

Use of Warrants to Reduce Breath Test Refusals: Experiences From North Carolina



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16. Abstract Many States experience high rates of breath test refusals among DWI suspects. The objective of this study was to examine one possible strategy to decrease refusals rates—the use of a search warrant to obtain blood samples from a driver who refuses to provide a breath sample. Three counties in North Carolina established the use of warrants in cases of breath test refusals and were research sites. This report presents case study information on their experiences with the implementation and use of warrants. The program evaluation examined whether the use of warrants reduced refusal rates in the participating counties. However, many of the counties were unable to implement a program during the timeframe of the study, and others did not achieve much program strength. This report includes data from the evaluation effort. However, given the various methodological issues that occurred during this study, it is not possible to determine whether observed decreases in refusal rates were a result of the warrants program. In general, police officers in these participating counties report that the 15 to 60 minutes of added processing time needed to obtain a warrant and draw blood was time well spent, and that the chemical evidence obtained from blood was of great value.					
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The case studies in this report have multiple sources. More than 60 people gave personal interviews, telephone conversations, and correspondences regarding the implementation of the experimental program. They include law enforcement officers, prosecutors, defense attorneys, judges, magistrates, phlebotomists, toxicologists, court clerks, and other professionals. The traffic safety resource prosecutor of the North Carolina Conference of District Attorneys helped coordinate program efforts with district attorneys and law enforcement agencies, and offered insight throughout the study. Likewise, several sources contributed quantitative data for evaluation of the experimental program. The North Carolina Administrative Office of the Courts delivered driving while impaired (DWI) case data. The Forensic Tests for Alcohol Branch of the North Carolina Department of Health and Human Services provided its annual chemical test reports and select case data queries. The Governor's Highway Safety Program and the Division of Motor Vehicles facilitated public awareness data collection. The authors thank everyone who generously gave of their time and expertise to provide information, answer questions, and review drafts.

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Executive Summary

A person arrested for impaired driving is routinely asked to provide a breath sample for the purpose of determining blood alcohol concentration (BAC). Arrested drivers have the right to refuse this request, in which case they are subject to the implied consent provisions of their State law. Typically, these provisions call for extended license withdrawal. Nationally, many drivers do refuse, believing that they are more likely to avoid conviction if the police do not have chemical test information indicating the amount of alcohol in their blood. The possibility of avoiding conviction can be of greater value than becoming subject to implied consent.

Several States and jurisdictions are addressing this problem by following the request for a breath sample with the demand for a blood sample in a case where breath is refused. While different States have different legal mechanisms by which police officers can secure blood samples, one common approach is to obtain a search warrant authorized by a judge or a magistrate. Drivers may be less likely to refuse breath tests if they understand their right to refusal does not terminate the ability of law enforcement to obtain BAC evidence, and they will be subject both to implied consent sanctions and to a blood draw which will produce the BAC evidence that they sought to avoid. Either way, law enforcement obtains chemical evidence relevant to any subsequent impaired driving prosecution.

Objectives

The objectives of this study were to:

- implement a program to obtain search warrants for blood from drivers who were arrested for driving while impaired (DWI) and refused to provide breath tests upon request; and
- determine the effectiveness of the search warrant program.

Site Selection

The first step was to identify jurisdictions where a blood draw program could be implemented. The selected jurisdictions would need to have legal authority for such a program and willingness from law enforcement, prosecution and the courts to implement the program. These conditions were found in North Carolina.

The North Carolina implied consent law in effect during the period of this study stated that the charging officer could “designate the type of chemical analysis to be administered” to the individual charged with an implied consent offense. The designated analysis was typically a breath test. However, if an individual arrested for DWI refused to submit to the breath test, the arresting officer could request a warrant for a blood sample from the suspect.

Program Implementation

In June 2004, with the assistance of the Governor's Highway Safety Program (GHSP) and the North Carolina Conference of District Attorneys (NCCDA), district attorneys were approached to determine their interest in establishing a blood draw program. Several counties responded. Each was provided with orientation material. Planning meetings with district attorneys and law enforcement officers were scheduled to determine whether to proceed in each responding county.

Three North Carolina counties achieved DWI blood warrant programs within the timeframe of this study. These Experimental Counties were Wayne, Pitt, and Duplin which initiated warrant programs between December 2004 and January 2005. The comparison counties for this study were selected because they initially were interested in implementing warrant programs but for various reasons were not able to do so. The comparison counties were Camden, Cumberland, Currituck, Dare, Durham, Forsyth, Guilford, Pasquotank, and Wake.

Case Studies

Case studies of program implementation were conducted. Meetings and discussions were held with law enforcement officers, program personnel, district attorneys and State officials in the NCCDA, the GHSP, and the Forensic Tests for Alcohol Branch (FTAB) of the North Carolina Department of Health and Human Services.

Most interviewees in the experimental counties believed that the warrant program reduced the number of breath test refusals. When refusals did occur, interviewees thought that warrants increased the collection of BAC evidence and positively affected the outcome of DWI prosecution. They also felt that fewer cases were plead down to lesser charges; defendants more often pled guilty; more DWI convictions were obtained; fewer cases went to trial; more cases were disposed; and they believed that court time was reduced.

Law enforcement officers stated that, despite the extra 15 to 60 minutes required for warrant processing and execution, obtaining warrants for blood was a valuable tool for collecting evidence. Officers believed the warrant program was a morale-booster when their efforts were reinforced by successful prosecution. However, the consensus among interviewees was that the blood warrant program had no general deterrent effect on the number of people who choose to drink and drive; there was very little public awareness of the blood warrant program; and the extraction of blood evidence did not seem to be a deterrent for repeat DWI offenders.

Interviewees from comparison counties reported that they were unable to implement blood draw programs due to time and resource issues, difficulties of travel and phlebotomy organization, and more immediate law enforcement priorities.

Awareness/Knowledge

Driver awareness surveys were administered by the Division of Motor Vehicles (DMV) during the warrant program between December 2005 and March 2006 (Wave 1). Surveys were administered again between October and December 2006 (Wave 2). There was no significantly

larger proportion of respondents in the experimental counties (n=1,137) than in the comparison counties (n=2,334) who were aware that an officer could seek a warrant for a blood alcohol test in the event of a breath alcohol test refusal (range 28% to 23% across experimental/comparison Wave 1/Wave 2). Respondents in both the experimental and the comparison counties agreed that the police should routinely seek warrants in cases where suspected drivers have refused the breath test (range 76% to 69%).

Number of Warrants Issued

Statewide breath test information from FTAB was examined to determine the number of breath test refusals, and local court records were used to determine the number of blood warrants issued.

The experimental period of the warrant program was December 2004 through September 2006. During that time, 1,034 people were arrested for DWI and refused a breath test in the three experimental counties. Of those reported refusals, 13% (137 cases) resulted in warrants for blood. Of the refusal cases in which warrants were executed, proportionately more cases were associated with higher BAC driver levels.

The volume of breath test refusals that culminated in warrants for blood is an indication of the level of agency and officer participation achieved throughout the study. Municipal and county law enforcement agencies were more receptive to operating warrant programs than State highway patrol agencies. Within agencies that did conduct the program, not all officers sought or executed warrants.

Breath Test Refusal Rates

Relatively few warrants were issued during the course of this program. However, there was a substantial drop in breath test refusals in the experimental counties as compared to small increases in the comparison counties. The refusal rate for the experimental counties was 18% in 2004, dropping to 12% by 2006. During the same time, the refusal rate for the comparison counties rose from 19% to 20%. While these results are promising, they must be interpreted with caution. It is unclear how the warrant program may have led to a change in refusal rates, given the low number of warrants requested, the lack of media coverage, and the lack of public awareness of the program. One possibility is that the drinking-driving population, as opposed to the general population, did learn about the program from word-of-mouth among drinkers, their legal counsel, or during the arrest process.

Summary

During the time period of this study, program implementation (the issuance of warrants) was not strong, and unfortunately there was not much media attention to the effort. Awareness surveys among the general driving population indicated no measurable increase in awareness of the program. There was a decrease in the rate of breath test refusals in the experimental counties. However, given the methodological limitations that occurred during the study period, it is not possible to determine the extent to which the warrants program may have affected the breath test refusal rate.

Introduction

Background

The amount of alcohol in a driver's blood is an important piece of evidence in demonstrating the influence of alcohol on a driver's ability to operate a vehicle safely. In all States, a blood alcohol concentration (BAC) level of .08 grams per deciliter (g/dL) is per se evidence of driving while impaired (DWI). More than half the States (Hedlund & Beirness, 2007) have enacted high-BAC DWI laws¹ with more severe sanctions for drivers with BACs exceeding a higher level, typically .15 or .16 g/dL.

Implied consent laws in all States require drivers to provide BAC evidence when requested by law enforcement officers. This evidence typically is obtained from a breath test, the most economical form of BAC testing, although some States allow an officer to request a BAC test based on a blood or urine sample. Law enforcement officers, prosecutors, and judges assess BAC evidence when charging and prosecuting drivers for DWI.

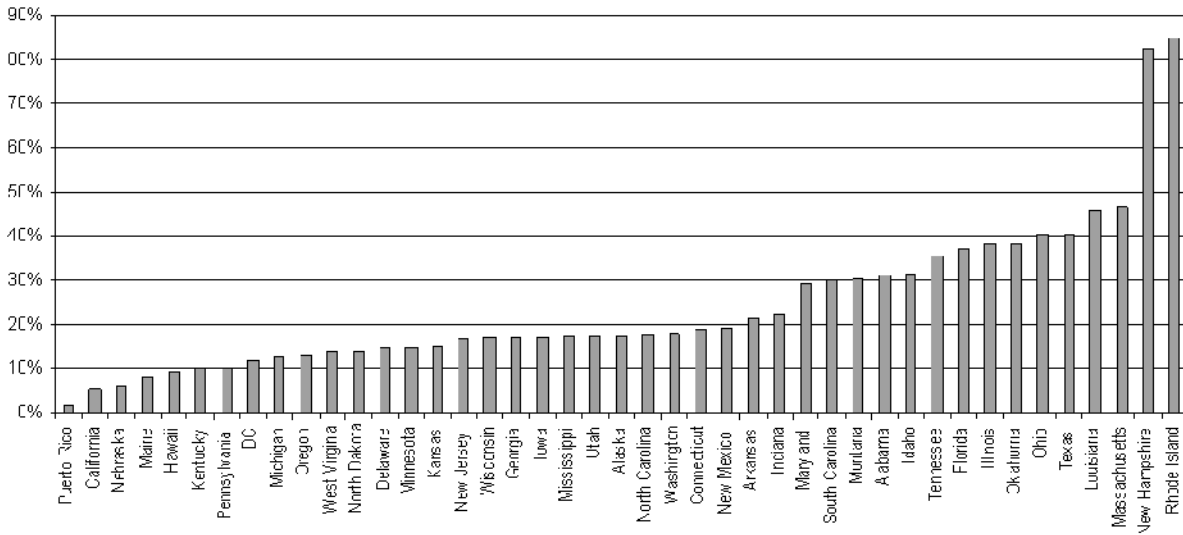
Drivers have the right to refuse an officer's request for a breath test; and depending on the legal consequences, it may be to the driver's advantage to do so. Without a BAC, the evidence supporting a DWI charge is limited to an officer's observations of the driver's behavior on the road, visible signs of intoxication, and the driver's scores on the Standardized Field Sobriety Test (SFST). Many prosecutors and judges believe that when there is a lack of BAC evidence, DWI cases are more difficult to prosecute and fewer DWI convictions are obtained. In some States, the sanctions for breath test refusal are less severe than the sanctions for being convicted of DWI based on evidence of a BAC of .08 g/dL or more. In most States, the sanctions for breath test refusal are less severe than either the sanctions for DWI conviction under a high-BAC law or the sanctions for a repeat DWI offender (Hedlund & Beirness, 2007).

