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SUMMARY OF RESEARCH FINDINGS

An Evaluation of Oleoresin Capsicum (O.C.) Use by Law Enforcement Agencies: Impact on Injuries to Officers and Suspects

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Introduction

This report summarizes the results of An Evaluation of Oleoresin Capsicum (O.C.) Use by Law Enforcement Agencies: Impact on Injuries to Officers and Suspects, a research study funded by the National Institute of Justice. This research was conducted by a multidisciplinary team of investigators at the UNC Injury Prevention Research Center, University of North Carolina at Chapel Hill.

This study was designed to collect available retrospective data describing injuries to officers from assaults and injuries to suspects from police use of force. The study sites for this research were the North Carolina State Highway Patrol, the Charlotte-Mecklenburg Police Department, and the Winston Salem Police Department. The goal of the research was to assess the influence of equipping officers in the field with oleoresin spray on the number of injuries occurring to officers and suspects resulting from police use of force. Data were also collected on complaints of excessive force filed against law enforcement officers at each study site.

Comparable data were gathered from each law enforcement agency for timeframes including periods prior to training and the issuance of OC spray to uniformed officers and subsequent to equipping the officers with OC spray. Each agency collected different types of data on use of force and injuries using different protocols for data collection.

Study Sites

Charlotte-Mecklenburg Police Department (CMPD)

Characteristics: Charlotte is a city of more than 600,000 people, in the county of Mecklenburg. The CMPD is the result of the consolidation of the Charlotte Police Department and the Mecklenburg County Police Department at the end of 1993. There are 1200- 1300 sworn officers serving the service area in 12 Police Districts – Adam 1, 2, 3; Baker 1, 2, 3; Charlie 1, 2, 3; and David 1, 2, 3. However, because this study was designed to collect comparable data for months before and after implementation of OC spray, analysis was restricted to the Adam, Baker and Charlie districts.

OC Spray: OC Spray was first issued in during 1994, but stopped until January 1995. Few cases of use were documented until February, 1995. It is standard procedure to apply saline solution to persons whose eyes are sprayed with OC after the suspect is detained. Sworn officers carry both the ASP (collapsible baton) and OC spray (stream). Collapsible batons were provided first in 1994.

Winston Salem Police Department (WSPD)

Characteristics: The city of Winston-Salem is home to approximately 170,000 people. The city is divided into four sectors geographically, each with eight to 10 beats for police patrols, plus a special operations unit that includes a tactical team, a motorcycle squad,

and crime prevention efforts. Approximately 250 officers are in the field, including special operations, in squads of 40. The remaining approximately 200 officers are distributed among investigative services, development and training, and administration.

OC Spray: The WSPD first issued OC Spray to officers in March 1993, and OC Spray was fully implemented on June 16, 1993. For this study, OC spray implementation was dated at April, 1993. During the training and implementation period, a mix of mace and OC was being carried. All new employees are exposed to OC and all sworn personnel took a direct (15-16%) or indirect (85%) spray during a five hour training program. Recruits receive about the same amount of training on OC although it is integrated into their defensive tactics training. It is standard procedure to apply saline solution to persons whose eyes are sprayed with OC after the suspect is detained.

North Carolina State Highway Patrol (SHP)

Characteristics: The SHP was created in 1929 by the North Carolina General Assembly, and is currently the largest law enforcement agency in North Carolina. The SHP has troops, A – H, which patrol the state by geographic region, in addition to the Interstate, or "I", Troop, the Governor's Security Detail, the Training Center, and Headquarters. Each of the A-H troops has district offices that serve the counties within each troop's region. The state of North Carolina has an area of 48,479 square miles, and a population of over 7 million people.

OC Spray: OC use began in 1992 in Raleigh and other pilot areas (Fayetteville and Greensboro). About 100 troopers were trained in the use of OC (there were fewer than 58 districts at this time). By 1993, the entire state was covered by trained officers. Dating of the implementation of OC spray for this study was January 1993. The authorized force of the Highway Patrol is 1380 troopers. Each trooper was sprayed during OC training.

