date of this writing used an FBI dataset that contained staffing data for roughly 72% of the LE agencies nationwide (Lawrence *et al.*, 2025). While this is a robust dataset, it still has clear gaps in the LE population (i.e. denominator value) used for suicide rates. The methodology demonstrated here utilized a centralized repository that encompasses staffing totals of all certified sworn LE personnel by every certified LE agency in the state of FL, thus providing a precise LE population value for suicide rates.

To achieve a broader perspective and mitigate the time frame and sample size limitations, some research has used national databases for investigating officer suicide. The CFOI, NOMS and NVDRS are commonly used, and each presents challenges with occupational classifications. The CFOI profiles fatal injuries that occur in the workplace, and therefore, occupation is defined as the job or work activity at the time of the decedent's death (Bureau of Labor Statistics, 2023). Prior research on officer suicide indicates that only 10% of officer suicides occur in the workplace, whereas almost two-thirds occur in the home (Violanti *et al.*, 1996). Using the CFOI data, the categorization of fatal workplace injuries over an 11-year span showed that 5% of fatalities among LE were suicides (Tiesman *et al.*, 2010). The NOMS and NVDRS databases use the decedent's usual industry and occupation (the longest-held occupation) supplied on their death certificate, which presents limitations. First, occupational determination relies on the accuracy of the decedent's informants, typically a family member, who may not be privy to the decedent's entire work history. This could be especially problematic for decedents who held multiple occupations simultaneously or those who were retired (National Academies of Sciences, Engineering and Medicine; Division of Behavioral and Social Sciences Education; Committee on National Statistics, 2023). Thus, decedents who held multiple occupations or were no longer serving as officers may not be captured with this approach (Carson *et al.*, 2023). Furthermore, research has reported that 13% of occupational

codes and 17% of industry codes were missing in prior usage of the NVDRS (Griffin *et al.*, 2021), further complicating occupational determination. The methodology implemented in this report utilizes death certificate data and statewide officer certification data to determine suicide deaths while eliminating the shortcomings of death certificates for occupational classification.

Prior research has reported elevated PMRs for suicide among LE personnel (Violanti *et al.*, 2013; Violanti and Steege, 2021). The more recent research reported an overall LE personnel PMR of 1.54 and subgroup-specific PMRs of 1.64 for detectives, criminal investigators and/or police and 1.34 for COs (Violanti and Steege, 2021). However, this research used the NOMS database, which does not differentiate between active and former workers, potentially obscuring important occupational dynamics. In contrast, the current analysis disaggregates PMRs by active and former statuses, revealing notable differences. The active total officers' PMR was higher at 1.98, with active LEOs exhibiting a particularly elevated PMR of 2.53. Both PMRs suggest that suicide accounts for a substantially greater proportion of deaths than previously reported. Active COs, however, had a PMR of 1.34, aligning closely with prior estimates and falling just below a significant elevation as the CI contains the null value (95% CI: 0.94–1.87). Among total former officers, the PMR was 1.72, closely aligned with a prior aggregate estimate of 1.69 with the NOMS database (Violanti *et al.*, 2013). Former LEOs had a PMR of 2.01, which, while significantly elevated, was lower than that of their active counterparts. Interestingly, former COs had a PMR of 1.46, slightly higher than the PMR observed among active COs and similar to prior estimates with the NOMS database (Violanti *et al.*, 2013 (PMR 1.41); Violanti and Steege, 2021 (PMR 1.34)). These findings suggest that suicide risk, as reflected in PMRs, may be more pronounced among active LEOs, potentially due to acute occupational stressors. The elevated PMRs among former LE personnel, particularly LEO, may underscore the lasting impact of their work after separation from the profession. By distinguishing between active and former workers, this analysis provides a more nuanced understanding of suicide mortality patterns in the LE workforce and highlights the importance of longitudinal mental health support across the employment spectrum.

Regarding varying data resources and inadequacies of existing databases, the closing remarks of Violanti and Steege (2021) suggested the development of a national database developed for and by LE agencies to enhance the LE suicide data acuity. A report published by the National Officer Safety Initiatives (2020) states that knowledge gaps remain in LE suicide data due to a lack of a national surveillance system. Non-profit organizations like First Honor, Educate, Lead, Prevent (H.E.L.P.) have made efforts to fill this gap by tracking suicide events in public safety personnel since 2016. Analysis of the data from Blue H.E.L.P., a subdivision of First H.E.L.P. that focuses on sworn LE personnel, shows a national average of 151 suicides per year from 2016 to 2022 (Lawrence *et al.*, 2025). However, caution is warranted regarding the reliability of this data. Blue H.E.L.P. has an *Officer Suicide Statistics* page, which describes the organization's most common method of counting LE suicides as submissions from family, co-workers and friends and secondarily through email messages, Internet and social media searches to confirm the death ("Officer Suicide Statistics", n.d.). The Blue H.E.L.P. data collection process is further iterated in a recent study (Lawrence *et al.*, 2025). The prior year's suicide statistics are routinely updated, as past suicide deaths are often reported to them months or years after the event (Lawrence and Dockstader, 2024). Blue H.E.L.P. reports that a New Jersey organization had 27% more LE suicide cases compared to their counts since January 1, 2016 ("Officer Suicide Statistics", n.d.), thus highlighting a data discrepancy. Using the methodology applied here, the burden of reporting a suicide is removed from the decedent's family and reporting latency is reduced.

