Evaluation of the Rural Alaska Alcohol Interdiction, Investigation, and Prosecution Program

FINAL REPORT

Contract GS-10F-0086
Task Requirement TR-014

March 31, 2008

Prepared for

Brett Chapman
Office of Research and Evaluation
National Institute of Justice
810 Seventh St., N.W.
Washington, DC 20531

Prepared by

Michael Shively, Ph.D.
Abt Associates Inc.
55 Wheeler St.
Cambridge, MA 02138
www.abtassoc.com

Darryl Wood, Ph.D.
Washington State University
Vancouver, WA 98686

Lauren Olsho, Ph.D.
William Rhodes, Ph.D.
Meg Chapman
Abt Associates Inc.

Table of Contents

Abstract

Acknowledgements

Executive Summary i

Chapter 1. Program Background and Description 1

Chapter 2. Process Evaluation 12

Chapter 3. Outcome Evaluation 25

Chapter 4. Program Costs 47

Chapter 5. Program Transferability 49

Chapter 6. Conclusions 50

References 53

Appendices A – G

Abstract

Residents of villages isolated from the solid highway system in western Alaska experience rates of violence, accidental deaths, and injuries that are much higher than those found in the rest of Alaska or in the contiguous United States. Much of that violence and trauma has been attributed to the abusive consumption of alcohol. In the 1980s, legislation was passed allowing communities to prohibit or restrict the sale, transport, and/or possession of alcohol. Enforcing those "local option" laws is challenging in sparsely populated, isolated, widely distributed communities due to the criminal justice and transportation infrastructures, geography, and climate of western Alaska. In 2001 the Alaska State Troopers and partner agencies received a grant from the Bureau of Justice Assistance to implement the Alaska Alcohol Interdiction, Investigation, and Prosecution Program, which is designed to meet the unique challenges of enforcing local alcohol control laws in rural western Alaska communities by supplementing existing law enforcement, investigation, and prosecution capacity. This report provides results of an evaluation of efforts to curb the trafficking of beverage alcohol into isolated villages with local alcohol prohibitions. We found that the program: (1) design is well-conceived and based upon a logically sound model; (2) is being implemented as intended, particularly over the past two years; (3) is organizationally stable; (4) has increased the number of arrests, prosecution, and convictions for alcohol law violations, as well as seizures of bootlegged alcohol; (5) has not produced a statistically significant impact on the targeted outcomes of reduced crime, accidental deaths, or injuries; and (6) may be transferable to other areas of Alaska, but is probably not transferable to most other parts of the contiguous U.S. without substantial modifications.

Acknowledgements

It would not have been possible to complete this evaluation without the assistance of numerous individuals. We would like to take this opportunity to thank them for their help.

First and foremost, it is necessary to express our appreciation for the cooperation and assistance we received from the Alaska Bureau of Alcohol and Drug Enforcement (ABADE). Former ABADE Commander Captain Ed Harrington (ret.) and, especially, current ABADE Commander Captain Keith Mallard, made it possible for us to access the records and individuals needed to complete this evaluation. A special debt of gratitude is owed to Nancy Magnus, the ABADE Administrative Supervisor who devoted a great deal of time and effort to ensure that we received the hundreds of case file records we required for our analyses. We would also like to thank the individual ABADE investigators who thoughtfully completed our interviews and also allowed us to "ride along" with them during their interdiction activities. Given that their undercover duties require anonymity, however, it is not possible to thank those investigators by name. As Captain Mallard put it: "we do our jobs better when people don't know who we are." For the same reasons, we also cannot name – but wish to thank – personnel from the local police departments of Kotzebue and Bethel.

In addition to the support we received from ABADE, a number of support staff from the Alaska Department of Public Safety also provided assistance that was required to complete this evaluation. We would like to thank Jeanne Slook, Administrative Supervisor for the Records and Identification office in Juneau, for producing the hundreds of case file records used in this evaluation; Kenn Barnett, Data Analyst, for providing us with electronic violent crime records; and Kelly Howell, Grants Manager, and Lisa Emerson, Administrative Manager, for making available administrative reports pertaining to the RAI Program.

We received assistance from many in the Alaska Department of Law including Deputy Attorney General Rick Svobodny, Former Bethel District Attorney Joe Slusser, Assistant District Attorney A.J. Barkis, Assistant District Attorney Shannon Eddy, Assistant District Attorney Michael Walsh, Former Assistant District Attorney Andrea Russell, and Bethel Victim/Witness Coordinator Blanche Jacobs. Special thanks are given to Lu Woods, Alaska's coordinator for the CRIMES database, for her assistance in arranging for us to acquire prosecutorial records in electronic format.

For valuable background information on the Nome region, we wish to thank Josie Stiles of the Nome Convention and Visitors Bureau, and Laura Samuelson of the Carrie M. McLain Memorial Museum.

Two other sources of support were drawn upon for this research. We would like to thank Research Analysts Kelly Shattuck, Stephanie Walden, and Martha Moore from the Alaska Department of Health and Social Services for providing us with the public health records used in our analyses. We would also like to thank Michael Kaminski of the U.S. Postal Inspector Service office in Anchorage for agreeing to be interviewed and for allowing us to observe postal interdiction activities.

We would like to thank all those from the University of Alaska Anchorage who supported us during the data-gathering stage of this evaluation. Doug Causey, Vice Provost for Research & Graduate Studies and his Executive Assistant, Jennifer Howell, provided us with secure office space for data entry and record storage. Marie Brunner, Office Manager in the UAA Justice Center, handled the administration of the Alaskan portion of the project. Alan McKelvie, Director of the Alaska Justice Statistical Analysis Center provided database management and development assistance. A number of undergraduate and graduate students from UAA including Deborah Cooper, Taiisa Gough, Kelly Gwynn, Khristy Parker, and especially Benjamin Lambert provided invaluable service completing the tedious entry of thousands of files into a database; thank you all.

Finally, we thank the National Institute of Justice for funding the research described in this report (Contract GS-10F-0086, Task Requirement TR-014), and Brett Chapman (our project monitor) for his support.

Executive Summary

In September 2005 the National Institute of Justice (U.S. Department of Justice) awarded a contract to Abt Associates Inc. and the University of Alaska Anchorage to evaluate the Rural Alaska Alcohol Interdiction, Investigation, and Prosecution Program (hereafter, the RAI program). The RAI program is designed to meet the unique challenges of enforcing local alcohol control laws in rural western Alaska communities by supplementing existing law enforcement, investigation, and prosecution capacity. The program also seeks to strengthen ties (and thus the flow of information) between police and village residents through community policing and outreach efforts, maintenance of tip lines, and rewards for information about alcohol law violations.

The key intended outcomes of the program are the reduction of crime, accidental death and injury, and fetal alcohol syndrome (FAS). Since FAS occurs too infrequently to support a statistical assessment of program impact, our evaluation is limited to examining program effects on crime, accidental death, and injury.