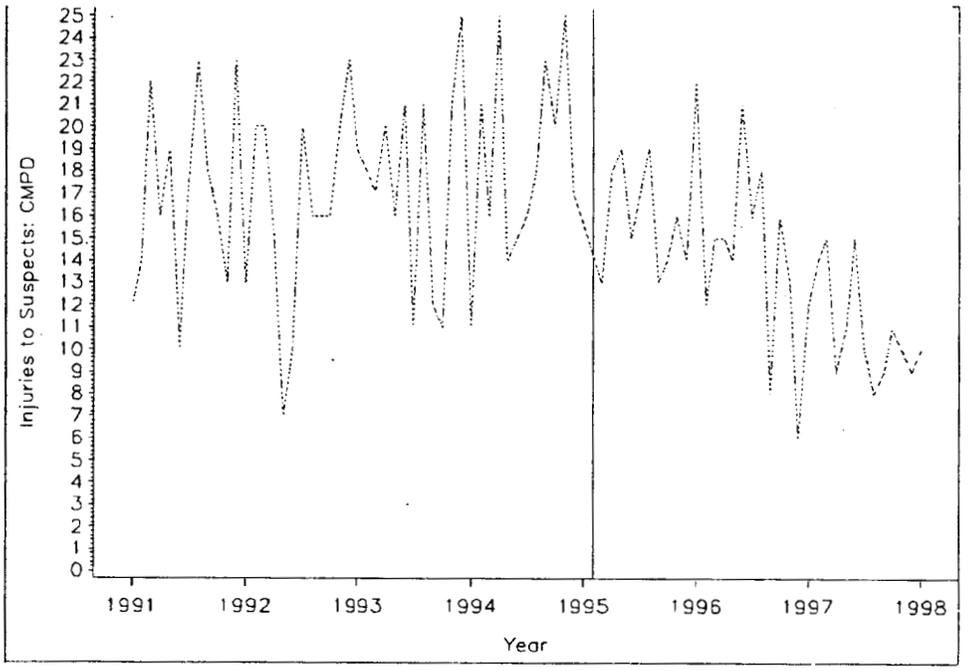
Results

Injuries to Suspects

Suspect injury data were available from the Charlotte-Mecklenburg Police Department and the Winston Salem Police Department.

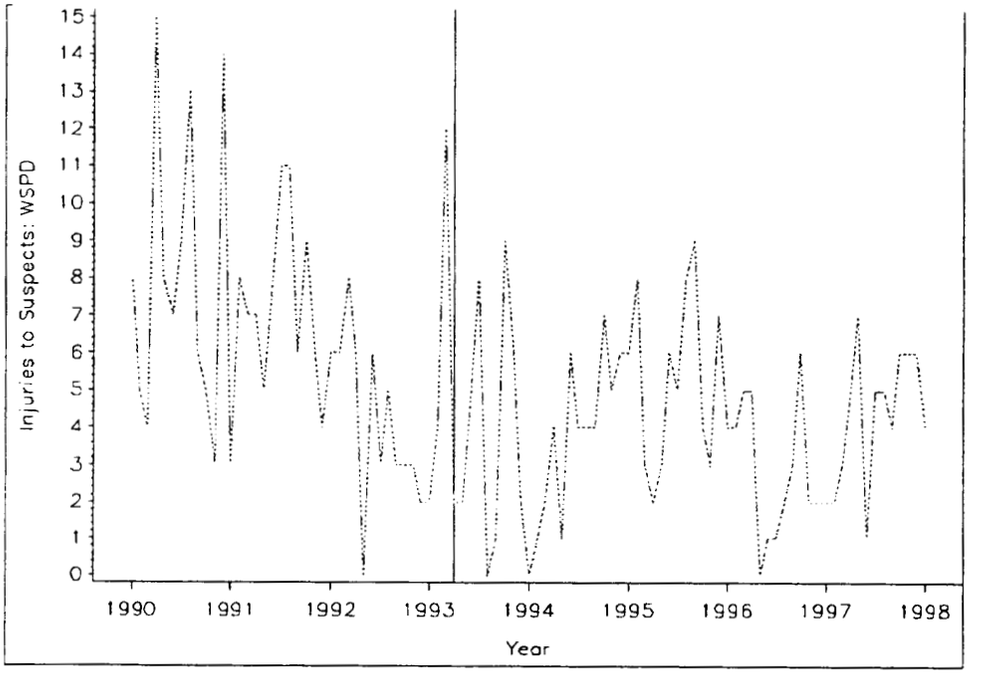
Charlotte-Mecklenburg Police Department: Figure 1 displays the time series of monthly counts of suspects injured by law enforcement officers of the Charlotte-Mecklenburg Police Department. There is clearly an interruption in the overall trend towards higher numbers of injuries over time that coincides with the introduction of OC spray. *Poisson* regression time series analyses confirm that counts of injured suspects declined significantly in the post-implementation period.