A 2005 National Highway Traffic Safety Administration report documented breath test refusal rates and sanctions in the States. Across the 41 jurisdictions—40 States and the District of Columbia—for which test refusal data were available, about one-quarter of all drivers arrested for DWI from 1996 to 2001 refused to provide breath samples. The refusal rates varied markedly from State to State. In 2001, California reported the lowest refusal rate, of 5.3%, while refusal rates in New Hampshire and Rhode Island exceeded 80% (Zwicker, Hedlund, & Northrup, 2005). Figure 1 presents the 2001 breath test refusal percentages by State. On average, a breath test is refused by about 20% of drivers arrested for DWI nationwide.²

¹ Some States refer to high-DWI laws as "aggravated" BAC laws.

² A more current update of State breath test refusal rates is found in Berning, A., Beirness, D., Hedlund, J., and Jones, R. (2007) Research Note: Breath Test Refusals, DOT HS 810 87, Washington, DC: National Highway Traffic Safety Administration.

Figure 1. 2001* Breath Test Refusal Percentages by State**



*2000 data were used for MA and NJ.

**Complete data were not available from AZ, CO, MO, NV, NY, SD, VA, VT, or WY.

The same report also documented reasons for breath test refusals through case studies of five States—four of which had refusal rates above the national average in 2001. The report suggested potential strategies for reducing refusals. One strategy for judges in a Louisiana jurisdiction was to issue search warrants for blood samples from drivers who were arrested for DWI and refused to provide breath tests. The report noted that laws in 10 other States allow warrants in all DWI cases. Laws in many other States authorize BAC tests to be obtained by force if necessary in some circumstances, for example, in serious injury crashes or fatal crashes where there is probable cause to believe that the driver was impaired by alcohol. The report concluded that the authorized use of warrants may be an effective strategy to obtain BAC evidence from more DWI offenders.

Another case study of four States investigated the use of warrants to obtain blood samples from drivers who refuse to provide breath samples (Hedlund & Beirness, 2007). The benefits of securing search warrants for blood in cases of willful breath test refusal are thought to be twofold. First, drivers may be less likely to refuse breath tests if they understand their right to refuse breath tests does not terminate the ability of law enforcement to obtain BAC evidence by other means. Second, when breath test refusals result in search warrants, it is more likely that evidentiary measures of BAC will be collected.

The basic process for using warrants in the four States was straightforward. If a driver was arrested for DWI and refused to provide a breath test, the arresting officer contacted a magistrate or judge, day or night, and by phone if necessary; the officer requested a warrant that required the driver to provide a blood sample; and then arranged for the blood sample to be drawn. However, the procedures for warrants and the situations in which warrants were used differed from State to State and often between jurisdictions within a State. Not all jurisdictions within the

study used the warrants approach; and in the jurisdictions that did use them, the warrants were not necessarily used in all cases of DWI breath test refusal.

In each State, the people interviewed believed that warrant systems both reduced breath test refusals and produced BAC evidence in more DWI cases. Additionally, they believed that more evidence of impairment produced more guilty pleas, more convictions, and fewer expensive DWI trials.³ Many interviewees in the study reported that the costs associated with operating warrant systems were necessary and appropriate for acquiring BAC evidence. Interviewees believed the judicial and financial benefits of using warrant systems outweighed the costs of collecting BAC evidence through warrants for blood.

Study Objectives

The goals of the present study were to assess the ability of jurisdictions to implement blood draw programs and to assess the benefits of such programs. Jurisdictions were sought with the following characteristics: defense attorneys often recommended refusal to clients; implied consent laws permitting forced blood withdrawal in cases of breath test refusal were already in place; the jurisdiction was interested in reducing its refusal rate; and there was at least one judge or magistrate who was willing to issue search warrants.

Selected jurisdictions were located in North Carolina, where the practice of issuing warrants for blood had been upheld by the North Carolina Court of Appeals in 2001 (*State of North Carolina v. Samuel B. Davis, Jr.*, 142 N.C. App 81 (2001). No. COA99-1429).

The specific objectives of the project were to:

- assist local authorities in selected North Carolina counties with the implementation of programs to obtain search warrants for blood from drivers who were arrested for DWI and refused to provide breath tests upon request; and
- evaluate these search warrant programs.

The target population in the study were DWI offenders who consciously, willfully refused a breath alcohol test; that is, offenders who were capable both of being transported to a breath testing machine and of communicating a refusal.

This Report

This report is divided into three sections. The first describes through case studies the process by which some North Carolina counties implemented a blood draw program within the time frame of this study. Some counties implemented warrant programs beyond the time frame of the study, while others were unable to develop actual warrant programs. The second presents results of evaluation data for the counties that implemented a warrant programs within the time frame of this study. The report concludes with a summary of program implementation and results.

³ The Hedlund & Beirness study was a case studies project and involved interviews with key participants in the criminal justice system. However, the project did not involve collection or analysis of refusal data or conviction rates.

Case Studies of Program Implementation

Introduction

This section presents a description of North Carolina's implied consent law, followed by case studies of how the experimental counties implemented programs to request search warrants for blood from drivers who were arrested for DWI and refused to provide breath tests.

Implied Consent Laws and Chemical Analysis

From December 2004 through September 2006, North Carolina implied consent law §20-16.2(a) stated that the charging officer could “designate the type of chemical analysis to be administered” to the individual charged with an implied consent offense. The designated analysis was typically a breath test. Furthermore, the General Statute regarding the “Request to Submit to Chemical Analysis” stated that:

If the person charged willfully refuses to submit to that chemical analysis, none may be given under the provisions of this section, *but the refusal does not preclude testing under other applicable procedures of law* [§20-16.2(c), emphasis added].

Other “applicable procedures” for chemical analysis included the withdrawal of blood or urine from the suspect. The “Withdrawal of Blood for Chemical Analysis,” §20-139.1(c), made clear that when “a blood test is specified as the type of chemical analysis by the charging officer, only a physician, registered nurse, or other qualified person may withdraw the blood sample.” If the individual conducting venipuncture (the withdrawal of blood from a vein) requested written confirmation of the charging officer's request for blood, the officer had to supply one, generally in the form of a search warrant.

The use of search warrants to procure evidence in implied consent offenses was tested in North Carolina case law and upheld in 2001 through *North Carolina v. Davis*. Providing the context for the *Davis* decision was the 1966 U.S. Supreme Court case *Schmerber v. California* (384 U.S. 757, 770, 16 L. Ed. 2d 908, 920 [1966]), which determined that exigent circumstances are created due to the manner by which alcohol dissipates from the bloodstream. Therefore, there is a precedent in which officers are not required by law to obtain search warrants pursuant to blood samples in DWI cases. Despite the *Schmerber* decision, district attorneys of North Carolina recommended to law enforcement officers that if the officers chose to proceed with blood extraction, they should obtain a search warrant. State attorneys believed that having a warrant for blood eliminated potential arguments by the defense to challenge the exigency of blood extraction in a DWI arrest.

Legal and Administrative Sanctions for Refusals

The sanction for a chemical test refusal, prior to December 1, 2006, was an immediate 30-day administrative license suspension delivered by the investigating officer and reported to the DMV. The suspect's license was then revoked for an additional 12 months when the officer reported the refusal to a magistrate by properly executing an affidavit and thereby satisfied probable cause for arrest. The driver could request limited driving privileges after six months of

active revocation, but only under certain circumstances. A \$300 fine for restitution could also be levied to cover costs of blood collection and analysis if the case of a driver's refusal escalated to a blood warrant and extraction.

Warrant Procedures

Warrant execution and blood extraction varied somewhat between jurisdictions. The following is a generalized account of how the processing of a typical DWI arrest would occur, according to the law enforcement officers interviewed in the study. This account does not represent a specific officer, nor a specific suspect.

After an officer arrests a suspect and transports him/her to the Intoxilyzer room at the county jail, she watches the suspect for outward signs of intoxication during a 15-minute observation period. The officer then delivers a copy of the Intoxilyzer rights to the suspect, reads the rights aloud, and instructs the suspect how to deliver a breath sample to the instrument. The officer then requests a breath test. If the suspect refuses, the officer records the refusal both in the Intoxilyzer machine and on the affidavit and revocation report. The officer informs the suspect of an immediate 30-day license revocation for refusing the breath test.

The officer takes the suspect to a holding area, where a magistrate is available at, or available to come to, the jail 24 hours a day. The officer presents probable cause for DWI arrest to the magistrate. After probable cause is established, the officer requests a search warrant, and the magistrate or the officer prepares a standardized, fill-in-the-blank electronic or paper search warrant (see Appendix A). The officer then reads the warrant aloud and gives a copy to the suspect.

The officer then locates the phlebotomist, and attends while the phlebotomist extracts the blood sample. The officer then takes custody of the sample, seals the blood kit, and completes a chain of evidence report. The kit is delivered to a secure evidence area at the investigating agency headquarters and is then delivered, along with a lab evidence analysis request form, to the crime laboratory for analysis.

Case Study Methodology

Selection of Participating Counties

Law enforcement agencies in North Carolina have made a regular practice of gathering blood evidence without warrants from DWI suspects involved in injury or fatal crashes for some time. Cherokee County began using a warrant system for willful breath test refusal cases in 2002; but until this experimental program was initiated in 2004, researchers know of no other North Carolina counties that typically attempted to obtain blood evidence from DWI suspects who willfully refused to deliver breath samples.

In June 2004, with the assistance of the GHSP and the NCCDA, researchers began making inquiries of district attorneys to determine interest in establishing a program for requesting search warrants for blood samples in cases of DWI breath test refusal. All prosecutorial districts

were screened for interest and for suitability based on their DWI and breath test refusal rates. District attorneys representing thirteen counties responded. Researchers then provided orientation materials to potential districts and initiated planning meetings with district attorneys and law enforcement officers to determine whether to proceed in each responding county.

Wayne, Pitt, and Duplin counties succeeded in implementing a program within the time frame of this study. We refer to these counties as the experimental counties. Guilford, Durham, Wake, Dare, Camden, Currituck, Pasquotank,⁴ Cumberland and Forsyth did not achieve an operational search warrant program within the course of this study. We refer to these counties as the comparison counties.

The experimental and comparison counties comprise a wide demographic and geographic representation of North Carolina. The experimental and comparison counties are comparable on several measures. Each group contains counties that have rural, minor metropolitan, and major metropolitan areas; coastal and tourist areas; military and collegiate populations; breath test refusal rates that are relatively low (14 to 16%), that hover around the State average (17 to 19%), and that are relatively high (20% and above); minority populations as high as 30 to 50% and as low as 3 to 16%; and equivalent ranges of household income.

The Interview Process

Case studies were conducted for each county that attempted to implement or that successfully implemented a search warrant program. Extensive telephone discussions were conducted. For each county, at least one person was interviewed from each of the following categories: supervising and arresting law enforcement officers from each participating law enforcement agency; phlebotomists (medical professionals who specialize in withdrawing blood samples) and medical personnel; magistrates and judges; representatives from the offices of the district attorney; and defense attorneys.

The discussions were conducted from August 2006 through January 2007. Participants provided information on how operations were established in their jurisdictions and their opinions of the program. They also answered questions regarding the financial and logistic costs associated with the procedures of obtaining warrants and blood samples, and the resolution of any procedural or legal issues. The discussions were meant to assess the acceptability of the search warrant program, workload impacts, and prospects for program sustainability. In the counties where a program was not successfully implemented, conversations regarding the impediments to program implementation were conducted.

⁴ Dare, Camden, Currituck, and Pasquotank counties are within the same prosecutorial district.

Case Study Results

Experimental County Case Studies

The North Carolina counties that began operations between December 2004 and January 2005 (i.e., within the time frame of this study) were Wayne, Pitt and Duplin. The experiences of these three counties are described below.