As directed by NIJ, the evaluation addresses three priority issues: effectiveness, return on investment, and transferability. The study has the following primary components:

1. A **process analysis,** which includes production of a program logic model, a description of the program's operations, and presentation of descriptive data on program activities and performance.
2. An **outcome evaluation,** examining program impact by analyzing data on crime, accidental death, and injuries in communities within the RAI program coverage area.
3. A **cost assessment,** documenting the resources supporting the program and weighing costs against the program's benefits.
4. An **assessment of the program's transferability**, which explores whether the conditions are in place elsewhere in the U.S. that would support successful replication or adaptation of the program.

What follows is a brief summary of data collection efforts and key findings from the evaluation. The body of the report begins with a summary of our literature review, describing the context within which the RAI program operates and the issues it attempts to address. We then provide an overview of the program, followed by a description of our data collection efforts, presentation of the program's logic model, and the results of our process evaluation. We then present the methods employed and the results of our impact analyses. We also describe the program's costs, assess the program's transferability, and discuss the evaluation results' policy implications.

Data Used in the Evaluation

To perform this evaluation, the research team collected data on-site within the RAI program area, collected program documents, observed the activities of investigators, and interviewed staff from the Alaska Department of Public Safety (DPS), the Alaska State Troopers (AST), Alaska

Department of Law (ADOL), Alaska Department of Health and Social Services (Division of Public Health, Bureau of Vital Statistics, and the Alaska Trauma Registry), the U.S Postal Inspection Service, and local police departments. We also compiled data on crime and law enforcement activities from the AST and Village Public Safety Officers (VPSOs); data on case referrals, charges, and convictions from ADOL; and data on accidental deaths and injuries from the Alaska Trauma Registry and the Bureau of Vital Statistics Death Certificate Database.

Findings

Process Evaluation

- ***Program Logic Model***: There is a good fit between the program's goals, resources, activities, and intended outcomes and impact. The program design is well-conceived and logically sound.
- ***Program Implementation***: The program was implemented as intended, overall. Full program implementation took some time to develop. For example, it wasn't until late 2003 that Nome had an undercover Alaska Bureau of Drug and Alcohol Enforcement (ABADE) investigator, and in 2004 there were substantial gaps in staffing the RAI investigator positions due to a transfer and a retirement. In some locations and with some airlines, it took time for investigators to gain access to cargo holding areas, passenger lists, and cargo manifests, and in 2003 the AST restructured law enforcement operations in Western Alaska and shifting the community policing portion of the RAI program from the program's investigators to "C" Detachment troopers. Implementation appears to have solidified by 2005. The RAI program was found to increase law enforcement activity, prosecutorial caseload, and convictions, as seen in increased alcohol-related arrests and seizures, referrals to prosecutors, prosecutions, and convictions.
- ***Program Stability and Sustainment***: The program has been organizationally and operationally stable from its implementation in 2002 through the present. It has been administered by the same set of partners (AST, with ADOL, U.S. Postal Inspection Service) and pursuing the same set of goals for over five years. The program has been sustained primarily through BJA grant support, supplemented by in-kind contributions by the partner agencies and local law enforcement.

Outcome Evaluation

- ***Program Impact on Crime, Accidental Deaths, and Injuries***. We compared time trends of crime, accidental deaths, and injuries before and after the program was implemented in 2002, and compared trends for communities within and outside of the RAI program area. We found the program to have no statistically significant impact on the targeted outcomes of reduced crime, accidental deaths, or injuries.
- The lack of a significant impact may be due to increases in local production of alcohol – mostly "home brew" – offsetting whatever gains the RAI program makes in deterring smuggling or seizing bootlegged alcohol, or due to smugglers finding alternative means of evading detection using air transportation, or are using alternatives to air transport. It is also possible that the program "dosage" was insufficient to make a large enough dent in the availability of alcohol in the target areas to produce a measurable effect on

outcomes. There may be so much alcohol flowing into or produced within dry villages that even doubling the amount seized may reduce the overall amount of alcohol by only a small percentage, and if so, the program would have to be much larger in scope and to interdict much more alcohol in order to produce a statistically significant impact.

Program Costs

- ***Overall Cost.*** Since the program was implemented in 2002, the program has consumed approximately $4.9 million in BJA grant funds, or an average of just under one million dollars per year.
- ***Types of Expenditures***. The primary program expense is personnel, consuming 94% of the BJA grant funds. The program has averaged five troopers at a total expense of $2.75 million from FY2002 to FY2007. About 56% of the program funds were used for investigators, and 38% were used for prosecutors. Less than two percent of the funds were used for travel ($78k over the life of the program), and less than five percent were spent on supplies and miscellaneous expenses (e.g., evidence handling supplies, testing kits, office supplies).

Program Transferability

- ***Conditions for Replication or Adaptation***. Among the keys to the potential effectiveness of the RAI program are the unique geography, climate, and transportation infrastructure of Alaska. The vast majority of goods and people moving among western Alaska communities travel by air, and alternative means of transportation are often too costly or unsafe due to extreme terrain or weather.
- ***Transferability Within Alaska.*** The program can (and perhaps does, to some extent) transfer effectively beyond the RAI program coverage area to other parts of rural Alaska that are off of the main highway system and that have prohibited alcohol.
- ***Transferability Elsewhere in the United States.*** For the RAI program (as presently constituted) to be successfully applied elsewhere in the United States, the replication sites must be isolated by distance, terrain, and/or transportation infrastructure. Few other areas within the Lower 48 states can be regarded as comparable to Alaska in these respects, and direct application of the program is unlikely to succeed in most other parts of the country. Adaptations of the RAI program approach might be transferable to some U.S. protectorates such as the Commonwealth of the Northern Mariana Islands, American Samoa, Puerto Rico, or the U.S. Virgin Islands where air travel between islands is necessary, but none of these locales currently have alcohol prohibition.

Chapter 1: Program Background And Description

Problems Addressed by the RAI Program

Alcohol abuse is detrimental to health and contributes to crime and many other forms of social dysfunction (e.g., Donnelly et al., 2006; U.S. Department of Health and Human Services, 2000). Among the major problems linked to alcohol are increased levels of violent crime (e.g., Greenfield, 1998; Office of Justice Programs, 1998), accidental death and injury (e.g., National Highway Traffic Safety Administration, 2001; U.S. Department of Health and Human Services, 2000), and Fetal Alcohol Syndrome [FAS] (Centers for Disease Control and Prevention [CDC], 2003). The prevalence of alcohol abuse and the problems derived from it are usually higher among American Indians (e.g., Akins et al., 2003).

Alcohol-related problems are particularly acute in Alaska (e.g., Office of Fetal Alcohol Syndrome, 2005; Centers for Disease Control and Prevention [CDC], 2003; McDowell Group, 2001), which has one of the highest per capita alcohol consumption levels and the highest rate of alcohol-related hospitalizations in the U.S. (Adams et al., 1993; Nephew et al., 2003). Alaska also had the highest proportion of traffic fatalities involving alcohol, with 52% of all traffic fatalities being well above the national average of 40% (National Highway Traffic Safety Administration, 2001). In the CDC's four-state FAS surveillance study, Alaska's FAS rate was approximately three times those found in Arizona, New York, or Colorado (CDC, Morbidity and Mortality Weekly, 2002). In addition, Myrstol (2004) found that one out of every four police-public encounters in Anchorage is alcohol related, and that one out of every three minutes that an officer spends with members of the public is in the context of an alcohol related incident.