Figure 1. Time Series of Monthly Counts of Injured Suspects: Charlotte-Mecklenburg Police Department



Winston Salem Police Department: Figure 2 displays the time series of monthly counts of suspects injured by law enforcement officers of the Winston Salem Police Department.

Figure 2. Time Series of Monthly Counts of Injured Suspects: Winston Salem Police Department



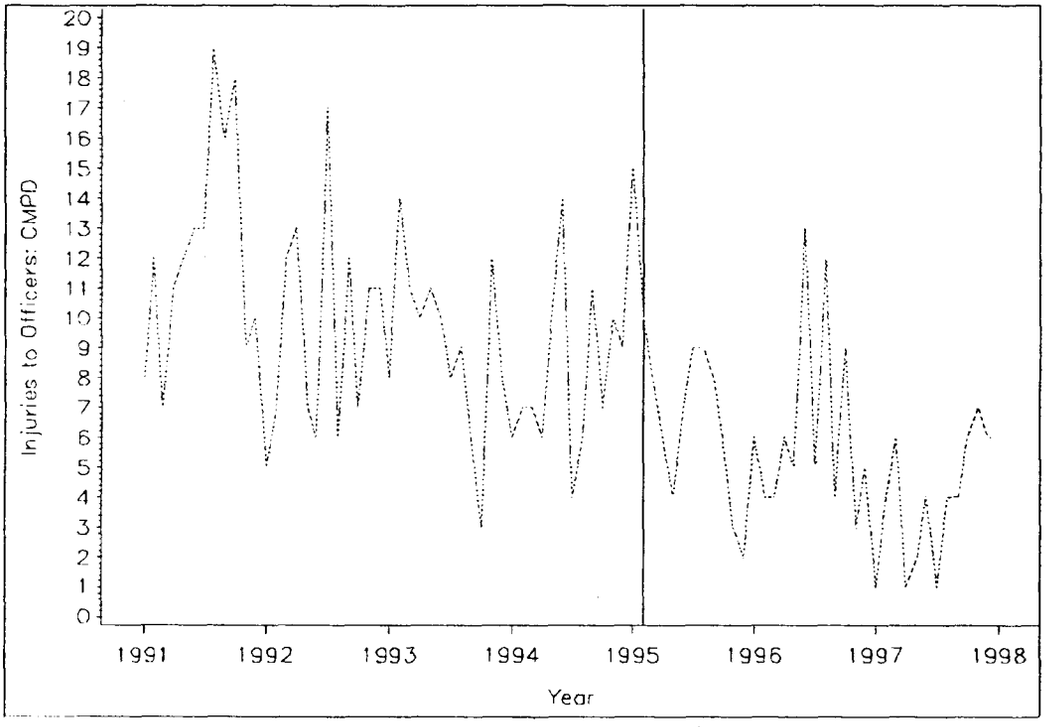
Much of the decline in monthly counts of injured suspects had taken place prior to the implementation of OC spray in Winston Salem. *Poisson* regression analyses indicated that an overall downward trend in counts had not been interrupted by the implementation of OC spray.

Injuries to Officers

Monthly counts of injured officers were available from all three study sites.

Charlotte-Mecklenburg Police Department: Figure 3 displays the time series of monthly counts of officers injured while using force to subdue suspects. The time series extends over the seven-year period from January 1991 through December 1998.