Wayne County

Wayne County lies in southeast North Carolina. The total county population in 2000 was 113,329. Goldsboro is the county seat and home to one-third of the county's population (Wayne County Web site, 2007).⁵ The rate of breath test refusal in 2004 for Wayne County was 21.5%, above the State average of 18.8% for the same year. The State Highway Patrol (SHP) and Goldsboro Police Department (GoPD) had refusal rates of 17.6% and 27.7%, respectively.⁶

Initiating the Warrant Program

The district attorney and law enforcement officials in Wayne County expressed a desire in autumn 2004 to participate in the study to seek search warrants for blood in cases of DWI breath test refusal. The Goldsboro Police Department established program operations in December 2004. The SHP's Troop C, District II, responsible for Wayne County began executing search warrants in September 2005 to a lesser degree than GoPD.

The district attorney, the municipal police, the lab manager of the health department, and study researchers arranged contracted phlebotomy services with the Wayne County Health Department in December 2004. Study funds for the health department were depleted by the end of March 2006. The Wayne County Board of Commissioners funded the health department through April 2006. The county commissioners then transferred phlebotomy responsibilities to the Wayne County Emergency Medical Services (EMS) beginning in May 2006. The health department oriented the EMS to assist in the transition. Unlike health department phlebotomists, EMS responders were readily available 24 hours a day, 7 days a week. The cost of labor for phlebotomy conducted by EMS was absorbed by the county budget. It was anticipated that some of the EMS expenditures could be recouped from defendants' fines and court fees.

⁶ Source: Forensic Tests for Alcohol Branch.

WAYNE COUNTY PROGRAM HELPS REDUCE DWI BREATH TEST REFUSALS

Press Release, August 11, 2006. Goldsboro, NC—Wayne County is currently participating in an alcohol blood warrant program that makes it harder for suspected impaired drivers to refuse an alcohol breath test.

The National Highway Traffic Safety Administration and United States Department of Transportation are providing funds in select counties to implement an alcohol blood warrant program, which will provide evidence of an offender's blood alcohol concentration.

If a driver is pulled over due to suspected impaired driving and refuses an alcohol breath test, North Carolina law allows an officer to apply for a search warrant for the driver's blood. After a warrant is obtained, the Emergency Medical Services of Wayne County provides the necessary phlebotomy services.

"The alcohol blood warrant program has been successful in reducing the number refusals in Goldsboro," reports Major Mike Hopper of the Goldsboro Police Department's Operations Bureau. "Once the community understood that search warrants would be obtained to draw blood in DWI refusal cases, officers noticed a change in persons charged with DWI."

In North Carolina in 2005 there were 11,237 breath test refusals, averaging more than 900 refusals each month. In 2005 Wayne County had 151 breath test refusals, or an approximate refusal rate of 18.6 percent, down from an approximate rate of 21.5 percent in 2004.

"Because of the search warrant program, we have been able to obtain convictions in approximately 50 cases so far that may have been insufficient without the testing of the blood sample," stated Branny Vickory, District Attorney. Vickory explained that each person who is convicted of driving while impaired is fined, has his license revoked, and is ordered to participate in substance abuse treatment or classes. Many of the defendants are required to perform community service. Repeat offenders are sentenced to jail or to prison because of their driving histories.

The DA commended the program, stating, "The defendants who refused the Intoxilyzer examination, had their blood tested, and were later convicted of driving while impaired are receiving punishment, supervision, and assistance that they might not have received without the search warrant program."

Modifications to Warrant Execution

There were reports from participating law enforcement agencies that before suspects refused the breath test, some officers may have informed them that blood could be obtained. Interviewees thought that suspects in those cases often acquiesced to breath tests.

Simultaneous with or immediately after procuring a search warrant, an officer would page or phone a phlebotomist from the health department or called the 911 communication center to request a responder from EMS. The phlebotomist or emergency medical technician (EMT) reported to the jail to perform the blood extraction in the Intoxilyzer room. On the few occasions that phlebotomists were subpoenaed to testify in court, they were put on telephone standby and did not have to appear. Generally, phlebotomists felt law enforcement officers were in control of the situation and felt safe performing their function.

For GoPD, the procedures involved in obtaining search warrants and blood samples from DWI offenders took from 45 to 75 minutes—15 minutes longer than a DWI arrest where no warrant or

blood extraction was necessary. SHP estimated it took an hour to 1 hour and 45 minutes to process a warrant for blood—30 to 45 minutes longer than when the suspect supplied a breath sample. Wayne County officers reported that the State Bureau of Investigation⁷ processed blood samples and submitted its analysis reports within two to three months after the arrest.

Observations Regarding the Warrant Program

When interviewees were asked to evaluate the warrant program, there were conflicting reports regarding phlebotomy service, the use of force, and ideological misgivings. There was general agreement regarding the overall usefulness of the program.

Law enforcement agencies reacted differently to the two generations of phlebotomy service provided in the Wayne County program implementation. SHP preferred phlebotomy by the health department over EMS, believing that the on-call phlebotomists responded more promptly. SHP thought that because DWI blood extractions were non-emergency calls for EMS, they were not priority. SHP also reported their search warrant operations were suspended for two months during the transfer of services from the health department to EMS. GoPD officers reported that the EMS system worked more quickly and efficiently, probably due to the close proximity of the EMS facility to both the police station and the jail. Law enforcement did agree that one risk associated with the program was the possibility that a suspect would try to combat the officer, the phlebotomist or EMT during the blood extraction.

There was conflicting information regarding the use of force. Some municipal officers noted that although a few suspects were verbally defiant, there was only one suspect who did not submit to blood extraction and who became combative under the care of the police. In that instance, the warrant procedure was terminated. Other municipal officers reported there were several instances when combative subjects were restrained and blood was taken. SHP, however, was adamant about not using restraining force on combative offenders.

Members of law enforcement—even those who had complaints with the program in theory or practice—reported that the only people who opposed the program were the suspects themselves and their defense attorneys. Police officers favored the program and saw the use of search warrants as a valuable tool. Law enforcement and the district attorney's office reported that the search warrant program did not affect the frequency of DWI arrests. However, they felt that fewer cases were pled down to reckless driving, the number of DWI cases with BAC evidence increased, guilty pleas increased and DWI convictions were noticeably higher. Having physical evidence, compared to having only the testimony of the arresting officer, left less room for the argument of reasonable doubt from defense attorneys. The local police and district attorney's office believed that investing more time securing evidence saved time spent in court.

The SHP for Wayne County had mixed opinions on the warrant program. Some troopers were reluctant to execute warrants in the beginning. They felt the breadth of their jurisdiction, the distances troopers travel, and the time it took to travel and execute a search warrant for blood were not worth the time troopers were taken off the road. Some members of the highway patrol

⁷ All counties in the study used the State Bureau of Investigation crime laboratory in Raleigh, North Carolina, for analysis, except for Mecklenburg County, which used its own lab.

preferred to use search warrants when “really necessary” in extreme DWI cases, but not for all breath test refusals. Some also thought it was misleading to the suspect to allow the suspect to refuse a breath test, but to pursue another type of BAC test regardless of the initial breath test refusal.

One assistant district attorney reported that all the district court prosecutors were familiar with *State v. Davis* and were prepared to cite it during DWI cases where search warrants were used. Judges did not hesitate to accept blood evidence obtained by warrant, but typically weighed BAC evidence the same, whether it was obtained from breath or blood samples. The assistant district attorney also said that the only difference in sanctions for suspects who complied with breath-testing versus those who refused and had blood drawn was a \$300 lab fee for blood processing. This fee reportedly had a greater deterrent effect on offenders than the 13-month license revocation.

Interviewees thought there was little public knowledge of the search warrant program, except amongst repeat offenders. The prospect of warrants for blood did not seem to deter the repeat offenders.

Suggestions for Sustainability

SHP and the assistant district attorney mentioned that some of the ideological arguments surrounding the use of warrants might be resolved by changing the information given to the suspect before the breath test was requested. One solution was to revise the Intoxilyzer rights to inform the suspect that even if he or she refused one test, additional tests could be obtained.

Generally, interviewees thought that the warrant program in Wayne County was sustainable if the number of calls and the amount of court time stayed at the current level. Sufficient funding for blood extraction was also seen as key to continuing the warrant program. Interviewees believed that getting restitution from defendants would have helped to defray costs but may not have paid for the full cost of the program.

Other Issues

SHP reported that breath test refusals were higher among the Spanish-speaking population in Wayne County, and interviewees believed this was likely due to language barriers between suspects and troopers. Suspects simply did not understand what they were being instructed to do. The health department translated a consent document in the blood kit into Spanish. However, this was useful only after suspects had already refused the Intoxilyzer, officers had served the warrant and phlebotomists had opened the blood kit to proceed with blood extraction.

Pitt County

Greenville is the largest municipality in Pitt County, and comprised almost half of the total county population of 133,798 in 2000 (State Facts, 2007). The county rate of breath test refusal was 12.6% in 2004, well-below the State average of 18.8%. The SHP and Greenville Police Department (GrPD) had refusal rates of 11.4% and 11.3%, respectively.

Initiating the Warrant Program

The Greenville Police Department had an interest in pursuing search warrants for blood that coincided with NHTSA's goal of implementing and evaluating a program in North Carolina. GrPD began participating in the study in December 2004 on a limited scale during the night patrols. One motivated patrol officer created a training program for his colleagues, and the police department later expanded its use of warrants.

Obtaining search warrants in cases of refusal was never made a mandatory policy by GrPD; it was instead left to the officers' discretion. Approximately 60% of the officers were said to favor and use the program. Smaller law enforcement agencies in the county did not implement the program because the volume of DWIs and refusals was low, or because they did not have enough personnel to cover the necessary travel and processing time.

There were conflicting reports regarding the use of the program by the State Highway Patrol Troop A, District V, which patrolled Pitt County. Troopers were reluctant to execute warrants at first, objecting to the extra time involved in getting a warrant and blood sample. They later adjusted to the pace of executing warrants for blood as they gained more experience. A district SHP sergeant believed approximately 75% of his 23 traffic patrol officers executed warrants.

Early in program implementation, the chief district court judge was informed that the district attorney's office would be pursuing warrants in cases of breath test refusal. An assistant district attorney provided him the case law precedent. The judge instructed his magistrates to use their judicial discretion when granting warrants, informed them of the case law, and cautioned the magistrates to make sure the request for the search warrant was appropriate and that there was clear evidence of probable cause.

Modifications to Warrant Execution

Officers transported suspects to the Pitt County Memorial Hospital (PCMH) in Greenville for blood extraction, bypassing the reception desk and going directly to the hospital lab. Nurses or technicians were available at the lab 24 hours a day, 7 days a week. Suspects did not have to be admitted to the hospital. The study also provided an on-call phlebotomist, who was called only once.

GrPD reported that the time spent obtaining warrants and evidence, from arrest to blood extraction, took from 2 to 2.5 hours—about 45 minutes longer than processing a regular DWI arrest with a breath test. The breakdown was as follows: 15 to 20 minutes at the site of the traffic stop and including transport to the detention center; 30 minutes at the Intoxilyzer, including the observation period; 15 to 20 minutes or as long as 1 hour to complete the appearance before the magistrate; 5 to 20 minutes transporting suspect to the location of the blood draw; and 15 to 20 minutes securing the blood sample. SHP reported that the process took

2 to 3 hours—an hour longer than DWI arrests with breath test submission. The SBI crime lab returned blood alcohol analysis usually in 1 1/2 to 3 months.

Observations of the Warrant Program

Resources for phlebotomy services, time expenditures, and safety issues were the main obstacles to the search warrant program in Pitt County. Yet overall, program operatives approved of the program.

Planning phlebotomy operations was an issue for law enforcement. One suggestion by GrPD was to have blood extraction performed at the detention center, which would cut transport time and would be more convenient, efficient, and secure. The nursing service that was contracted with the detention center, however, did not have provisions for DWI phlebotomy in their contract.

GrPD found a solution by approaching the hospital. The PCMH lab had a history of assisting law enforcement with forensic services prior to this study, and the hospital had never billed the police for this service. The lab agreed to conduct blood draws at no cost as long as the volume was manageable.

Lab staff members were occasionally subpoenaed by the defense, resulting in staff shortages. The hospital not only lost staff during those hours, but also paid the phlebotomists for their time spent in court. A solution was arranged by hospital administrators and the assistant district attorney. Lab employees reported orders to appear in court to the hospital risk management department. Risk management then contacted the prosecutor to arrange for the phlebotomist to be put on telephone standby. Thereafter, laboratory employees rarely if ever were called to appear in court.