Alcohol-related problems are acute among Alaska Natives, the indigenous inhabitants of the state. Alaska Natives die from accidental and intentional injuries at rates much higher than those of Caucasians and other ethnicities (Alaska Bureau of Vital Statistics, 2001). These higher rates of alcohol-induced mortality (Alaska Bureau of Vital Statistics, 2002) occur even though Alaska Natives are no more likely than other to consume alcohol (Bolen, et al., 2000) or to binge drink (Richey et al., 2003). Alaska Natives and other Native Americans within Alaska had FAS rates exponentially higher than those of Caucasian Alaskans (0.3 per 1,000 for white Alaskans, 5.6 per 1,000 for Alaska Natives and Native Americans) and higher than FAS rates found among Native Americans in the contiguous states (CDC, Morbidity and Mortality Weekly, 2002).

The incidence of alcohol-related problems is highest in Alaska's isolated villages, where the majority of Alaska Natives reside (e.g., North Slope Borough Department of Public Safety, 1995). Even though the rates of binge, chronic, and heavy drinking of rural Alaska Natives are similar to those residing in urban areas (Richey, Asay, & Kasper, 2003), Alaska Natives from communities with populations under 1,000 are the most likely to die from accidents, suicide, and homicide (Berman & Leask, 1994).

Alcohol Control

Throughout the U.S., state and local governments have imposed restrictions on the possession, sales, and/or production of alcohol to counteract its demonstrated or perceived harm. The

consensus is that prohibition is largely ineffective in substantially curbing alcohol consumption (e.g., Dills and Miron, 2004; Dills et al., 2005; Levine and Reinarman, 2004; Miron and Zweibel, 1991; Thornton, 1991) or in reducing negative impacts in the general U.S. population (e.g., Powers & Wilson, 2004; Schulte et al., 2003) or for ameliorating alcohol-related problems on American Indian reservations in the 48 contiguous U.S. states (e.g., May 1976; Back 1981; Gallaher et al 1992; Jensen, 2000 Landen 1997). Nevertheless, the persistent and profound problems associated with alcohol abuse have led many states and local jurisdictions to continue to seek solutions by imposing various forms of restrictions.

Currently, several states in addition to Alaska (e.g., Illinois, Kentucky, Texas) have laws allowing counties or communities to restrict or ban the sale and/or possession of alcohol, and approximately 10 percent of the counties in the United States have such laws (Powers and Wilson, 2004). Impact evaluations have reported local prohibition to be ineffective in reducing crime and alcohol related accidents. The weight of the evidence indicates that the demand for alcohol is persistent, and that attempts to reduce alcohol abuse by restricting legal access fail due to some combination of (1) an increase in illicit local production; (2) smuggling; (3) consuming alcohol in nearby towns or counties where it is legal to do so (displacement); or (4) consuming other drugs to compensate for the lack of alcohol (e.g., Powers and Wilson, 2004; Schulte et al., 2003, Wilson et al., 1993).

Alcohol Control in Alaska

A primary response to the problems associated with drinking in rural Alaskan villages has been to impose local legal restrictions upon alcohol (Conn and Moras, 1986; Lee, 1997). Since early territorial days when alcohol was banned statewide and Alaska was treated as if it was one large Indian reservation for the purpose of alcohol control (Lee, 1997), the solution to alcohol related harm has been to employ formal legal controls on the availability of alcohol in Alaska Native communities. Federal law forbade the sale of alcohol to Alaska Natives until 1953. After that law was repealed, alcohol control was localized and tribal councils were empowered to choose to allow alcohol in their villages (Berman & Hull, 2001). With statehood in 1959, however, when the state refused to recognize the authority of tribal councils, local laws banning alcohol were nullified (Conn & Moras, 1986). Over the subsequent 20 years, rates of alcohol-related mortality escalated, and local and state governments were pressed to find solutions.

Local votes to ban the sale of alcohol within Alaskan communities occurred as early as 1977 (see Berman & Hull, 2001). The state legislature passed a "local option" law in 1980 that allowed villages to vote on varying levels of local availability. The law originally provided for three different statuses: (1) alcohol could be legally purchased and sold in a community (commonly known as a "wet" community), (2) alcohol could be legally imported into a community, but alcohol sales are illegal (a "damp" community), or (3) alcohol sales and importation would be illegal in a village. In 1986 the law was amended to allow villages to also choose to ban the local possession of alcohol (or, to become a "dry" community; Berman & Hull, 2001). Residents of villages where alcohol is banned see themselves as being under prohibition. They (and many government agency personnel) talk about "voting dry'" or being a 'dry' village. "To villagers, 'dry' means no more alcohol, no more drinking, and no more drunks in the villages" (Lonner, 1985, p. 335). Since 1980, many villages (as well as larger communities) have taken advantage

of the law to prohibit alcohol (Berman & Hull, 1997). At last count, in October 2006, 80 villages had voted to forbid the sale and importation and/or possession of alcohol (Griffin, 2006).

Unlike American Indian reservations in the lower-48 states where prohibition exacerbates alcohol-related problems (Gallaher, Fleming, Berger, & Sewell, 1992; Landen, 1997; May, 1976), local controls on the availability of alcohol have been beneficial to the isolated indigenous communities of the Canadian north (North Slope Borough Department of Public Safety, 1995; Smart, 1979, Wood, 1997) and across Alaska. Analyses using public health records from isolated communities across Alaska (Berman, Hull, & May, 2000; Landen, et al., 1997; Wood & Gruenewald, 2006), and in Barrow, Alaska in particular (Bowerman, 1997; Chiu & Perez, 1998; Chiu, Perez, & Parker, 1997) have shown that Alaska Native villages experience fewer alcohol-related problems when they prohibit alcohol. Although local prohibition does have a positive impact, the Alaska Native villages that choose to forbid alcohol still have rates of alcohol-related problems that are much higher than those found nationally (Wood & Gruenewald, 2006).

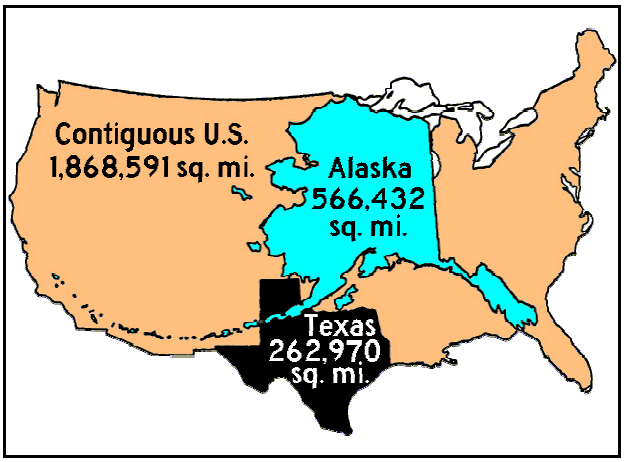
Challenges of Enforcing Alcohol Laws in Rural Western Alaska

One commonly held explanation for the persistence of high rates of alcohol-related problems is that many villages lack adequate police services to enforce local prohibitions on alcohol (Lonner, 1986). Only a few Alaska Native villages are served by a local state-certified police presence. The majority of isolated Alaska Native communities are policed on a sporadic basis by paraprofessional Village Public Safety Officers (VPSOs) (Wood, 2002), by untrained and uncertified village police officers (VPOs), or they are totally without a local public safety presence. Research examining the impact of a lack of local police presence has shown that isolated Alaska Native villages that prohibit alcohol face higher rates of serious assault injuries when they are without the protection of either a state certified police department or a VPSO compared to times when they receive such protections (Wood & Gruenewald, 2006).

