

## Miami-Dade County Juvenile Weapons Offenders Program (Jwop): A Potential Model to Reduce Firearm Crime Recidivism -Wide

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### Abstract:

In 2016, the most recent year with national statistics, the annual number of people killed or injured by firearm in the United States was 133,853. While much has been said in the developing world about the lost economic and developmental potential of youth in countries without basic health and educational infrastructure, in the United States homicide by firearm is the third leading cause of injury and death amongst youth aged 15-24, costing billions annually in combined medical and work loss costs. Factoring in suicide by firearm, gun related fatalities account for the number one cause of unintentional injury death in this age group.

**Keywords:** Miami-Dade County Juvenile Weapons Offenders Program; Recidivism

### Background:

In 2016, the most recent year with national statistics, the annual number of people killed or injured by firearm in the United States was 133,853 [1]. While much has been said in the developing world about the lost economic and developmental potential of youth in countries without basic health and educational infrastructure, in the United States homicide by firearm is the third leading cause of injury and death amongst youth aged 15-24, costing billions annually in combined medical and work loss costs [1]. Factoring in suicide by firearm, gun related fatalities account for the number one cause of unintentional injury death in this age group [1].

In an editorial statement earlier this year the AAST renewed its calls for the development of specific actions to stem the tide of escalating firearm violence [2]. Over the past two decades a bevy of community, school, and hospital-based programs have been developed and implemented with the aim of reducing youth firearm violence [3]. The Center for Disease Control as part of this movement named eight Comprehensive Centers as national Academic Centers of Excellence on Youth Violence and provided funding in support of their mission [4]. What has become clear from this and other efforts is that the scope of the problem, the multifactorial etiologies leading to firearm violence, and the multidisciplinary requirements of developing and measuring effective strategies to intervene on a highly complex problem have proven extremely challenging[5]. Yet despite broad efforts in developing community-specific and community-centered multidisciplinary intervention programs, it is clear from the annual statistics and disappointing individual program evaluations that much and urgent work remains to be done.

In Miami-Dade County, the Juvenile Weapons Offenders Program (JWOP) is a unique multidisciplinary educational program aimed at abrogating youth violence recidivism in juvenile weapons offenders. The program encompasses violence education, behavioral modification, and social mentoring, and has been based at Ryder Trauma Center/Jackson Memorial Hospital (RTC/JMH) for the past 18 years. The following study aims to measure and define its outcomes as one of the nation's most effective reducers of youth firearm recidivism and a model for developing programs both state and nationwide.

### Methods:

#### Description of the Program

The JWOP Program (originally known as the GATE program) was developed in 1999 as an educational/interventional performance-based program for non-violent juvenile weapons offenders between the ages of 13 and 17. It was developed in collaboration by a neurotrauma nurse at RTC in collaboration with the County State Attorney's Office, supported by the Office of the Public Defender, and funded by the Miami Dade County Youth Crime Task Force.

Male adolescents convicted of non-violent weapons related offenses are referred from the Juvenile Justice System by court-mandate and come to the program after school twice weekly. The program's long-term goal is to keep youth out of the juvenile justice system, trauma centers, rehabilitation centers, and morgues. Graduates are required to complete a total of 100 hours comprising approximately 46 classes, with a doubling of class time as a deterrent for delinquent class absences. In

total it takes most graduates approximately 6 months to complete the requisite requirements.

The program is divided thematically into three segments. The first third of the program focuses on developing awareness on the traumatic consequences of firearms injury. Experiential classes include site visits to the Trauma Resuscitation Unit and Pediatric Intensive Care Unit, rehabilitation center, and nursing home. Participants witness what happens to families when a child dies violently, with visits to the medical examiner's department as well as a local funeral home. They plan their own funeral and write their own eulogy. Program participants meet victims and families of firearm injuries who have agreed to participate. Participants are also educated on the consequences a criminal record has on education, employment, travel, and even voting. The middle third of the program focuses on personal experiential awareness. Unhealthy behaviors and risk factors are addressed in all aspects of interpersonal violence, substance abuse, and relationships. Classes in this segment cover risk taking behaviors, drug and substance abuse, sexually transmitted diseases, rape, gender issues, domestic violence, gang involvement, bullying, power and control, and peer pressure. Clients visit a Rape Treatment Center and are put in stirrups to help them understand what happens if they are raped in jail or prison. They also meet adults who were sent to prison or jailed as adolescents. The third and final portion of the curriculum focuses on choices, decision-making skills, and attitudinal change. Skills-building segments encompass anger management, emotional and behavioral self-control strategies, conflict resolution skills, and personal responsibility and accountability. Participants acquire basic first aid and CPR skills, attend courses on Career Development and Resume Writing, and graduate with both a CPR certificate and a self-authored resume. Juveniles are required to prepare a written speech for their graduation, as well as complete any other sanctions assigned by the referring division including community service. Parents and more recently siblings participate in monthly family group sessions.