An unresolved cost of the program was the time expenditure. SHP interviewees reported that time expenditures were definitely a problem, as officers got burned out on elective procedures such as warrants for blood when those procedures were seen as time-consuming. Another unresolved expense was the additional workload given to the State forensic lab. Although prosecutors often asked for reimbursement of lab test costs as a sanction against the suspect, judges in Pitt County rarely awarded it. The State then absorbed the costs incurred by SBI analysis.

Legal Outcomes

One interviewee suggested that prior to the use of search warrants, the morale of officers presenting evidence in court was occasionally an issue. The assistant district attorney who was interviewed reported that Pitt County had some of the toughest DWI litigation in the State and a very strong defense bar. Officers were often discouraged if they presented DWI cases in court and lost. Using warrants to obtain blood evidence became a tool that empowered officers who worked in DWI enforcement.

Overall, officers who used warrants reported that producing BAC evidence made DWI convictions easier to secure. Most cases that had BAC evidence, by breath or blood, became guilty pleas. Proof of BAC strengthened the prosecution's case by removing the factor of

reasonable doubt. Therefore, the extra time and work spent gathering evidence was worth the outcome of more guilty pleas, fewer trials for breath test refusal cases, an increase in successful convictions, more disposed cases and a reduction in court time. The assistant district attorney who was interviewed believed that the reduction in trials resulted in overall time savings not only for law enforcement, but also for the court system and the DA's office.

The Greenville police thought the use of warrants reduced their breath test refusals rate. Interviewees did not think that the number of DWI arrests was affected by the search warrant program. There was some media publicizing the program, but officers did not think the behavior of the public was affected. Officers conducted their regular patrols without changing their level of DWI enforcement. Repeat offenders knew about the program—either by experience or by being advised by their attorneys. One defense attorney said, “Most people who refuse would refuse anyway, especially repeat offenders who want to avoid conviction by all means. If there is no BAC, defense wins most of the cases.”

Insight into Defense Strategies

A Greenville defense attorney, who reportedly handled more DWI cases than anyone in the city and taught seminars around the State for criminal defense attorneys, was interviewed for this study. When he offered insight into strategies used by the defense, he stated that he had noticed an increased number of DWI search warrants for blood. This particular defense attorney ordered his clients to refuse breath tests if they had not been convicted of DWI in the past 7 years. His advice was that it was better to lose a driver's license for a year due to the refusal penalty than to provide BAC evidence. He believed giving suspects the right to refuse was misleading, because they were not informed that blood tests subsequently could be ordered.

The defense attorney noted that blood evidence could lead to more possibilities for uncertainty than breath evidence. The defense has examined the possibility of error in the chain of custody, using strategies such as questioning the qualifications of the individual who procured blood evidence, the correct use of procedures used for analysis at the crime lab, and the validity of test results. Some defense attorneys have issued subpoenas to phlebotomists who obtained blood samples. Subpoenaing phlebotomists in the blood warrant program, according to medical staff who were interviewed, inconvenienced them and occasionally caused staffing issues. Defense attorneys may also summon toxicologists from the SBI lab as witnesses in superior court. Superior court may disallow BAC analyses submitted by the prosecution if expert State toxicologists cannot appear in court to present the evidence.

Another tactic of the defense is to focus on the validity of the traffic stop and to try to diffuse probable cause—by examining whether the warrant was properly obtained and whether there is enough evidence in the warrant. The defense has also charged that officers did not give suspects a chance to refuse in some cases. The defense attorney interviewed mentioned that if no effective way to moderate the presentation of BAC evidence in court were possible, he advised clients to plead guilty and had negotiated for minimum sanctions.

Suggestions for Sustainability

The Office of the District Attorney was enthusiastic about the program and indicated the DA would continue to support the use of search warrants. GrPD regarded the program as completely

viable, as long as the hospital continued to work with law enforcement. Officers regarded it as an “excellent tool for an officer to use to get all the evidence he needs for a successful prosecution.” SHP reportedly would continue using warrants only if the processing time did not increase.

The lab manager reported that the hospital would continue to serve the public and the police with phlebotomy service unless hospital administration ordered them to cease. The lab could not, however, sustain increases in the inconvenience to staff, interruption of their hospital responsibilities, or an increased volume of requests. An increase in warrant volume would not only stretch staffing resources, but the more frequent presence of law enforcement officers would become more noticeable to patients. As one hospital staff member said, “We live and die by our patient satisfaction scores, and we would not like a reputation as a dangerous place.”

Officers, representatives of the DA, and hospital staff agreed that the program would be increasingly self-sufficient if judges would require restitution for the cost of phlebotomy and analysis if the defendant is convicted. Law enforcement officers in Pitt County suggested that other jurisdictions interested in using warrant systems should communicate with the DA’s office to make sure everyone is on line; should take meticulous notes, making sure to record probable cause; and should be polite and courteous to the suspect throughout the process.

Duplin County

The population of Duplin County was 49,063 in 2000. The county seat of Kenansville had 1,149 residents (State Facts, 2007). In 2004 the rate of breath test refusal, countywide, was 21.6%. The State average was 18.8% for the same year. The SHP and Duplin County Sheriff’s Office (DCSO) had refusal rates of 22.5% and 25.8%, respectively.

Initiating the Warrant Program

In autumn 2004, researchers met with the district attorney and law enforcement in Duplin County to determine local interest in the search warrant program. The Duplin County Sheriff’s Office participated and enacted a mandatory policy to seek warrants for all breath test refusals as of January 2005.

The SHP Troop B, District IV, serves Duplin and Pender counties. The district headquarters is in Kenansville. In an August 2005 memo, the supervising officer of the SHP instructed his troopers to obtain search warrants for blood in cases of breath test refusal. However, the memo clearly stated that search warrants were not necessary for every breath test refusal. Troopers obtained warrants in more serious DWI cases such as with repeat offenses, in cases of vehicle pursuit and for violent DWI suspects. SHP reported they did not have enough staff to implement search warrants on all cases of breath test refusal. SHP did report, however, that their regular policy of getting blood evidence in serious cases became easier after the warrant program regularized phlebotomy services with the hospital.

Modifications to Warrant Execution

Researchers contracted with the Duplin General Hospital in Kenansville during January 2005 to provide phlebotomy services to the DCSO and SHP. The hospital lab had experience conducting blood draws for DWI suspects who were hospitalized and unable to perform breath tests, but not

in being on call to report to the jail for willful refusal offenders. The hospital phlebotomists attended an orientation meeting with a representative from the DA's office and DCSO.

Staff from county agencies performed blood extraction at the jail in Wayne County. The Pitt County program was serviced by hospital staff at the hospital lab. The Duplin program combined elements of Wayne and Pitt, using hospital staff who provided service at the jail. There were also cases in Duplin County in which officers opted to transport suspects to the hospital one block away from the jail, if it made phlebotomy procedures more expedient.

Study funds were available from January 2005 to February 2006; the first blood draw was not conducted until July 2005. The lab director of DGH reported that after the original funding contracted in January 2005 was spent, the hospital continued to send phlebotomists to the county jail to conduct blood draws.

From arrest to blood draw, the process took 1 to 2 hours for DCSO. Waiting for a magistrate to arrive and sign a warrant took from 20 minutes to an hour, and waiting for the phlebotomist to arrive and draw the sample took 15 to 30 minutes. Compared to a DWI where a breath sample is obtained, refusal cases with search warrants took an additional 30 minutes to an hour. SHP reported that its regular DWI cases with breath evidence took about an hour and a half. With a blood draw, the SHP time expenditure increased to 2.5 hours. The SBI lab in Raleigh processed Duplin County blood evidence in a few months.

Observations Regarding the Warrant Program

The sheriff and most DCSO deputies were in favor of the warrant program, which seemed to run smoothly. Time was the only outstanding expense from the perspective of law enforcement, and even that was not burdensome. Some officers did not like the extra work associated with using the warrant system, but they felt that a higher conviction rate would make it worthwhile.

There were conflicting accounts from SHP as to whether it favored the use of search warrants. It was clear, however, that troopers wanted to seek warrants only in more aggravated cases. The SHP troopers patrolling Duplin County, like their counterparts in other counties, had arguments with the use of warrants for blood. They felt that not informing suspects of the troopers' ability to seek additional chemical tests upon refusal was not fair to the suspect. One officer stated that he had "a problem with punishing people for refusing to provide evidence, then forcing them to provide [blood evidence] and using it against them. It seems like a 'double whammy.'"

Suspects also complained to officers that they should have been informed that blood would be drawn if they refused the Intoxilyzer. There were no reports from the sheriff's office, highway patrol, or phlebotomy staff of combative suspects or safety issues.

There was very little public knowledge of or reaction to the warrant program. Repeat offenders may have known about it if they had been through the process before, but as one officer said, "they are the kind of people who don't care." Although the defense bar was aware of the program, the defense attorney interviewed did not uniformly recommend his clients to refuse all BAC testing. He plea-bargained and did not try to challenge the search warrants for cases in which warrants for blood were executed.

Interviewees reported no effect from the search warrant program on the rate of DWI arrests or breath test refusals. A representative of the DA felt that DWI prosecution had increased. No judges who were interviewed had heard cases that emerged from the warrant program; this would be a reasonable consequence of an increase in guilty pleas and a decrease in cases going to trial.

Judges accepted blood evidence in District Court in the same manner as breath evidence. Members of law enforcement seemed to think that judges in Duplin County gave the BAC value high consideration. BAC evidence trumped other evidence of bad driving behavior or SFSTs. Prosecutors and law enforcement officers interviewed in Duplin County believed blood evidence was more credible than breath evidence. Officers agreed that convictions for DWI arrests increased when BAC evidence was presented. Accordingly, it was difficult to obtain DWI convictions for breath test refusal cases with no BAC evidence, which were often pled down to lesser charges. Officers considered executing warrants for blood in breath test refusal cases a “very useful tool” to obtain “the strongest evidence we can get.”

Suggestions for Sustainability

The SHP suggested that having a magistrate on duty would be more efficient than being on call, but it recognized that was unlikely to happen in a small, rural county with limited resources. Troopers wanted a change in the wording in the Intoxilyzer rights presented to suspects, to include a warning that blood evidence could be sought. They felt telling suspects during the initial breath test request that blood tests could be ordered would deter breath test refusals.

The hospital budget absorbed the cost of phlebotomy service when the project funding was exhausted in February 2006. The hospital lab reported that future funding to cover phlebotomists would be needed at some point. Workload was not an issue, did not affect the performance of phlebotomists during their regular shifts, and no phlebotomists were called to court to testify.

Other Issues

According to the defense attorney interviewed, “Hispanic males who are uninformed about the law and the fact that they can lose their license[s]” were more likely to refuse the breath test. The SHP agreed, reporting that most of its breath test refusals were from Hispanic suspects. As in Wayne County, few if any troopers patrolling Duplin County spoke Spanish. There were no Spanish instructions on how to deliver a breath sample, even though the Intoxilyzer rights were translated. The SHP believed that many Spanish-speaking suspects either truly did not understand what was requested of them or claimed ignorance when it was to their advantage.

Comparison County Case Studies

The North Carolina district attorneys who responded to the study proposal were truly interested in pursuing a search warrant program. Some counties did not pursue program implementation despite their initial enthusiasm. These were the comparison counties of Guilford, Durham,

Wake, Dare, Camden, Currituck, Pasquotank⁸, Cumberland and Forsyth. The experiences of these counties are lessons on the obstacles encountered during program implementation. These counties were unable to overcome resource issues, phlebotomy organization and issues particular to their local economies.