Enforcement of Alaska's "local option" laws is challenging due to the state's vast dimensions, minimal criminal justice infrastructure in most villages, and cultural and economic conditions. In the majority of small Alaskan communities, law enforcement is provided exclusively by the Alaska State Troopers (AST). Through 2003 AST had roughly 320 sworn law enforcement officers to cover the state, but more than 100 of the s are assigned to specialty units such as the Division of Alaska Wildlife Troopers (with 65 commissioned troopers) and are not deployed primarily to provide general law enforcement service to communities. That leaves roughly 200 troopers assigned to cover over 170 communities with a combined population of more than 200,000, distributed over more than 550,000 square miles.[1]

[1] Many Alaska villages have some form of local law enforcement, but most of these are Village Police Officers or Village Public Safety Officers with limited powers, jurisdiction, training, supervision, and resources for conducting investigations (see Wood, 2002; Wood and Gruenewald, 2006).

Figure 1: Map of Alaska Superimposed on the Contiguous United States



To put the Alaska law enforcement challenge in perspective, Table 1 presents the square miles, number of sworn officers, and populations of jurisdictions with similar or smaller populations:

Table 1: Comparison of Geographic areas and Populations Covered by Alaska State Troopers Versus Other U.S. Cities and County Law Enforcement Agencies

Jurisdiction	Population	Square Miles	Sworn Officers	Sq. Miles Per Officer	Population Per Officer
Cambridge, MA	101,355	6	273	.02	371
Kitsap County, WA[2]	169,090	325	128	2.54	1,321
Knoxville, TN	173,890	93	391	.24	445
Tacoma, WA	193,556	50	359	.14	539
Shreveport, LA	200,145	103	532	.19	376
Anchorage, AK	260,283	1,697	346	4.90	752
Comparison Averages:	**183,053**	**379**	**338**	**1.12**	**541**
Rural Alaska:	**200,000**	**550,000**	**200**	**2,750.00**	**1,000**

[2] The total population of Kitsap County is 231,969, but many live in cities and towns with their own police forces; only 169,090 live in unincorporated areas of the county where law enforcement is provided primarily by the Kitsap County Sheriff's Office. The county's total area is 396 square miles, but when subtracting the communities with their own police forces, the area covered by the Sheriff's Office is 325 square miles.

As this table illustrates, the enforcement burden on the Alaska State Troopers is far different than that borne by jurisdictions with comparable populations. For example, the population of Shreveport, Louisiana is similar to that of rural Alaska, but is patrolled by 532 additional police officers responsible for only 103 square miles, while fewer than half the number of Alaska State Troopers must cover over 500,000 square miles. The average population covered per Alaska trooper is almost twice that covered by police in comparably populous jurisdictions. However, the geographic area covered by each trooper is far greater: while officers in the other jurisdictions are responsible for an average of just over one square mile, Alaska's troopers are responsible for an average of 2,750 square miles (Table 1). These comparisons of geography and populations are rough and have limitations, but they serve to illustrate the magnitude of the challenges Alaska State Troopers face in providing law enforcement to populations spread across much larger geographic areas than those covered elsewhere.

Photo taken in late April, 2005, approximately 10 miles outside of Nome on one of the three roads connecting the town to outlying villages.

The challenges presented by vast areas are exacerbated by the isolation of most villages in western Alaska, stemming from the lack of road access, rough terrain, and severe weather much of the year. In this part of the state, there are three relatively large communities, commonly referred to as "hubs," that each serves as transportation and commercial centers supporting several dozen smaller villages (see Table 2).

Table 2: Population of Hubs and Villages Covered by RAI Program

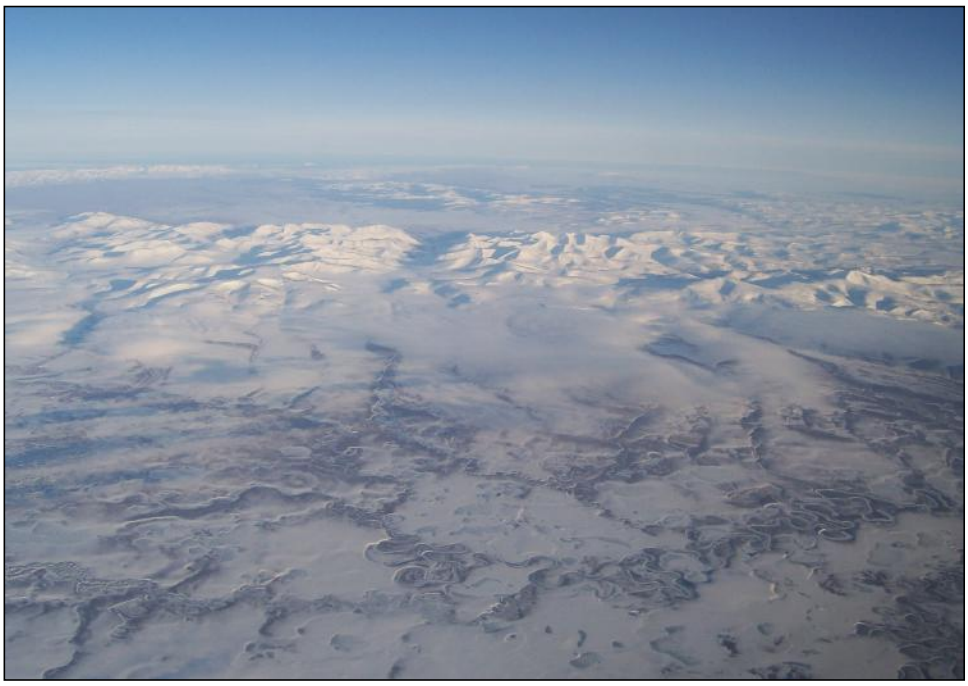
Communities Covered by RAI Program	Population*
Bethel	5,800
Nome	3,500
Kotzebue	3,100
Villages	29 to 1,150

* Source: U.S. Bureau of the Census, 2006 Estimates

Very few dry villages served by the RAI Program are connected by road to the hub communities. For instance, the relatively extensive 300 mile road system leading outward from Nome (Nome Convention and Visitors Bureau, 2001) is connected during summer months to only one village with a year round population of more than a few dozen people, and that village (Teller, with a 2006 population of 268 people) allows the importation of alcohol. During the winter months the Kuskokwim River is used as an ice road to connect a dozen villages, a large majority that are dry, to the hub community of Bethel. For most of the year, the main alternative to air travel for western Alaska villages within reasonable distances of the three RAI hubs is travel via snow machine on frozen rivers, lakes, snow-packed trails, or sea ice. However, the viability of this option is often limited by rough terrain, extreme weather, or thawing ice. In the summer and early fall, some water routes open up to boat traffic, but summer can also render impassable winter routes across deltas and tundra that, when frozen, support snow machine travel. Though it may be counter-intuitive to those unfamiliar with Alaska, summer can produce a net decrease in the transportation alternatives to air travel between hubs and villages.