Graduates are encouraged to remain in contact with the program in a longitudinal fashion, and those interested are developed as Peer Mentors. A graduated 3-step peer mentor model affords ongoing skill development beyond program graduation. These Peer Mentors not only teach parts of the curriculum but are also heavily involved in community outreach education.

### **Evaluation of the Program**

The program was independently evaluated via retrospective analysis of participants in the GATE/JWOP program over a 10-year period from 1999-2009. IRB approval was obtained through the Department of Juvenile Justice (DJJ) institutional review board. By the inclusion criteria of the program the examined cohort consisted of males aged 13 to 17 at time of enrollment convicted of a non-violent firearm related offense. This cohort was followed prospectively for 6 and 12 months from time of graduation or last class, and records were cross referenced with the Florida Department of Justice criminal record system to quantify any individual re-arrested over this time period. Recidivism was defined as any re-arrest and stratified for both overall criminal charges as well as firearm specific criminal charges. This cohort was then stratified by those who completed the full 100 hour requirements of the program and successfully graduated, versus those who completed anything less and

who were then deemed non-completers. Fisher's exact test was used for comparing rates of recidivism amongst program completers versus non-completers.

### **Results:**

A more contemporaneous interim analysis of the global accomplishments of the program revealed a total of over 600 clients who were enrolled with an overall 85% completion rate. 43% of graduates returned to engage with the program following successful completion of its curriculum, and 39 program graduates were eventually trained as peer mentors who lead subsequent group classes, 12 of whom continued in this role for a duration between two and fourteen years.

In terms of recidivism, 215 participants of the JWOP program were analyzed in the DJJ criminal record database for a new criminal offense within 6 months of program completion, and 163 youth were included for analysis of a new criminal offense within 12 months of program completion. In the 6-month cohort, 139 of 215 (64.6%) enrolled had completed the program with (35.3%) deemed non-completers. Results were near identical in the 12-month cohort, with 107 of 163 (65.6%) enrollees had completed the program with 56 clients (34.4%) deemed non-completers.

The 6-month recidivism rate for any criminal charge was 28/139 (20.1%) for program completers versus 25/76 (32.9%) for those who did not complete the program ( $p=0.047$ ). When excluding unarmed criminal offenses, the recidivism rate dropped to 14/139 (10.1%) versus 17/76 (22.4%), respectively ( $p=0.008$ ). At 12 months, recidivism for any class of offence was 36/107 (33.6%) for the program completion cohort vs 28/56 (50.0%) for the incomplete cohort ( $p=0.045$ ). When excluding unarmed offences, the recidivism rates were 20/107 (18.6%) vs 19/56 (33.9%) respectively ( $p=0.035$ ).

### **Discussion:**

In 2018, if you live in the United States of America, it takes neither a physician, surgeon, statistician, nor epidemiologist to know that firearm related violence is a major problem for individual health and public safety. Over the past twenty years multiple calls for action at the national, state, and community levels have occurred including backing from major institutions such as the CDC [6], the AAST [2], and the OJJDP [7]. On the basis of these and other efforts, hundreds of publications and programs have attempted to either analyze or address the problem of firearm violence, and more specifically firearm related violence in youth populations [3].

The choice to select youth populations as a target demographic for our intervention is based both on the statistical prevalence of violence among this age group, the ethical intolerability of seeing victims of violent crimes incurred at such a would-be innocent age, and the considerable sociological evidence that this age group represents a higher risk for violent action due to developmental predilections toward increased impulsivity and incompletely developed sense of self risk [8].

Firearm related deaths represent the number one cause of unintentional injury death in this population. As our knowledge of the underlying risk factors driving firearm related violent behavior grow in sophistication and breadth, a model has emerged that is not dissimilar to those of any number of high prevalence diseases affecting older adults

such as cancer. Risk factors related to socioeconomics, geographics [9], peer groups, family dynamics, school infrastructure, and the aforementioned developmental factors can all result in the same phenotype of violence [5]. Mitigation of one set of risk factors does not guarantee prevention of violence given myriad alternate routes to arrive at the same set of behaviors.