Program implementation was halted by a shortage of resources in some counties. Law enforcement officers were concerned with the amount of time they would have to spend securing warrants and blood samples. Smaller counties determined they had neither the personnel nor the budget flexibility to make a warrant program feasible. The realities of geography and travel in some potential study locations compounded the time and staff burdens. Coastal counties had circuitous roadways, and officers in rural counties had long distances to travel. Arresting officers, available magistrates, and potential phlebotomists were not located within the same jurisdiction in one case; and no mutual aid agreement yet existed amongst agencies or across county lines. Other counties found they simply had priorities more immediate than warrant program implementation.

Law enforcement and county officials often could not reach a consensus on who would perform the phlebotomy services or where blood extraction would take place. Hospitals in some counties were reluctant to perform phlebotomy services on a regular basis. Potential contract phlebotomists in other counties were deterred by costly and time-consuming travel. The solution of training law enforcement officers to perform venipuncture was ill-received in some counties. In other counties, the training of officers or Intoxilyzer technicians as phlebotomists was not feasible within the parameters of the research project.

Generally, interviewees thought that the warrant program would be sustainable if sufficient phlebotomy resources were available, and they argued for obtaining restitution from defendants to cover the costs of phlebotomy services and toxicology processing. The warrant program increased workload on the crime lab; the increased workload would have justified the addition of State toxicology positions, at least on a temporary basis.

⁸ Dare, Camden, Currituck, and Pasquotank counties are within the same prosecutorial district.

Program Evaluation

An objective of this study was to examine the effectiveness of the use of warrants in decreasing refusal rates. The study design called for selection of several experimental counties; selection of appropriate comparison counties; implementation of the issuance of warrants and appropriate publicity to the driving public, and collection of several types of data. Our analyses sought to compare the refusal rates of experimental counties before and after their use of warrants, and compared to comparison counties that did not use warrants in the case of breath test refusals.

Initially 13 counties had expressed interest in participating in this research project, all to implement a warrants program and to serve as experimental counties in the study design. However, only 3 counties were able to implement a blood draw program within the time frame of this study; they were Wayne, Pitt, and Duplin. The nine Comparison Counties used in this study, that did not implement programs were Camden, Cumberland, Currituck, Dare, Durham, Forsyth, Guilford, Pasquotank, and Wake.

Evaluation Methodology

Public Awareness

In order to evaluate general public knowledge and awareness, voluntary and anonymous surveys from motorists doing business in driver licensing offices were conducted in the experimental counties and 7 of the 9 comparison counties (Camden and Currituck were excluded because they did not have full-service DMV offices). DMV staff asked all eligible drivers visiting selected driver licensing offices to complete a one-page, pen-and-paper survey. The surveys measured respondent demographics, perceptions of DWI enforcement, opinions concerning the DWI arrest and penalty process, exposure to publicity about the warrant program and legal knowledge of breath test refusals and blood warrants (see Appendix B).

The surveys were collected in one driver licensing office per county in two intervals. Wave 1 was conducted between December 2005 and March 2006. Wave 2 occurred between October 2006 and December 2006, shortly after the district attorneys in the experimental counties released a statement to the press intended to publicize their county blood warrant program.

Warrants Issued

The Forensic Tests for Alcohol Branch (FTAB) is the repository of all data for DWI chemical test submission and refusal in North Carolina as recorded in the Intoxilyzer 5000 machines. FTAB provided individual case data in spreadsheet format from December 1, 2004, through September 30, 2006, for the experimental and comparison counties.

FTAB does not identify breath test refusal cases that culminated in search warrants for blood. Therefore, district court files in experimental counties were manually searched to determine whether warrants were sought. This was accomplished by locating the blood toxicology reports issued by SBI to the court clerks. The toxicology reports were also the source of blood-based

BAC levels. The DWI files of local law enforcement agencies were in some cases used as a cross reference for determining warrant cases. Data from the Administrative Office of the Courts were used to verify demographic information.

Demographic characteristics of those refusing a breath test were compared by warrant status (see Table 1). There were no significant differences in age or sex between those suspects who did and did not receive a warrant to obtain a blood sample. Statistically significant differences by warrant status were observed for race, specifically between Black and Hispanic and between White and Hispanic, with proportionally more warrants issued to Whites and fewer to Hispanics ($p < .001$).

Table 1. Demographic Characteristics of Refusal Offenders:
Experimental Counties, Wayne, Pitt, and Duplin Combined, December 2004-September 2006*

Offender Demographic	No Warrant n=897 (86.7%)		Warrant n=137 (13.3%)	
	n	%	n	%
Sex p=.208				
Male	799	89.1	117	85.4
Female	98	10.9	20	14.6
Age p=.154				
<25 years	215	24.0	37	27.0
25-29 years	133	14.8	29	21.2
30-39 years	250	27.9	32	23.4
≥40 years	299	33.3	39	28.5
Race† p<.001				
White	351	39.1	70	51.1
Black	270	30.1	49	35.8
Hispanic	264	29.4	16	11.7
Other	12	1.3	2	1.5

May not total 100% due to rounding.

† "Other" includes Asian, Indian, Unknown, and those identified as "Other"; p-value calculated by Fisher's exact test.

Refusal Rates

FTAB provided case-by-case information on breath tests for the period 2001 (thus, three years before the use of warrants) through 2006. These data were examined for the experimental counties, the comparison counties, and also statewide.

FTAB calculates the State refusal rate as the sum of all test refusals (breath alcohol, blood alcohol, and blood drug tests) divided by the sum of all test requests. For the purposes of this study, researchers followed the same protocol both for consistency and due to the fact that FTAB refusals were available only in an aggregate of all test types. The refusal rate closely reflects the

overall breath test refusals rate, as the number of blood alcohol and blood drug tests are negligible.

Evaluation Results

Public Awareness

A total of 1,672 surveys were collected during Wave 1. Of these, 581 were from the three experimental counties and 1,091 surveys were from the comparison counties. A total of 1,799 surveys were collected during Wave 2. Of these, 556 were from the three experimental counties and 1,243 surveys were from the comparison counties.

In general, the results did not indicate a difference in knowledge about the use of warrants between drivers in the experimental counties and those in the comparison counties. There was, however, support across counties for officers to seek a warrant in cases of breath test refusal. Key results are summarized in Table 2.

Table 2. DMV Awareness Survey

Awareness Survey Questions	Wave 1		Wave 2	
	Experimental Counties (n=581)	Comparison Counties (n=1,091)	Experimental Counties (n=556)	Comparison Counties (n=1,243)
What happens if a driver arrested for alcohol impaired driving refuses a law enforcement officer's request for a breath test? [Response of "Officer seeks a warrant for an alcohol test" is presented here.]	28% (160)	26% (288)	24% (131)	23% (282)
What happens if a driver arrested for alcohol impaired driving refuses a law enforcement officer's request for a breath test? [Response of "Driver has a better chance of being convicted" is presented here.]	46% (265)	44% (482)	49% (272)	48% (596)
Do you agree that police should routinely seek warrants for a blood test from any arrested alcohol impaired driver who refuses to take a breath test? ("strongly agree" and "agree" responses listed here)	73% (408)	69% (711)	76% (401)	70% (840)

Warrants Issued

Municipal and county law enforcement agencies were more receptive to operating a warrant program than State highway patrol agencies. The State patrols, which typically handle the bulk of DWI arrests, had lower levels of participation in the warrant program. Furthermore, not all local agencies in each experimental county participated in the warrant program. Within agencies that did conduct the program, not all officers sought or executed warrants. Even the participating officers did not pursue warrants for every instance of breath test refusal, based on their own discretion and on the voluntary nature of the warrant program.

The experimental period of the warrant program was between December 2004 and September 2006. During that time, 1,034 people refused a breath test in the experimental counties

(combined); and of those reported refusals, 137 (13%) warrants for blood draws were executed. During this overall time frame, Wayne County executed 75 warrants, Pitt executed 58 warrants and Duplin executed 4 warrants.

Three warrants were executed during 2004 in the experimental counties: 2 were issued in Wayne and 1 in Pitt County. Of the 85 warrants executed during 2005, 2 were issued in Duplin, 38 in Wayne, and 45 in Pitt County. And of the 49 warrants executed during 2006, 28 in Wayne, 19 in Pitt County, and 2 were issued in Duplin.

Of the refusal cases in which warrants were executed, most cases were associated with higher BAC driver levels. The number of warrants executed for each year of the program by blood test result is detailed in Table 3.

Table 3. Number of Warrants by BAC Level:
Experimental Counties, Wayne, Pitt, and Duplin (Combined), December 2004-September 2006

Range	Year					
	2004		2005		2006	
BAC Level (g/dL)	n=3	%	n=85	%	n=49	%
.00-.07	-	-	5.0	6.3	3.0	6.4
.08-.15	-	-	28.0	35.0	21.0	44.7
≥ .16	3.0	100.0	47.0	58.8	23.0	48.9

* May not total 100% due to rounding.

† Five BAC values missing for 2005 and two BAC values missing for 2006.

‡ Includes the counties of Duplin, Pitt, and Wayne.

Police and court records in the experimental counties for the year 2005 were examined to determine the impact of the issuance of a warrant on the time it took to move through the court system to obtain a verdict. The median number of days from time of the offense until the blood was received in the SBI lab was 4 days (interquartile range: 3-9 days). The median number of days from time of offense until the lab result was returned to the court was 73 days (interquartile range: 59-83 days). There was no significant difference in the mean number of days from offense to verdict for an individual with or without the execution of a warrant (202.8 ± 99.0 versus 205.5 ± 130.0 , respectively; $p=.84$).

Refusal Rates

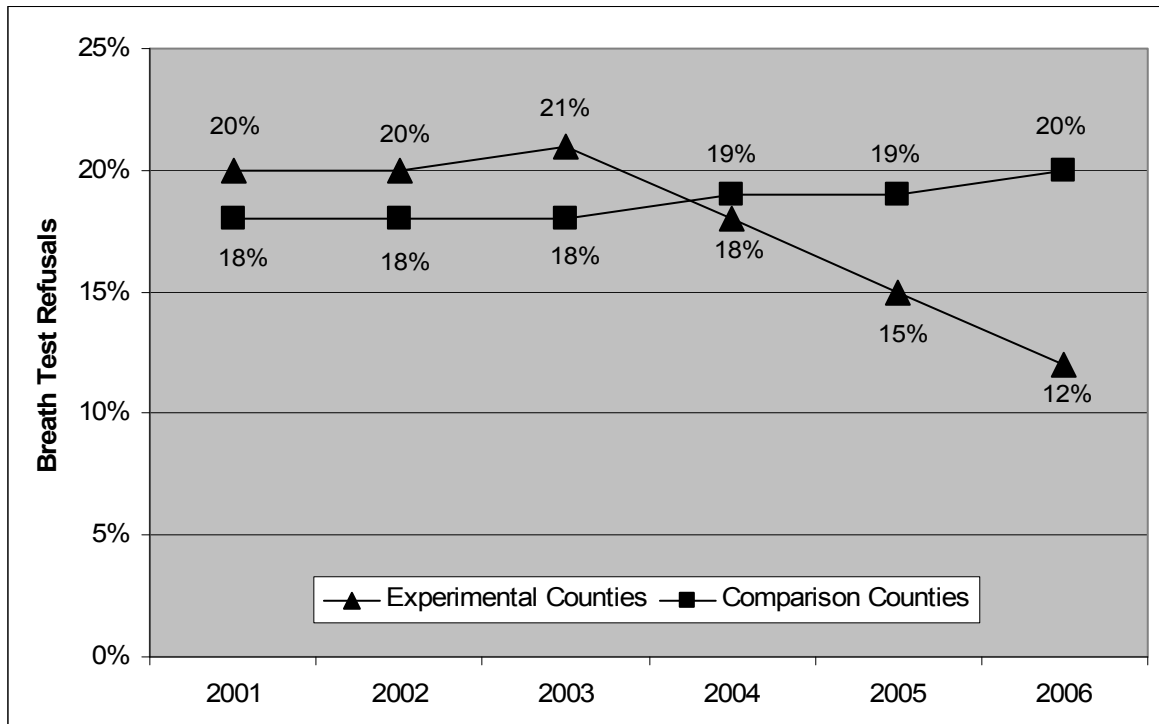
From 2001 to 2006, forensic test refusal rates in North Carolina statewide increased slightly from 18% to 19%. The comparison counties also experienced an increase in test refusal rates from 18% in 2001 to 20% in 2006. Conversely, the experimental counties experienced a decrease in refusal rates. The refusal rate of 20% in 2001 increased slightly to 21% in 2003, was near the

statewide average of 18% in 2004, and then declined to 12% by 2006. Data on refusal rates can be seen in Table 4 and Figure 2.