Sign posted about eight miles outside of Nome.

While the geography, population distribution, and transportation infrastructures present great challenges, they also present opportunities for enforcing local option laws. The isolation and the dependence upon air travel make it possible to narrow the scope of investigation and interdiction efforts to manageable proportions. Although attempts at prohibition in the Lower 48 states have been defeated by bootleggers using alternative overland routes, many of the dry villages in Alaska have few viable options for smuggling. Thus, law enforcement could reasonably expect to substantially limit – if not eliminate – the flow of alcohol into many of the dry villages in western Alaska by focusing interdiction efforts on air cargo and passengers.



An airborne view of the terrain between Kotzebue and Nome.

The Rural Alcohol Interdiction, Investigation, and Prosecution Program

Prior to the inception of the RAI Program, the Alaska Department of Public Safety (DPS) developed several specialized investigative units to address drug and alcohol law enforcement. However, given the magnitude of the challenges presented by enforcing local option laws in western Alaska, the state identified a need for additional resources. In 2001, DPS applied for and received Bureau of Justice Assistance funding for the RAI Program. The grant period began in August 2001, and the funds received and program positions staffed by January 2002. The program has received a series of supplements from the Bureau of Justice Assistance, and the program has been in continual operation since it began.

The RAI Program is designed to address the challenges of enforcing liquor laws in western Alaska by supplementing existing police, investigation, and prosecution capacity. The overarching goals are eliminating the illegal presence and the negative impacts of alcohol in

communities where it is prohibited or restricted. The stated objectives of the RAI Program are:

- Providing aggressive enforcement of all local option statutes.
- Providing aggressive enforcement of all applicable federal statutes related to illegal shipments of alcohol via the U.S. Postal Service.
- Increasing the number of illegal alcohol sales and importation cases in western Alaska closed by arrest and/or submitted to the District Attorney's Office for prosecution.
- Increasing the number of successful prosecutions of illegal alcohol sale and importation successfully prosecuted in western Alaska, and illegal shipment of alcohol through the U.S. Mail.
- Coordinating closely between law enforcement and local prosecutor offices to insure timely and aggressive prosecution of illegal alcohol-related offenses.
- Coordinating between law enforcement and prosecutor offices to clarify statutory language interpretation as it relates to local option statutes.
- Engaging in community policing, which involves developing relationships with village residents and engaging in prevention and problem solving activities. This includes conducting community meetings, coordinating law enforcement with other village institutions such as schools, businesses, and clergy; and training VPSOs and VPOs in community policing practices.

To pursue these objectives, the RAI Program features the addition of investigators to increase patrol, response, and investigation capacities, and the addition of a specialized prosecutor and support staff to more efficiently and effectively handle the additional caseload of local option cases. One investigator is based in each of three hub communities – Nome, Kotzebue, and Bethel – and is responsible for covering the set of villages surrounding each hub. The RAI Program also adds an investigator in Anchorage who focuses on smuggling alcohol out of that city to the hubs, and another investigator based in Bethel. The decision to place two additional investigators in Bethel as opposed to just one each in Kotzebue and Nome was influenced by the fact that among the three hubs covered by the RAI Program, Bethel is the most populous hub and has the largest set of villages. In addition to the increase in investigators, the program adds a prosecutor and support staff in Anchorage to handle the additional, specialized caseload generated by these enhanced local option enforcement efforts. To supplement the fulltime prosecutor and support staff, the program also supports contracts for additional prosecution support.

The investigative activities of RAI Program personnel focus primarily on people and cargo traveling by commercial air carriers from Anchorage to the three hubs, and then from the hubs to the villages. Alaska Airlines is the primary carrier from Anchorage to the hubs, with multiple daily flights of large commercial jets. Once in the hubs, travel to the villages is provided by a number of independent carriers, flying smaller twin or single engine propeller aircraft carrying fewer than 20 passengers. Figure 2 illustrates the air routes from Anchorage to the hubs, and Figure 3 displays the routes from one of the hubs (Kotzebue) and a subset of the surrounding villages.

Figure 2: Air Routes from Anchorage to the "Hubs" Within the RAI Program Area

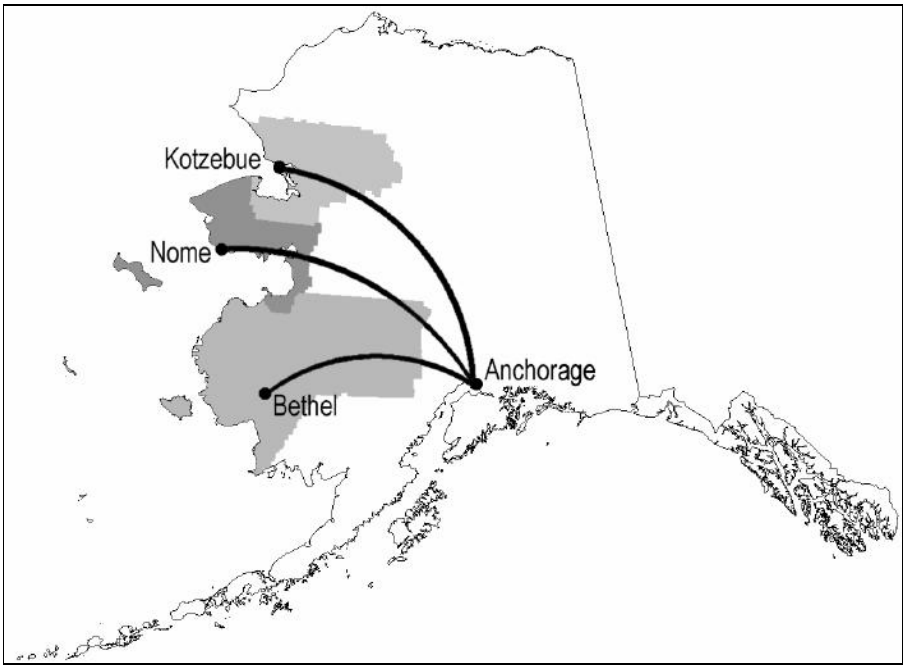
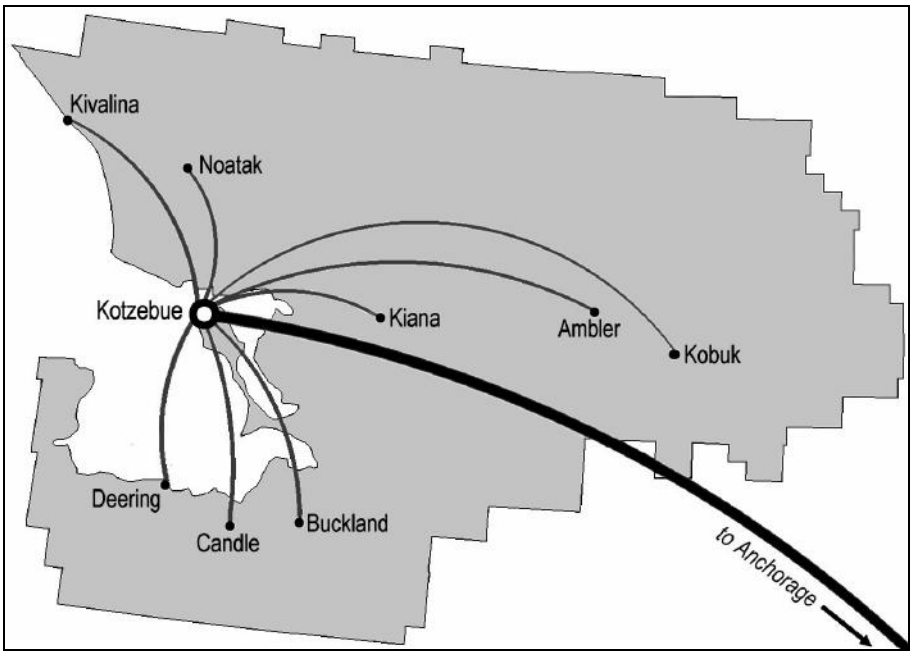