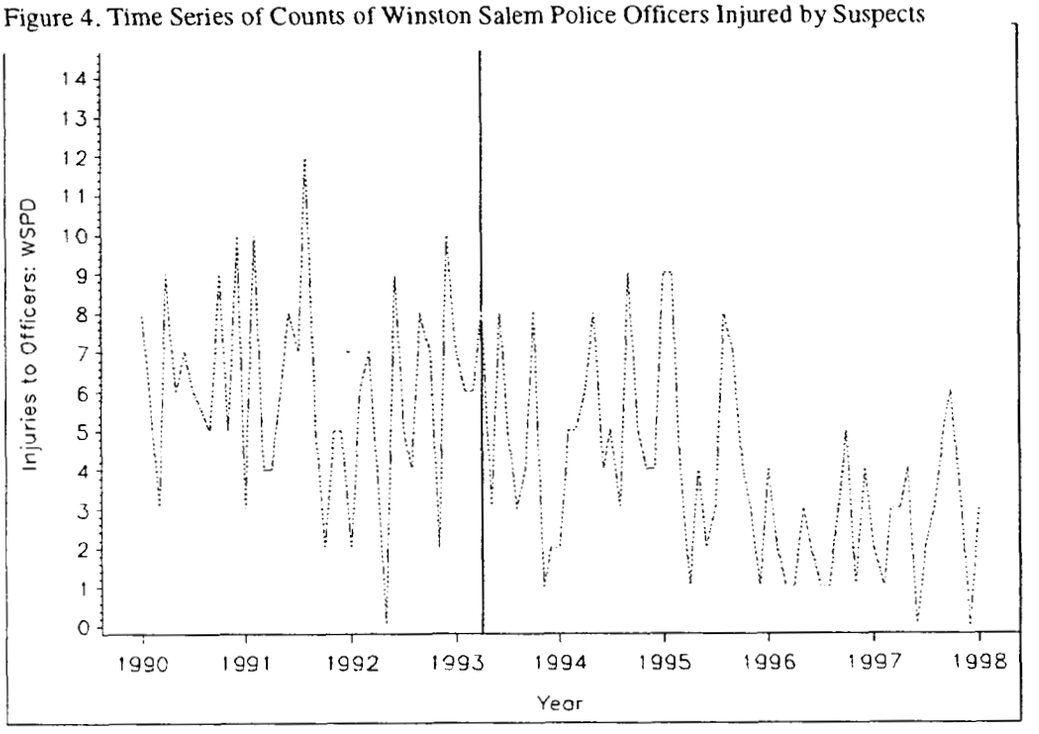
Figure 3. Time Series of Monthly Counts of Injured Officers: Charlotte-Mecklenburg Police Department



Monthly counts of injured officers declined monotonically over the seven-year period with the largest monthly count of officers injured recorded in mid 1991 (19 officers) and the lowest monthly count recorded in 1997 (1 officer). While a drop in counts of injured officers did seem to coincide with the implementation of OC spray, statistical tests could not confirm that implementation of OC spray was associated with a decline in officers injured.

Winston Salem Police Department: Figure 4 displays the time series of monthly counts of Winston Salem police officers injured in the line of duty by assault.

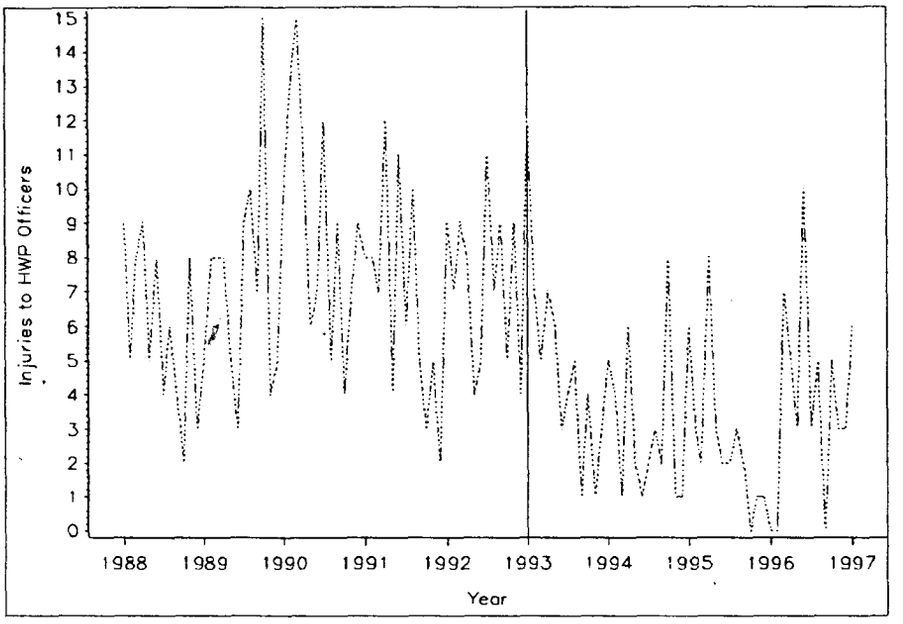
Figure 4. Time Series of Counts of Winston Salem Police Officers Injured by Suspects



The pre OC period was characterized by two upward trends in monthly counts of officers injured with August 1991 ending the first trend (12 cases) and December 1992 (10 cases) the second. The post implementation period was characterized by an initial decline, subsequent rise in counts, and a relatively stable period of low counts beginning in December 1995. Based upon graphical and statistical methods, OC spray could not be confirmed as contributing to declines in monthly counts of injured officers in the Winston Salem Police Department.