Table 4. Forensic Test Refusal Rates, 2001-2006*†

Experimental Counties			
Wayne, Pitt, Duplin			
Year	Number of Tests	Number of Refusals	Refusal Rate
2001	3,112	637	20.47%
2002	2,927	583	19.92%
2003	2,814	594	21.11%
2004	2,762	490	17.74%
2005	2,794	417	14.92%
2006	2,164	267	12.34%
Comparison Counties			
Guilford, Durham, Wake, Dare, Camden, Currituck, Pasquotank, Cumberland, Forsyth			
Year	Number of Tests	Number of Refusals	Refusal Rate
2001	14,832	2,666	17.97%
2002	14,065	2,503	17.80%
2003	13,181	2,367	17.96%
2004	13,195	2,522	19.11%
2005	14,106	2,726	19.33%
2006	13,378	2,675	20.00%
Statewide			
All 100 North Carolina Counties			
Year	Number of Tests	Number of Refusals	Refusal Rate
2001	71,716	12,757	17.79%
2002	65,892	11,847	17.98%
2003	61,394	11,104	18.09%
2004	60,392	11,348	18.79%
2005	60,118	11,237	18.69%
2006	57,376	11,067	19.29%
*Data are from North Carolina Forensic Tests for Alcohol Branch annual DWI reports.			
†Individual county forensic test data may be found in Appendix C.			
Shading indicates years in which warrant programs operated, for a month or longer. The experimental period for this project was December 2004 through September 2006.			

Figure 2. Forensic Test Refusal Rates: Experimental and Comparison Counties, 2001-2006



Summary

Many people believe that inclusion of a driver's BAC can help the prosecution of a DWI case; and many States have high breath-test refusal rates. This study examined one potential strategy for decreasing the percentage of refusals—the use of warrants to obtain blood samples. Drivers may be less likely to refuse breath tests if they understand their right to refusal does not terminate the ability of law enforcement to obtain BAC evidence; and that they will then also be subject to implied consent sanctions.

At the start of this project, 13 counties expressed interest in beginning the use of warrants in cases of breath test refusals. However, the amount of resources required for phlebotomy services, the extra time expenditures, and unique safety concerns posed obstacles to the implementation of the warrant program. As a result, several counties initially interested in developing and implementing a warrant program chose not to pursue a program. Several smaller counties determined that they had neither the personnel nor the budget flexibility to make a warrant program feasible. Finally, other counties in North Carolina believed they had priorities more immediate than a warrant program. Three counties, Wayne, Pitt, and Duplin, began using warrants; however, even in these counties the use of warrants was limited, with only 13% of the refusal cases resulting in the issuance of a warrant.

This report documents many of the experiences of counties attempting to implement a warrant program. Although there were sometimes implementation difficulties in terms of resources, logistics, and staffing, many involved in the warrants efforts expressed a belief that the use of warrants was beneficial to their prosecution of impaired driving cases.

During the years that the program was operational, the proportion of breath alcohol test refusals decreased by about one-third, from 18% to 12%, in the experimental counties, while the refusal rate in the comparison counties and in the State increased by about one%.

While these results are promising, our interpretation of the results is limited by the low program strength (i.e., percentage of warrants issued compared to breath test refusal cases), and lack of media and public awareness. However, the drinking/driving subset of the general population may have become aware of the warrant program by means other than earned media, such as word of mouth among drinkers, legal counsel, or even during the arrest process.

The findings from this study are particularly relevant, since on December 1, 2006, several months after this study concluded, the Motor Vehicle Driver Protection Act of 2006 (MVDPA) went into effect in North Carolina. In addition to the legislation of new implied consent laws and the modification of others, the MVDPA reduces the restrictions on people qualified to draw blood and clarifies the law stating that no search warrant is required to obtain additional evidence from a driver who refuses a breath test. More importantly, DWI offenders are now informed more clearly that law enforcement officers may pursue other types of chemical testing in the event of a breath test refusal. It is hoped that this legislation will produce a reduction in breath test refusal rates and positive outcomes in the prosecution of alcohol-impaired driving.

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Appendix A: Search Warrants and Checklists

Search Warrant for Blood or Urine in DWI Cases, page 1

<p>File No. _____</p> <p style="text-align: center;">SEARCH WARRANT FOR BLOOD OR URINE IN DWI CASES</p> <p style="text-align: center;">IN THE MATTER OF</p> <p>Name _____</p> <p>Date Issued _____ Time Issued <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p>Name Of Applicant _____</p> <p>Name Of Additional Agent _____</p> <p>Name Of Additional Agent _____</p> <p style="text-align: center;">RETURN OF SERVICE</p> <p>I certify that this Search WARRANT was received and served as follows:</p> <p>Date Received _____ Time Received <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p>Date Executed _____ Time Executed <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p><input type="checkbox"/> I made a search of _____</p> <p>_____ as commanded.</p> <p><input type="checkbox"/> I seized the items listed on the attached inventory.</p> <p><input type="checkbox"/> I did not seize any items.</p> <p><input type="checkbox"/> This Warrant WAS NOT executed within forty-eight (48) hours of the date and time of issuance and I hereby return it not executed.</p> <p>Signature Of Officer Making Return _____</p> <p>Department Of Agency Of Officer _____</p> <p>AOC-CR-155, New 3/02 ©2002 Administrative Office of the Courts</p>	<p style="text-align: center;">STATE OF NORTH CAROLINA</p> <p style="text-align: center;">_____ County</p> <p style="text-align: right;">In The General Court Of Justice District Court Division</p> <p>To any officer with authority and jurisdiction to conduct the search authorized by this Search Warrant</p> <p>I, the undersigned, find that there is probable cause to believe that the property and person described in the application on the attached sheets and related to the commission of a crime is located as described in the application.</p> <p>You are commanded to take the person named in the application to a physician, registered nurse or other qualified person to obtain sample(s) of blood and/or urine described in the application from the person named in the application. You are to seize the sample(s), have the sample(s) tested for one or more impairing substances and keep the unconsumed sample(s) subject to court order and process the person according to law.</p> <p>You are directed to execute this Search Warrant within forty-eight (48) hours from the time indicated on this Warrant and make due return to the Clerk of the issuing court.</p> <p>This Search Warrant is issued upon information furnished under oath by the person or persons shown.</p> <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Date _____</td> <td style="border: none;">Signature _____</td> <td style="border: none;"><input type="checkbox"/> Deputy CSC</td> <td style="border: none;"><input type="checkbox"/> Assistant CSC</td> <td style="border: none;"><input type="checkbox"/> CSC</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;"><input type="checkbox"/> Magistrate</td> <td style="border: none;"><input type="checkbox"/> District Ct. Judge</td> <td style="border: none;"><input type="checkbox"/> Superior Ct. Judge</td> </tr> </table> <p>This Search Warrant was returned to me on the date and time shown below.</p> <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Date _____</td> <td style="border: none;">Time _____</td> <td style="border: none;"><input type="checkbox"/> AM</td> <td style="border: none;">Signature _____</td> <td style="border: none;"><input type="checkbox"/> Deputy CSC</td> <td style="border: none;"><input type="checkbox"/> Assistant CSC</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;"><input type="checkbox"/> PM</td> <td style="border: none;"></td> <td style="border: none;"><input type="checkbox"/> Clerk Of Superior Court</td> <td style="border: none;"></td> </tr> </table> <p style="text-align: center;">(over)</p>	Date _____	Signature _____	<input type="checkbox"/> Deputy CSC	<input type="checkbox"/> Assistant CSC	<input type="checkbox"/> CSC			<input type="checkbox"/> Magistrate	<input type="checkbox"/> District Ct. Judge	<input type="checkbox"/> Superior Ct. Judge	Date _____	Time _____	<input type="checkbox"/> AM	Signature _____	<input type="checkbox"/> Deputy CSC	<input type="checkbox"/> Assistant CSC			<input type="checkbox"/> PM		<input type="checkbox"/> Clerk Of Superior Court	
Date _____	Signature _____	<input type="checkbox"/> Deputy CSC	<input type="checkbox"/> Assistant CSC	<input type="checkbox"/> CSC																			
		<input type="checkbox"/> Magistrate	<input type="checkbox"/> District Ct. Judge	<input type="checkbox"/> Superior Ct. Judge																			
Date _____	Time _____	<input type="checkbox"/> AM	Signature _____	<input type="checkbox"/> Deputy CSC	<input type="checkbox"/> Assistant CSC																		
		<input type="checkbox"/> PM		<input type="checkbox"/> Clerk Of Superior Court																			

Search Warrant for Blood or Urine in DWI Cases, page 2

APPLICATION FOR SEARCH WARRANT FOR BODILY FLUIDS	
<i>(Attach additional sheets if necessary.)</i>	
Name of Law Enforcement Officer (applicant)	<input type="checkbox"/> N.C. Patrol <input type="checkbox"/> Police/Sheriff
Name of Individual To Be Searched	Address <input type="checkbox"/> Male <input type="checkbox"/> Female
Location of individual to be searched	How to be seized <input type="checkbox"/> Blood <input type="checkbox"/> Urine
Crimes Charged <input type="checkbox"/> DWI, G.S. 20-138.1. <input type="checkbox"/> Habitual DWI, G.S. 20-138.5.	<input type="checkbox"/> Commercial DWI, G.S. 20-138.2. <input type="checkbox"/> Felony Death By Vehicle, G.S. 20-141.4. <input type="checkbox"/> Other (specify) _____
<p>I, the law enforcement officer named above, being duly sworn, request that the Court issue a warrant to search the person of the individual named above, who may be found at the location described above, and to seize sample(s) of the above specified bodily fluid(s) of that individual.</p> <p>I swear to the following facts to establish probable cause for the issuance of a search warrant.</p> <p>I am a sworn law enforcement officer of the above named agency. As such I am empowered to search for and seize evidence described in N. C. General Statutes Chapter 14, Criminal Law, Chapter 20, Motor Vehicle Law, and Chapter 90, Controlled Substances. I have received training in the detection and apprehension of impaired drivers and the investigation of motor vehicle collisions. I have been a sworn law enforcement officer for over _____ years and during that time I have investigated over _____ incidents of offenses related to impaired driving.</p> <p><input type="checkbox"/> 1. I rely on the facts stated in the following report(s), of which a copy or copies is/are attached and incorporated by reference: <i>(Attach a copy of the report(s) checked below if available and if either contains relevant facts.)</i></p> <p style="margin-left: 20px;"><input type="checkbox"/> Affidavit and Revocation Report (AOC-CV2-1/DHHS 3907). <input type="checkbox"/> Driving While Impaired Report Form/Alcohol Influence Report Form.</p> <p><input type="checkbox"/> 2. The following facts establish on or about the _____ day of _____ at _____ AM <input type="checkbox"/> PM, the individual named above was operating a (<input type="checkbox"/> commercial motor) vehicle to wit: (type, make and year) _____ on _____ a _____ highway/street <input type="checkbox"/> public vehicular area in _____ County at or near the city/town of _____ in violation of the statute(s) specified above:</p> <p>Check all that apply.</p> <p><input type="checkbox"/> a. At the time and place stated above:</p> <p style="margin-left: 20px;"><input type="checkbox"/> I observed the above named individual operating the above-described vehicle. <input type="checkbox"/> I observed the above-described vehicle being operated in the following manner: _____</p> <p><input type="checkbox"/> d. On or about the date stated above, at _____ AM <input type="checkbox"/> PM, I responded to a report of a vehicle crash and, after arriving at the scene, ascertained that the above named individual was operating the described vehicle at the time and place stated from the following facts:</p>	

AOC-CR-155, Side 2, New 3/02, © 2002 Administrative Office of the Courts

c. The above named individual admitted to me operating the described vehicle at the time and place indicated.

d. On or about the date stated above, at _____ AM PM:

I detected a strong moderate faint odor of alcohol coming from the breath of the above named person:

at the scene.
 at the following hospital _____
 other location _____

I observed the following behaviors of the individual named above, which evidence impairment of the person's mental and/or physical faculties as follows:

e. The above named individual stated to me that before or while operating the described vehicle he/she:

had consumed alcohol.
 was consuming alcohol.
 had consumed controlled substance, to wit: _____
 had consumed other impairing substance, to wit: _____

f. The above named individual refused to submit to a chemical analysis.

g. I observed the following facts:

h. Other reliable persons stated to me the following facts: *(Note: Name officer or witness(es) and list facts related to impairment, vehicle operation, etc.)*

3. The above named individual has previously been convicted of one or more offenses involving impaired driving.

Based on all the foregoing, and on my training in detecting impaired driving violations and my experience as a law enforcement officer, I have formed an opinion satisfactory to myself that the above named person had consumed a sufficient quantity of some impairing substance(s) to appreciably impair that person's physical or mental faculties or both, and that the person drove the above described vehicle on the above described highway or public vehicular area while under the influence of impairing substance(s). It is my further opinion that evidence of impairing substance(s) is at this time present in the body or bodily fluids of the above named person, and that unless a warrant is issued and executed without delay, the evidence may dissipate and be lost.