Figure 3: Air Routes from Kotzebue to a Subset of Surrounding Villages



The distances from Anchorage to the hubs are between 350 and 550 miles, and the distances of flights from the hubs to the villages generally run from about 50 to 200 miles.

Each hub is served by several independent air carriers that maintain frequent scheduled passenger service, air cargo service, or charter service. Table 3 provides a list of the carriers operating out of each hub, and Appendix C presents examples of the air passenger routes from the hubs to villages for three air carriers: Bering Air, Frontier Flying Service, and Hageland Aviation Services.

Table 3: Independent Passenger, Cargo, and Air Service Providers Operating From the RAI Program Area Hubs

Bethel	Kotzebue	Nome
Alaska Central Express Arctic Circle Air Service Arctic Transportation Services Era Aviation Everts Air Cargo Frontier Flying Service Grant Aviation Hageland Aviation Service Lynden Air Cargo Northern Air Cargo Yute Air	Arctic Circle Air Guides Bering Air Frontier Flying Service Hageland Aviation Northern Air Cargo	Baker Aviation Bering Air Frontier Flying Service Grant Aviation Evergreen Helicopters Hageland Aviation Olson Air

In addition to the investigative and prosecutorial components, the RAI Program features a community policing and public awareness effort designed to promote both deterrence and incapacitation. A general deterrence effect is expected from informing the public that they stand a significant chance of being caught and punished if they try to violate local option laws. The education campaign also asks for the public to support the law enforcement efforts by calling their toll-free tip lines and asking them to be alert for signs of illicit alcohol in their communities. There is also a reward program, where residents receive substantial amounts of money if their information leads to a successful interdiction. The community policing aspect of the program is intended to augment the education efforts by developing relationships with the community that will enhance cooperation with investigations and prosecutions. Finally, increasing seizures of illicit alcohol is intended to directly and immediately reduce the amount available to people in dry villages.

One of the commercial passenger aircraft serving routes from Nome to surrounding villages. Passengers unload their own cargo from the rear hatch of the plane (above), and file out through the terminal (below).

Chapter 2: Process Evaluation

Process evaluations are designed to answer two basic questions about programs: (1) are they well designed, and (2) are they being implemented as intended? Process evaluations typically focus on program processes and procedures, whereas outcome evaluations (discussed in the next chapter) focus primarily upon what the program does or does not accomplish with respect to its goals. Process evaluations examine design assumptions, such as whether the goals are clearly identified, and whether there is a clear and logical relationship between how activities are designed and executed and the expected results. They also document critical aspects of program implementation, such as the resources devoted to the program and whether program activities are occurring according to plan.

A process evaluation is a critical step in any outcome evaluation, because before a program can be determined to have produced its intended benefits, one must first establish whether the program has been implemented properly. Findings about program design and implementation provide valuable feedback that can be used to improve program operations. The process findings are also necessary for properly interpreting the findings of the outcome evaluation; for example, if a program is found not to have produced an effect, the process assessment can provide evidence bearing on whether this was due to a breakdown in implementation or a poorly conceived design.

In this chapter of the report we present an overview of the data collected for the process evaluation, a logic model for the RAI Program (logic models are useful devices for organizing and illustrating evaluations, and will be discussed shortly), and a description of each component of the model. In this chapter we cover the program goals, resources devoted to the program, and program activities. Program outcomes and impact are discussed in Chapter 3.

Data Collection

Program Documents

Throughout the evaluation we have collected written program materials, and in staff interviews we sought clarification and confirmation of the information in these documents. For the process evaluation, a valuable source of information was the set of semi-annual progress reports submitted by the AST to the Bureau of Justice Assistance (Alaska State Troopers, 2002a to 2004b). Other source materials collected include the AST incident report files (incident reports provided information for both the process and outcome evaluations); annual reports of the Alaska State Troopers' Alaska Bureau of Alcohol and Drug Enforcement (ABADE); monthly ABADE posting reports; press releases produced by the special alcohol prosecutor (Alaska Department of Law, or DOL); and copies of public outreach and education materials for the community policing component of the RAI Program.

Site Visits

We collected data on-site in Anchorage and during visits to the three main "hub" communities within the RAI Program area: Kotzebue, Nome, and Bethel. The site work involved a range of

data collection activities, including collecting program documents; observing the investigation and interdiction activities of the investigators, local police, and postal inspectors; and interviewing staff from the Alaska Department of Public Safety, the Alaska State Troopers, local police, prosecutors, and postal inspectors. These site visit activities provided information allowing us to assess the fidelity of the program delivery to the program model, as well as providing information necessary for the outcome evaluation.

Interviews

Program personnel were interviewed to document the program's development, to produce a current and complete program logic model, and to identify additional sources of information. We conducted interviews with 22 individuals from the Alaska State Troopers, the Alaska Department of Public Safety, the Alaska Department of Law, the Alaska Department of Health and Social Services (Division of Public Health, Bureau of Vital Statistics, and the Alaska Trauma Registry), the U.S Postal Inspection Service, and local police departments.