North Carolina State Highway Patrol: Figure 5 displays the time series of monthly counts of State Highway Patrol officers injured while using force to subdue suspects. The time series extends over the ten-year period from January 1988 through December 1997. During that time period 653 officers reported receiving injuries while using force.

Figure 5. Time Series of Counts of Highway Patrol Officers Injured by Suspects



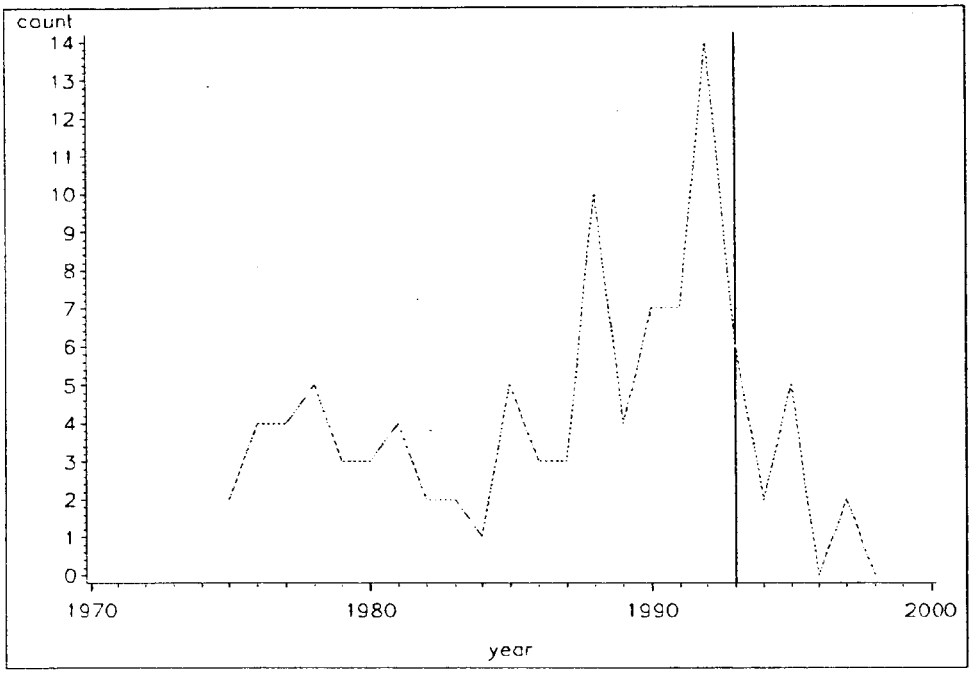
The time series displays a substantial decline in counts of injured officers corresponding to the implementation of OC spray. During 1992, 87 officers were injured while only 58 were injured in 1993. This represents a decline of 33 percent over the one-year period. Results from statistical tests indicated that the implementation of OC spray was marked by a significant decline in monthly counts of injured North Carolina State Highway Patrol officers.

Excessive Use of Force Complaints

Excessive use of force data were collected from all sites. Only the NC State Highway Patrol maintained a sufficiently long time series to analyze statistically.

State Highway Patrol: Figure 6 presents a time series of annual counts of excessive use of force complaints filed against North Carolina State Highway Patrol officers. There were a total of 94 complaints filed over the 23-year period from 1975-1998.

Figure 6. Time Series of Excessive Use of Force Complaints: North Carolina State Highway Patrol



The time series is characterized by a substantial rise in excessive use of force complaints beginning in 1984 culminating in a high of 14 complaints in 1992. Complaints dropped sharply in 1993 coinciding with the issuance of OC spray to Highway Patrol officers. These declines were confirmed using Poisson regression.

Conclusions

Based upon changes in counts of injuries, this research study concluded that the issuance of OC spray was associated with declines in the number of injured NC Highway Patrol officers and declines in the number of suspects injured by uses of force by the Charlotte-Mecklenburg Police Department. Further, declines in excessive use of force complaints lodged against officers of the State Highway Patrol were associated with the implementation of OC spray in that jurisdiction. While OC spray could have been implicated in changing counts of suspects or officers injured in other study sites, data were not sufficient to make those claims.