SWORN AND SUBSCRIBED TO BEFORE ME	Date _____	Signature of Applicant _____
Signature _____	<input type="checkbox"/> Magistrate <input type="checkbox"/> Dep. CSC <input type="checkbox"/> Asst. CSC <input type="checkbox"/> CSC <input type="checkbox"/> Judge <input type="checkbox"/> Notary Public _____ Seal <i>(Date Commission expires)</i>	

Search Warrant for Blood or Urine in DWI Cases CHECKLIST, page 1

SEARCH WARRANT FOR BLOOD or URINE in DWI CASES CHECKLIST FOR AOC-CR-155

START ON SIDE 2 [Application for Search Warrant for Bodily Fluids]

1. **Name of officer** applying for warrant.
2. **Rank** of officer applying for warrant.
3. **Agency** of officer applying for warrant.
4. **Name of individual** who is to provide blood or urine sample, e.g., defendant or driver.
5. **Race** of individual who is to provide blood or urine sample, e.g., defendant or driver.
6. **Sex** of individual who is to provide blood or urine sample, e.g., defendant or driver.
7. **Location of individual** who is to provide blood or urine sample, e.g., defendant or driver [name of hospital or jail, or, "in custody of applicant" if the individual is in patrol car or holding cell].
8. Specify **blood or urine or both**.
9. Indicate **crime** or crimes with which defendant/driver is charged.
10. State the **number of years** that applicant has been a sworn law enforcement officer with any agency.
11. State the **number** of DWIs, DWIs in a commercial motor vehicle, crashes and fatalities involving alcohol, etc. investigated by applicant.
12. **Block 1 (Optional)**. Attach copies of the Affidavit & Revocation Report forms and DWI report forms if available. If either block is checked, make sufficient copies of these forms to attach to the 3 copies of the search warrant. [Information contained on these forms need not be repeated on the application.]
13. **Block 2**. Complete **date** and **time** of operation [The date and time of the offense should be the same as given in the citation or arrest warrant]. Include the **type, make** and **year** of vehicle. If a commercial motor vehicle check appropriate block. [Be sure to record in your gross vehicle weight rating for the vehicle or why it is a commercial motor vehicle.]
14. Indicate **street/highway** name or **PVA** name. Indicate **Pitt County** and **city/town**.
15. Check **Block a and Block one** if you observed operation of the vehicle by the defendant/driver. Check **Block a and Block two** to describe how the vehicle was being operated when it indicates impairment. [You may check both blocks if applicable.]
16. Check **Block b** [not block a] if you came to a crash scene and through your investigation you determined the defendant/driver was driving other than the defendant/driver admitting to driving. Write in the provided space how you determined he was the driver, e.g. "John Smith, who was involved in the crash [avoid using the word "accident"], pointed out Mr. Jones (the defendant) as the driver."
17. Check **Block c** if the defendant admitted driving. [You can check both b and c if the evidence supports both.]
18. Check **Block d** to indicate the time and the strength of any odor of alcohol and select one or more of the locations where the odor was detected. [If DWI report form is attached, repeating the same information in this section is unnecessary, but does not invalidate the application.]
19. Check **Block d** and indicate any behaviors that the defendant/driver engaged in which indicate impairment. [If DWI report form is attached, information contained on it need not be repeated here, but does not invalidate the application.]

Search Warrant for Blood or Urine in DWI Cases CHECKLIST, page 2

20. Check **Block e** and the applicable boxes if the defendant/driver **admitted** consuming alcohol and/or drugs.
21. Check **Block f** if the defendant/driver refused the Intoxilyzer test and/or a blood test pursuant to the implied consent law.
22. Check **Block g** to add any additional facts to establish probable cause to believe the defendant/driver is impaired and the blood and/or urine test will reveal evidence of a crime.
23. Check **Block h** if another officer gave information that is necessary. Use this section if one officer calls a second officer and relays the facts so that the second officer can obtain the search warrant. Additional sheets may be needed.
24. Check **Block 3** if the defendant/driver has one or more prior convictions of offenses involving impaired driving, e.g. DWI, DWI in a commercial motor vehicle, habitual DWI, felony death by vehicle, etc.
25. Swear to the facts contained in the application and sign before a magistrate, clerk or judge.

GO TO SIDE ONE OF THE FORM

Fill in identifying information. After service complete remaining portion.

PROCEDURES

- Present Search Warrant & attachments to magistrate for completion and signature.
- Make three (3) copies of Search Warrant and Application (with attachments, if any) and staple Search Warrant and Application (with attachment, if any) together. One of the three copies will be for your records. [See below. You may need to make an additional fourth copy for the facility that will be withdrawing the blood.]
- Leave one copy of Search Warrant and Application with Court (Magistrate).
- Take Original and a Copy of Search Warrant and Application and the driver to the hospital or other facility where the blood and urine samples will be obtained.
- Obtain SBI blood kit.
- Serve Search Warrant and Application on driver & have blood drawn by doctor, nurse or other qualified person (record name & job title), in your presence. **Note: EMS worker is NOT a qualified person because they must draw blood pursuant to doctor's orders.**
- Have facility obtain urine sample (if included on search warrant application) in accordance with facility's policy to assure reliability of sample and privacy for driver.
- If facility wants a copy of search warrant make them one.
- Urine samples should be refrigerated unless a preservative was used.
- After blood and/or urine sample[s] is/are obtained, return Original Search Warrant and Application to the Court [i.e., Clerk's Office (you may give to the magistrate to forward to the Clerk's Office)] indicating date executed, date and time of return, the driver was searched and items on inventory were seized.

• Complete Inventory of Seized Property form (AOC-CR -206), give a copy to driver and return original to the Court (This inventory can be served later if form is unavailable, but the better practice is to serve at the same time.).

• Maintain the chain of custody, complete SBI-5 form & submit blood and/or urine to SBI for chemical analysis for:

- alcohol controlled substance other impairing substance.

Additional forms may be found at www.nccourts.org. Select Forms. Enter 155 in Form Number and Search. Select the first entry, AOC-CR-155, Search Warrant for Blood or Urine in DWI Cases.

Appendix B: Public Awareness Survey, Wave 1 and Wave 2

Public Awareness Survey, Wave 1

*This Driver Licensing Office is assisting in a study about Alcohol in North Carolina.
Your answers to the following questions are voluntary and anonymous. Please put survey in Drop Box.*

1. Your sex: Male Female
2. Your age: 16-20 21-25 26-34 35-39 40-49 50-59 60 Plus
3. Your race: White Black Asian Native American Other
4. Are you of Hispanic origin? Yes No
5. Your Zip Code: _____
6. In the past 30 days, how many times have you driven a motor vehicle within 2 hours after drinking alcoholic beverages?
_____ (number of times)
7. Compared with 3 months ago, are you now driving after drinking? (Check one.)
 More often Less often About the same Do not drive after drinking I do not drink alcohol
8. What do you think the chances of getting arrested are for someone who drives after drinking?
 Always Nearly Always Sometimes Seldom Never
9. Have you recently seen, heard, or read anything regarding special efforts by law enforcement to stop alcohol impaired driving in your community?
 Yes No

If yes, where did you see or hear it? (Check all that apply.)
 Newspaper Radio TV Poster/Billboard Brochure Other
10. Do you think local police enforce the drinking and driving laws:
 Very strictly Somewhat strictly Not very strictly Rarely Not at all
11. Do you think the Highway Patrol enforces the drinking and driving laws:
 Very strictly Somewhat strictly Not very strictly Rarely Not at all
12. Does the law allow drivers arrested for alcohol impaired driving to refuse a law enforcement officer's request for an alcohol test to determine how impaired they are?
 Yes No Don't know
13. What happens if a driver arrested for alcohol impaired driving refuses a law enforcement officer's request for a breath test?
(Check all that apply.)
 Driver has a better chance of avoiding conviction Driver has a greater chance of being convicted
 Nothing Driver calls his/her lawyer Officer seeks a warrant for an alcohol test Don't Know
14. The license penalty for refusing a breath alcohol test is a 30 day suspension and alcohol treatment for 12 months.
Do you think this penalty is:
 Too strict About right Not strict enough Don't know
15. The DMV license penalty for taking a breath alcohol test and registering above the legal limit is a 30 day license suspension.
Do you think this penalty is:
 Too strict About right Not strict enough Don't know
16. Do you agree that police should routinely seek warrants for a blood test from any arrested alcohol impaired driver who refuses to take a breath test?
 Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree
17. Have you ever been arrested for alcohol impaired driving? Yes No
18. Do you know the name of any alcohol-impaired driving enforcement program(s) in North Carolina?
(Check all that apply):
 You Drink and Drive. You Lose! Friends Don't Let Friends Drive Drunk
 Booze It & Lose It Checkpoint Strikeforce MADD

Public Awareness Survey, Wave 2

*This Driver Licensing Office is assisting in a study about Alcohol in North Carolina.
Your answers to the following questions are voluntary and anonymous. Please put survey in Drop Box.*

1. Your sex: Male Female
2. Your age: 16-20 21-25 26-34 35-39 40-49 50-59 60 Plus
3. Your race: White Black Asian Native American Other
4. Are you of Hispanic origin? Yes No
5. Your Zip Code: _____
6. In the past 30 days, how many times have you driven a motor vehicle within 2 hours after drinking alcoholic beverages?
_____ (number of times)
7. Compared with 3 months ago, are you now driving after drinking? (Check one.)
 More often Less often About the same Do not drive after drinking I do not drink alcohol
8. What do you think the chances of getting arrested are for someone who drives after drinking?
 Always Nearly Always Sometimes Seldom Never
9. Have you recently seen, heard, or read anything regarding special efforts by law enforcement to stop alcohol impaired driving in your community?
 Yes No

If yes, where did you see or hear it? (Check all that apply.)
 Newspaper Radio TV Poster/Billboard Brochure Other
10. Do you think local police enforce the drinking and driving laws:
 Very strictly Somewhat strictly Not very strictly Rarely Not at all
11. Do you think the Highway Patrol enforces the drinking and driving laws:
 Very strictly Somewhat strictly Not very strictly Rarely Not at all
12. Does the law allow drivers arrested for alcohol impaired driving to refuse a law enforcement officer's request for an alcohol test to determine how impaired they are?
 Yes No Do not know
13. What happens if a driver arrested for alcohol impaired driving refuses a law enforcement officer's request for a breath alcohol test? (Check all that apply.)
 Driver has a better chance of avoiding conviction Driver has a greater chance of being convicted
 Nothing Driver calls his/her lawyer Officer seeks a warrant for an alcohol test Do not know
14. The license penalty for refusing a breath alcohol test is a 30 day suspension and alcohol treatment for 12 months. Do you think this penalty is:
 Too strict About right Not strict enough Don't know
15. The license penalty for taking a breath alcohol test and registering above the legal limit is a 30 day license suspension. Do you think this penalty is:
 Too strict About right Not strict enough Don't know
16. Do you agree that police should routinely seek warrants for a blood test from any arrested alcohol impaired driver who refuses to take a breath test?
 Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree
17. Have you ever been arrested for alcohol impaired driving? Yes No
18. Do you know the name of any alcohol-impaired driving enforcement program(s) in North Carolina? (Check all that apply):
 You Drink and Drive. You Lose! Friends Don't Let Friends Drive Drunk
 Booze It & Lose It Drunk Driving. Over the Limit. Under Arrest. MADD

Appendix C: Summary of Chemical Tests for DWI, All Study Counties

North Carolina Forensic Tests for Alcohol Branch

BREATH indicates the total number of breath alcohol test requests, including both successfully administered tests and refused tests.