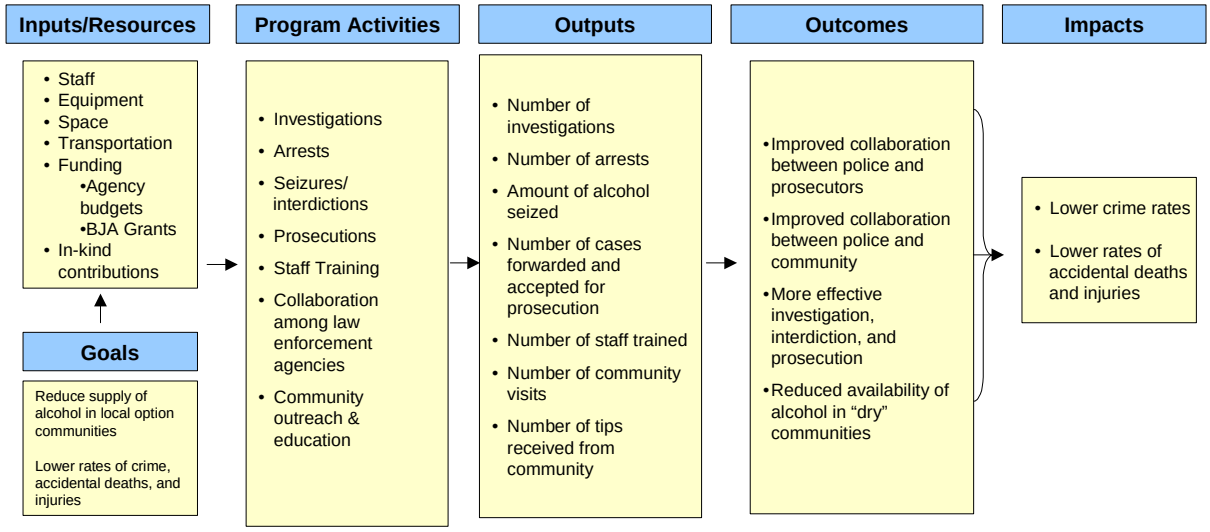
Eleven of the 22 people interviewed were the subjects of lengthy, in-depth discussions that were guided by an interview protocol (provided in Appendix A; the informed consent form is provided in Appendix B), tape recorded, and transcribed. The remaining 11 individuals were interviewed (many of them multiple times) less formally, usually as we sought additional sources of data and information or clarification of what had already been acquired.

Logic Model Overview

Like any serious criminal justice program, the RAI Program is grounded in a set of goals. To pursue these goals, the program uses resources that support activities intended to produce targeted results—from those results that are immediate and specific, to those that are broader and longer-term outcomes. A logic model is a useful device in that it illustrates the linkages from program goals, to the resources committed to the program, to activities, to outputs (the direct representation of activities), to program outcomes (the manifestation of the change that activities are seeking to accomplish) and finally to impacts (the indications that the program's broader goals have been realized). The logic model for the RAI Program is presented in Figure 4. As can be seen here, the model illustrates the relationship between program goals, inputs, activities[3], outcomes, and impacts.

[3] Outputs appear as a separate component in most generic logic models, but since outputs are simply counts or other measures of program activities, most of our discussions will speak of activities leading directly to outcomes and impacts.

Figure 4: RAI Program Logic Model



A program evaluation identifies and estimates the strengths of the causal arrows that run from left to right in a causal chain. For example, if a program is successful, then there will be a strong causal path from activities to outputs, from the resulting outputs to outcomes, and from the resulting outcomes to impacts. The job of evaluators is to identify and measure these paths.

We would expect the linkages to have diminishing strength as the paths move from left to right. For example, the paths from resources → activities should be strong. After all, program activities such as investigations and seizures of alcohol could not occur without the requisite supporting resources, particularly staff. The path from activities → outputs should also be strong, because the outputs are "the direct representation of activities." Investigations, for example, will lead to arrests and prosecutions, if they are well done and if police and prosecutors are on the same page about what makes a good case.

The linkages between outputs → outcomes and outcomes → impacts become weaker, because outcomes and especially impacts are affected by factors that are increasingly outside the control of the program. For example, reduced alcohol-related crime is an impact, and while RAI operations may contribute to a reduction in crime by reducing the supply of alcohol, the RAI is only one component of a broader local, state and federal anti-crime package. In general, forces in addition to the influence of program activities affect the outcomes and impacts that programs are intended to produce. These external forces include environmental factors like the economy as well as other programs directed at the same targets, i.e., other crime prevention efforts, airport security measures, or alcohol treatment programs. Some of these factors can be captured or "controlled for" by contextual data and by analytic techniques, which we will address in the

outcome evaluation portion of this report. Although this is the subject of the outcome evaluation we will discuss in Chapter 3, we raise the issue here to complete the overview of the logic model.

Program Goals

Goals define program objectives and activities, and must be clearly stated if program effectiveness is to be measured properly. As seen below, the program has many specific goals and objectives, but the goals can be summarized as reducing levels of crime, accidental deaths and injuries, and Fetal Alcohol Syndrome and Fetal Alcohol Effect by reducing the supply of alcohol in communities that prohibit alcohol in western Alaska. These goals are to be met by increasing the capacity to deter and interdict alcohol smuggling and bootlegging. As stated in the semi-annual progress reports to BJA (Alaska State Troopers, 2002a), the RAI Program's main goals are to:

- Reduce the incidence of homicide, assault, sexual assault, suicide, and accidental death involving alcohol in local option communities in western Alaska.
- Reduce the incidence of homicide, assault, sexual assault, suicide, and accidental death involving alcohol in local option communities in the remainder of the State.
- Reduce the incidence of Fetal Alcohol Syndrome or Fetal Alcohol Effects in the State.

These goals are to be accomplished by providing aggressive enforcement of all local option statutes and applicable federal statutes and thus increasing the number of successful prosecutions and interdictions. Specialized training of program investigators and prosecutors, as well as local public safety officials, was conducted to advance efficient and effective enforcement and prosecution. The program training included a mentoring component, wherein the assigned investigators provided training, guidance, and expertise to other regional troopers and law enforcement officers related to alcohol violation investigations.

The program also includes a community policing component to enhance communication and cooperation with community organizations and residents, designed to improve the quality of intelligence for investigation and gathering of evidence for prosecution. The community policing effort included disseminating information about the Drug and Alcohol Hotlines and reward program, and about other ways that village residents could report illegal alcohol and drug activities to authorities.

We found the RAI Program's goals to be clearly stated, specific, and point to distinct and measurable objectives. The objectives state specific program activities that will occur in order to produce the intended results, and the stated activities are logically driven by the program goals and related to the program's intended outcomes. Interviews with RAI Program staff confirmed that the goals stated in the reports to BJA are those being pursued by investigators and prosecutors.

One of the goal statements is noteworthy in having implications for our outcome evaluation. While most of the program goals refer specifically to western Alaska or to the villages surrounding the western Alaska hubs of Bethel, Kotzebue, and Nome, one of the goal statements indicates that the program intends to reduce the incidence of:

> " …homicide, assault, sexual assault, suicide, and accidental death involving alcohol in local option communities *in the remainder of the State.*" (emphasis added; Alaska State Troopers, 2002a:5)

As we will discuss in Chapter 3, this has implications for our ability to attribute any changes in rates of arrests, accidental deaths or injuries, etc., to the RAI Program. To assess whether any observed positive shifts in outcomes can be attributed to the program, the best analytic options available to us[4] are examining rates before and since the program began, and (when the data are available) comparing trends within the primary program area to other villages outside of that area. But if the program is designed in such a way that the effects disperse to other areas, it affects the usefulness of the "other" areas as a comparison group[5].

Program Inputs

Program inputs refer to the resources that are called upon by the program. Money is commonly considered a necessary input for nearly all programs. A more useful way of thinking about this is that cost is a characteristic of many inputs: many resources come at a cost, and these costs can be calculated (or at least estimated). We discuss the program resources in our discussion of program costs in Chapter 4, and touch upon resources briefly here to provide on overview of the logic model.