The lack of statistically demonstrable efficacy in many other youth violence prevention programs is therefore likely attributable to an inability of programs, either due to design restriction or funding limitations, to fully address a sufficient quantity of the myriad risk factors leading to this phenotype of violence to make a statistically measurable impact. A family dynamic intervention may not save a youth from the peer pressures of gang violence even with an intact support structure at home [5] whereas the school based intervention abrogating gang behavior may not provide sufficient rehabilitation of a broken family dynamic and absence of appropriate role modeling. These examples are admittedly broad as the correlating interactions between risk factors and violence are subject to the vicissitudes of human behavior. But fundamentally, gun violence in America is a problem of societally and socioeconomically driven human behavior and even fully funded programs with major academic-community collaborations tasked with this Herculean task of behavioral modification have struggled to produce meaningful results.

The JWOP program is uniquely positioned for several reasons. It is one of the oldest active programs in the country targeting youth violence prevention. Its existence spanned periods of sociodemographic decay and rebuilding in the Miami-Dade community, swings in gang violence and cocaine fueled drug wars that contextualize the 10-year efficacy of our currently reported retrospective results.

Recidivism – a metric commonly used in the evaluation of interventional programs for juvenile offenders – is defined most basically as the repetition of a criminal behavior. However, a recidivism rate could reflect a variety of measures of repeat offence or even recalcitrant attitudes (self-report, arrest, court referral, conviction, etc.) within a given period of time. The Center for Violence Prevention provides a comprehensive compendium on data collection for use in program evaluation via self-reported questionnaires [10]. This program previous to this publication, as well as other programs have collected or reported self-reported questionnaire data as a marker for program efficacy, with important results but also obvious limitations.

In the current study we instead chose re-arrest data as a primary endpoint of recidivism due to its objective superiority over self-reported data previously collected at this and other intervention programs. While this endpoint does not differentiate between conviction and arrest, a documented goal of the JWOP program is to prevent youth from re-interfacing in any fashion with the DJJ system, and thus this broad definition of recidivism captures a stricter marker of success for those youths successfully completing the program.

Recidivism also requires a chosen time period for repeat offence, and here we followed the fates of program participants over a 6 and 12 month span with robust results when confined to this time period. The lack of a longer follow-up period for this retrospective cohort is an admitted limitation for objectively defining the long-term efficacy of the program. This timeframe was chosen in part due to the limitations

of the DJJ arrest database, which tracks arrest data in juveniles only. As the database does not follow adult (age 18 and greater) arrests, and the program clients were aged 13 to 17 at the time of their enrollment in the program, a longer follow-up period would represent a major confounder of not tracking arrests of those juveniles who crossed into adulthood at the time of re-arrest.

A follow-up analysis cross-referenced to an adult re-arrest database may be required to better define longer-term efficacy. However this analysis would require use of a national arrest database to capture those adults who subsequently move to other states. In addition the effect size of the program as adults get farther out from program completion may also be more difficult to measure statistically. As many psychosocial and developmental studies have defined particular risk for violent behavior in youths due to developmental factors influencing impulsivity [8], so to have these risks been defined as becoming smaller as individuals mature into young adults. This is reflected in decreasing incidents of intentional firearm violence in adult cohorts of increasing age [1]. We therefore consider the short-term efficacy defined here as a critical finding of effective intervention during a developmentally high risk period in these individuals' lives. The long-term efficacy of the program is defined more subjectively by the high completion rate of the program over its 18-year lifespan as well as the number of graduates who remain in contact with the program and who participate as peer instructors, some of whom have remained with the program for over a decade after graduation.

Why is the JWOP program arguably more effective in preventing recidivism than myriad other well supported and structured programs? As compared to more traditional “boot-camp” or “scared straight” programs, our method of rehabilitation and delivery of educational content is focused on skill development, decision-making and introspection. Program directors, peer mentors and instructors tailor the classes to each group of clients in order to understand their backgrounds and teach in a way that reflects this culture. The program adapts to the needs of the boys which changes from week to week and individual to individual. A meta-analysis of juvenile rehabilitative programs noted that there was no significant correlation between the level of supervision/surveillance and reduced recidivism [11]. In fact, there was a negative association between increased discipline and recidivism, a finding which further supports the less structured and more individualized model of the classes within the JWOP curriculum.

In summary, we demonstrate a unique multidisciplinary intervention which over a 10-year period has shown an objective statistically significant decrease in arrest recidivism in particular for firearm or violence related charges. This program could potentially serve as a model for expansion in other communities in the ongoing effort to abrogate violent injury and death by firearm in this country.

### **Authorship Contributions:**

H. Soe-Lin – Manuscript drafting, data acquisition, analysis and interpretation

A. Sarver – Manuscript editing, background, data acquisition

J. Kaufman – Manuscript editing, data analysis

M. Sutherland – Program founder, background, manuscript editing, interpretation

E. Ginzburg – Corresponding author, study design, manuscript editing, interpretation

### Conflict of Interest

The author has no conflict of interest to report related to the study.

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