BLOOD indicates the total number of blood alcohol test requests, including both successfully administered tests and refused tests.

DRUG indicates the total number of blood drug test requests, including both successfully administered tests and refused tests.

REFUSAL appears in FTAB annual reports as the total number of refusals for all chemical tests, including breath alcohol, blood alcohol, and blood drug combined.

REFUSAL RATE, due to how REFUSAL is reported, is a proportion of the total refusals for all tests to the total breath alcohol, blood alcohol, and blood drug test requests.

GROUP OR COUNTY NAME	YEAR	BREATH	BLOOD	DRUG	REFUSAL	BAC LEVEL in g/dL								REFUSAL RATE
						.00	.01-.03	.04	.05-.07	.08	>.08	≥.16	≥.36	
NORTH CAROLINA	2001	70,639	867	210	12,757	628	1,634	1,054	7,567	4,123	43,817	14,706	30	17.8%
	2002	64,681	975	236	11,847	593	1,504	905	6,519	3,629	40,726	13,882	25	18.0%
	2003	60,249	874	271	11,104	500	1,306	850	6,293	3,427	37,738	13,079	22	18.1%
	2004	59,141	966	285	11,348	489	1,177	765	5,711	3,223	37,488	13,265	13	18.8%
	2005	58,726	985	407	11,237	484	1,199	713	5,459	3,125	37,619	13,298	20	18.7%
	2006	56,008	882	486	11,067	430	1,073	696	4,669	2,774	36,308	13,546	29	19.3%
EXPERIMENTAL COUNTIES														
DUPLIN	2001	725	13	0	197	4	12	10	88	46	381	141	1	26.7%
	2002	691	6	0	152	1	19	18	89	45	373	108	0	21.8%
	2003	625	2	3	170	0	9	4	81	29	336	124	0	27.0%
	2004	689	0	2	149	6	8	13	119	35	361	113	0	21.6%
	2005	606	6	2	94	4	23	10	97	34	350	108	0	15.3%
	2006	419	5	2	69	2	13	10	71	20	240	92	1	16.2%
PITT	2001	1,484	16	2	204	8	42	29	202	105	912	266	1	13.6%
	2002	1,358	18	3	191	7	27	19	189	94	851	249	0	13.9%
	2003	1,295	17	1	182	5	21	16	142	78	868	285	0	13.9%
	2004	1,150	18	2	147	2	13	14	102	73	819	274	0	12.6%
	2005	1,332	29	8	172	5	14	12	129	56	977	346	0	12.6%
	2006	1,046	26	5	102	3	15	15	86	54	800	332	2	9.5%

WAYNE	YEAR	BREATH	BLOOD	DRUG	REFUSAL	.00	.01-.03	.04	.05-.07	.08	>.08	≥.16	≥.36	REFUSAL RATE
			857	14	1	236	4	21	8	71	47	484	181	1
2002		841	6	4	240	12	15	15	64	32	471	185	0	28.2%
2003		861	6	4	242	5	14	12	62	53	480	166	0	27.8%
2004		885	15	1	194	2	10	10	87	41	557	212	1	21.5%
2005		787	22	2	151	3	12	3	63	44	534	187	0	18.6%
2006		647	14	0	96	3	9	8	57	28	460	174	1	14.5%

INITIATED WARRANTS LATE IN STUDY⁹														
MECKLENBURG		5,326	19	0	876	30	72	57	393	226	3,691	1,177	2	16.4%
	2002	4,944	25	6	800	26	58	34	324	255	3,474	1,139	3	16.1%
	2003	4,421	20	2	759	23	45	36	340	238	3,001	977	3	17.1%
	2004	3,900	22	2	769	26	47	14	204	154	2,709	1,027	0	19.6%
	2005	4,294	35	2	814	33	33	29	254	189	2,978	1,021	0	18.8%
	2006	3,735	17	0	742	32	40	30	208	155	2,545	969	2	19.8%
NEW HANOVER	2001	1,962	18	4	354	34	69	30	182	100	1,214	445	2	17.8%
	2002	1,852	20	6	345	24	58	25	178	92	1,155	418	0	18.4%
	2003	1,591	8	3	300	20	34	24	135	52	1,036	376	1	18.7%
	2004	1,555	19	3	353	23	30	18	81	54	1,018	422	0	22.4%
	2005	1,602	13	3	345	24	26	15	95	56	1,057	444	0	21.3%
	2006	1,807	8	9	367	16	29	23	97	47	1,237	481	1	20.1%
PENDER	2001	436	7	0	85	6	9	10	63	20	250	102	1	19.2%
	2002	451	2	0	81	5	10	10	54	20	273	96	1	17.9%
	2003	454	4	0	81	2	16	7	83	25	244	96	1	17.7%
	2004	513	4	0	90	4	16	15	67	38	287	102	0	17.4%
	2005	462	6	0	93	5	14	10	61	27	258	92	0	19.9%
	2006	431	3	1	77	7	8	5	47	29	261	98	1	17.7%

⁹ The counties of Mecklenburg, New Hanover, and Pender initially expressed interest in participating in the study but began program implementation too late to be included in our experimental design.

PREVIOUSLY ALLOWED WARRANT COUNTY	YEAR	BREATH	BLOOD	DRUG	REFUSAL	.00	.01-.03	.04	.05-.07	.08	>.08	≥.16	≥.36	REFUSAL RATE
CHEROKEE	2001	215	1	2	55	6	13	8	30	13	93	37	0	25.2%
	2002	156	1	0	30	0	13	4	21	3	86	24	0	19.1%
	2003	181	1	3	18	1	11	2	21	13	116	47	0	9.7%
	2004	175	2	0	23	3	9	3	19	12	108	40	0	13.0%
	2005	144	1	1	23	6	4	5	19	11	77	28	1	15.8%
	2006	171	0	3	26	2	7	5	21	11	101	38	0	14.9%
COOMPARISON COUNTIES														
CAMDEN	2001	88	1	0	7	0	1	2	12	8	59	14	0	7.9%
	2002	63	1	0	4	0	2	0	14	5	39	14	0	6.3%
	2003	64	0	0	9	0	2	1	9	8	35	10	0	14.1%
	2004	86	1	0	17	0	4	1	15	7	43	12	0	19.5%
	2005	114	0	0	12	2	2	0	6	11	81	29	0	10.5%
	2006	108	1	0	16	0	1	1	13	2	76	30	0	14.7%
CUMBERLAND	2001	3,125	37	4	484	42	73	52	377	182	1,953	660	2	15.3%
	2002	3,043	46	8	478	40	96	53	363	169	1,895	563	2	15.4%
	2003	2,581	28	6	426	38	57	42	293	156	1,598	500	0	16.3%
	2004	2,564	48	4	439	35	31	28	219	140	1,723	599	1	16.8%
	2005	2,637	49	14	481	43	59	43	264	118	1,682	544	0	17.8%
	2006	2130	29	9	397	19	35	14	167	104	1427	494	0	18.3%
CURRITUCK	2001	158	2	0	26	0	4	2	12	8	108	40	1	16.3%
	2002	176	12	0	24	0	2	2	16	3	141	52	0	12.8%
	2003	242	1	0	26	0	3	1	28	14	171	55	0	10.7%
	2004	241	6	0	27	2	6	4	33	17	158	52	0	10.9%
	2005	200	7	0	34	0	5	4	16	10	138	47	0	16.4%
	2006	174	3	0	39	0	4	0	18	10	106	46	0	22.0%

	YEAR	BREATH	BLOOD	DRUG	REFUSAL	.00	.01-.03	.04	.05-.07	.08	>.08	≥.16	≥.36	REFUSAL RATE
DARE		741	9	1	135	4	9	6	67	38	492	150	0	18.0%
	2002	749	9	0	132	1	12	4	53	35	521	169	0	17.4%
	2003	863	5	0	151	3	8	8	61	54	583	175	0	17.4%
	2004	870	14	0	172	4	9	5	62	42	590	204	1	19.5%
	2005	889	11	0	173	2	9	6	47	38	625	231	0	19.2%
	2006	752	5	0	142	2	12	2	46	33	520	167	0	18.8%
DURHAM		1,316	39	10	297	14	20	23	88	55	864	374	0	21.8%
	2002	1,194	32	11	304	5	11	16	75	54	766	317	0	24.6%
	2003	1,052	16	10	225	13	24	16	72	56	666	290	0	20.9%
	2004	1,019	19	10	237	10	17	10	56	48	665	296	0	22.6%
	2005	1,022	20	6	260	8	14	12	60	33	657	316	0	24.8%
	2006	980	11	1	272	10	19	8	55	34	594	272	1	27.4%
FORSYTH	2001	2,074	49	10	480	29	44	19	166	108	1,283	508	1	22.5%
	2002	2,128	85	6	484	21	44	25	146	89	1,405	573	2	21.8%
	2003	1,946	56	7	458	19	28	14	122	82	1,282	546	1	22.8%
	2004	1,773	71	13	439	20	22	18	105	68	1,174	478	1	23.6%
	2005	1,811	67	5	391	21	34	18	125	71	1,219	492	0	20.8%
	2006	1,718	51	19	390	24	28	14	111	65	1,144	471	0	21.8%
GUILFORD	2001	2,467	76	21	507	31	42	19	223	126	1,604	570	1	19.8%
	2002	2,130	80	25	414	25	37	20	154	104	1,460	591	1	18.5%
	2003	2,049	64	23	396	30	37	32	187	106	1,330	501	1	18.5%
	2004	2,142	72	30	450	20	38	31	153	121	1,406	553	2	20.1%
	2005	1,896	60	35	391	15	34	13	120	82	1,307	563	2	19.6%
	2006	2,184	63	50	481	18	41	23	115	91	1487	673	1	20.9%

	YEAR	BREATH	BLOOD	DRUG	REFUSAL	.00	.01-.03	.04	.05-.07	.08	>.08	≥.16	≥.36	REFUSAL RATE
	PASQUOTANK	2001	261	1	0	36	5	10	8	23	18	162	51	0
	2002	286	3	0	45	2	11	0	32	17	182	62	0	15.6%
	2003	254	3	0	51	1	4	3	30	12	156	54	0	19.8%
	2004	231	8	0	49	1	5	5	16	13	150	65	0	20.5%
	2005	229	2	0	57	1	4	2	18	8	141	57	0	24.7%
	2006	175	4	0	38	2	5	3	10	8	113	45	0	21.2%
WAKE		4,303	32	7	694	30	68	48	374	236	2,885	1,046	0	16.0%
2002		3,903	55	20	618	34	69	38	315	187	2,699	990	1	15.5%
2003		3,832	62	17	625	29	62	41	285	185	2,669	967	0	16.0%
2004		3,927	32	14	692	36	60	42	278	171	2,682	1,005	0	17.4%
2005		4,965	43	24	927	44	87	40	399	262	3,257	1,104	0	18.4%
2006		4,857	26	28	900	37	71	51	337	223	3,271	1,261	0	18.3%

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