In 2020, Congress enacted the LE Suicide Data Collection Act (LESDC Act), requiring the FBI to collect data on suicide deaths and attempts among LE personnel (Sen. Cortez Masto, 2020). The FBI obtains the data from authorized LE agencies that voluntarily report their data. The LESDC Act requires the FBI to submit a report to Congress each year and publish the report on its website. In the inaugural report, 22 agencies reported 32 suicides and 9 suicide

attempts (Federal Bureau of Investigation, 2022). In the same year (2022), Blue H.E.L.P. reported 159 suicides, indicating a clear discrepancy. The intent of this act was to provide a national surveillance system, thereby creating a national database. However, with voluntary reporting from agencies, it is doubtful that this system will clarify LE suicide data. Cross-referencing death certificates with a centralized repository tracking LE certifications and profiles, as demonstrated here, would take the onus off the agencies to report suicide deaths to the FBI and remove the reliance on the existing databases for future LE suicide research.

Much of the existing literature focuses on active officer suicides. This present research reports 3 times (112 vs 332) as many suicides by former officers compared to active officers, clearly indicating the scope of the problem is well beyond the active cohort. The LE occupation is a cohesive network of officers that bond with one another and with the status of the job duty (Violanti, 1992). Parting from the LE occupation may ignite components of separation anxiety, promoting a state of isolation and depression. Forcese and Cooper found associations between the LE career and post-separation inactivity, bitterness and disappointment (Forcese and Cooper, 1985). A Scottish study of 1,334 retired police officers indicated increasing vulnerability to suicide beyond the age of ~55 years (Tuohy *et al.*, 2005). Trauma experienced on duty as a police officer was shown to be more strongly related to post-traumatic stress disorder (PTSD) symptoms than trauma experienced while off duty (Stephens and Miller, 1998). Also, in a case-control study of officers with and without PTSD symptoms, trauma severity was the only predictor of PTSD symptoms (Carlier *et al.*, 1997). Officers who were exposed to traumatic incidents have also been found to have higher levels of depression and anxiety (Hartley *et al.*, 2007; Martin *et al.*, 2009; Strahler and Ziegert, 2015). These effects can persist beyond the conclusion of a LE career. Pole *et al.* reported that less-distancing coping was a strong predictor of resiliency in a cohort of retired, trauma-exposed police officers (Pole *et al.*, 2006). Importantly, a network of trusted persons is relevant for creating a supportive environment that reinforces the protective function of a trauma membrane (Martz and Lindy, 2010), a temporary psychosocial buffer zone, allowing for gradual coping and healing. Removal from the LE occupation may diminish access to a network of trusted people. Moving forward, including former officers is paramount in understanding the gravity of the officer suicide issues.

While this research demonstrates the ability to overcome several limitations (>10-year window, statewide sampling and occupational gaps), it is not without limitations. First, this study reports a retrospective analysis, which provides statistical but not causal associations between LE personnel and suicide. Like many retrospective mortality studies, the data are limited on confounding factors related to lifestyle and behaviors (prescription drug and illegal drug use, alcohol use, sleep, work conditions, etc.). It has been previously reported that the death certificate manner of death may be misclassified among LE suicide cases (Violanti, 2010). Next, cases in which an officer is certified outside of the state of FL and commits suicide in FL or is certified in FL and commits suicide outside of FL are not captured. However, harmonizing this approach across other states and eventually encompassing the entire nation would form the basis of a national surveillance strategy to overcome geographical limitations. Expansion of this method should be a topic of future research for other states and other occupations with a centralized repository that tracks occupational certifications and other manners of death.

The ultimate goal of LE suicide research is to prevent it. It is important to remember that each data point represents a real person. Much has been done to improve awareness of suicide risk factors and suicide ideation among LE personnel. Following this breadth of knowledge is an array of preventative strategies to counteract LE suicide risk; however, the degree of implementation of preventative strategies is questionable (Dixon, 2021). A plausible contributing basis of this is the difficulty determining the efficacy of such strategies due to inconsistencies in quantifying LE suicide occurrences. The methodological approach described here eradicates inconsistent data reporting, which, in turn, gives way to a sound evaluation of efficacy from a suicide occurrence standpoint. Bearing an efficacious outcome,

the implementation of preventative strategies would be critically impelled and potentially facilitate policies regarding suicide in sworn LE personnel.

Additional information

This research project was reviewed by an external institutional review board (IRB), which is a committee that reviewed this research study to help ensure that the rights and welfare of research participants are protected and that the research study is carried out in an ethical manner. Using the Department of Health and Human Services (DHHS) regulations at 45 CFR 46, the IRB determined that this research project does not meet the DHHS definition of human subject research under 45 CFR 46 and, therefore, does not require IRB oversight.

Acknowledgments

The authors would like to express gratitude to Ken Jones and Gary Sammet from the Florida Department of Health, Bureau of Vital Statistics for their data procurement assistance of death records. Any published findings and conclusions are those of the authors and do not necessarily represent the official position of the Florida Department of Health.

Supplementary material

The supplementary material for this article can be found online.

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Corresponding author
Brett H. Kirkland can be contacted at: brettkirkland@fdle.state.fl.us