For this discussion of the program logic model and implementation, we note that the vast majority of program inputs are labor. The program is currently staffed by five Investigators – one each at Kotzebue and Nome, two in Bethel, and one in Anchorage – one full time prosecutor and support staff based in Anchorage, and additional part-time support for DOL staff. Staffing accounts for 94 percent of the RAI Program's budget. The remaining RAI Program inputs that are supported by the BJA grants are travel, supplies, and miscellaneous overhead and equipment purchases (e.g., office supplies, evidence preservation supplies, digital cameras, fuel). Other program inputs are in-kind contributions such as office space contributed by of the AST, DOL, other local and state law enforcement agencies, and the Postal Inspectors Service.

The resources devoted to the program appear well-suited to supporting the program activities and pursuing program goals. The RAI Program was designed to meet specific, proven needs arising from the geography, population distribution, and the transportation and law enforcement infrastructures of western Alaska. The primary need identified was additional investigative and

---

[4] The "gold standard" of program evaluation design is random assignment of the program "treatment" to a subset of a clearly defined population or area. This design provides the maximum possible assurance that any differences in outcomes observed are attributable to the program, and not to preexisting conditions or other external influences. However, it is seldom possible or practical to implement this design, so pre-post assessments and comparisons across program and non-program groups are the best practical options.

[5] This is not to suggest that intending for the program to have effects statewide is a flaw in the program. This diffusion is desirable from a public safety perspective, but strictly in terms of evaluation, having program effects cross over into other areas minimizes most important difference between the program area and non-program area: the presence versus absence of the program intervention.

prosecutorial staff that could focus on enforcing local option laws, and who could – through training and experience – develop techniques and working relationships for more effective investigations, interdictions, and prosecutions.

Program Activities

Program activities include everything that programs do with the available resources to deliver a service or produce a product. With a broad set of goals and program inputs consisting mostly of labor, the key challenge of the process evaluation of the RAI Program is cataloguing and verifying that the staff are engaging in the intended program activities, and then measuring the outputs of these activities (the assessment of program outputs is discussed in the following section of this chapter).

For the assessment of program activities, recall that the program is designed to meet its goals primarily by providing aggressive enforcement of all local option statutes and all applicable federal statutes related to shipment of alcohol via the U.S. Postal System, and coordinating closely between law enforcement and the local prosecutor's office to insure timely and aggressive prosecution of illegal alcohol related cases.

Training

One of the first steps taken by the RAI Program upon receiving the BJA grant in August, 2001 was to initiate training. Between August and December of 2001, five experienced investigators were identified and re-located to RAI Program assignments. The positions vacated were "back-filled" by five entry-level troopers who each received 17 weeks of training at the Department of Public Safety Training Academy. Arrangements were made for the RAI investigators to receive community policing training at the regional training center, which began in early 2002.

From January to March 2002, The Alcohol Interdiction Prosecutor (the RAI Program position) provided instruction to the investigators on recent changes in Title IV of Alaska Statutes (which includes the local option laws), and likely search and seizure issues associated with alcohol interdiction cases. The training was provided to all of the local law enforcement personnel who were specifically directed to do alcohol interdiction, including the five RAI Program investigators. The alcohol prosecutor also provided local law enforcement with a general "charging guide" to aid them in assigning appropriate charges when confronting Title 4 violations (see AST, 2002a).

In addition to training received by the RAI investigators, the program provided training to a much broader range of public safety officials in the RAI Program area and elsewhere. In February and March of 2002, the RAI prosecutor provided instruction on Title IV and on search and seizure laws in two separate eight-hour courses in Nome and Kotzebue. The classes were attended by local police officers and Alaska State Troopers. The instruction in Nome and Kotzebue was designed to address the unique issues arising in rural Alaskan law enforcement. For example, they were instructed that effective alcohol interdiction in rural areas requires officers to develop a good relationship with local passenger and cargo airlines (AST, 2002a). The instruction also covered probable cause issues: because alcohol is legal in many places within the RAI Program area, developing probable cause for search warrants is difficult. To work

around this, investigators are required to make many "consent" contacts, and the training addressed the legal parameters of obtaining valid consent (AST, 2002a).

Five years after this initial wave of training, the evaluation team saw investigations occurring in the three hubs that were consistent with the instruction provided. As we discuss below, during our site visits to Bethel, Kotzebue, and Nome in the Spring of 2007, we observed interdictions being made through expertly-conducted consent searches in airports, and we observed local air carriers cooperating with Title 4 investigations by providing free access to secure areas and to information on passengers and cargo.

Semi-annual reports state, and our interviews confirmed, that training of and by RAI staff have been ongoing throughout the program performance period. Investigators assigned to ABADE have provided training focused directly on alcohol related investigative techniques. This has occurred at VPSO training seminars as well as the State of Alaska's Department of Public Safety Training Academy.

As noted in our earlier discussion of project goals, the program is designed to carry beyond the immediate boundaries of the primary program areas of Anchorage and the catchment areas around the three hubs of Bethel, Kotzebue, and Nome. Among the ways that the program's influence spreads is the diffusion of knowledge via informal discussions, secondary training, and the re-deployment or transfer of RAI personnel to other areas. The AST staff cite as an accomplishment of the RAI Program elevating the level of expertise of troopers and investigators not assigned to the program:

> "By sharing their knowledge with Troopers who were not specifically assigned to this project, the non-project Troopers have improved their skills in identifying, investigating, seizing shipments, and reporting violations of the local option laws. Because of this mentoring process, there has been an increase in the number of cases investigated across rural Alaska." (AST, 2002a:3)

As one of the activities of the "community policing" portion of the RAI Program, investigators provide training and mentoring to other public safety officers. RAI staff provides training to the VPOs and VPSOs of the dry and damp villages surround the three program hubs, and additional training was provided to all the investigators, uniformed troopers, VPOs, and VPSOs within the western region of Alaska. Between 2002 and 2004, 20 troopers each received at least 24 hours of formal training on Title 4 law enforcement and prosecution. Thirty-eight VPSOs and 17 VPOs each received at least 8 hours of formal training (AST, 2004a). In addition, the AST states that additional training occurs in the form of "mentoring," where experienced investigators provide guidance and assistance to other regional troopers and community-level public safety officers (e.g., AST, 2002b).

Investigation

During our site visits we observed a number of distinct investigative techniques developed by RAI investigators. As discussed above, one of the key activities engaged in by RAI investigators is the inspection of cargo in Anchorage destined for the hubs, and from the hubs to the villages in

the program area. Some of the cargo is legally purchased and transported alcohol. Alcohol can be possessed legally in all three of the hubs (sales are legal in Nome, while Bethel and Kotzebue allow alcohol to be imported but not sold within the communities) and in many of their surrounding villages, so a great deal of alcohol is shipped legally by wholesalers and retailers from Anchorage and other locations into the three program area hubs.

Alcohol legally shipped by retailers awaits inspection in airline cargo areas in Kotzebue (above left) and Bethel (above right). The photo below illustrates the labeling required for legal air transport of alcohol (see Appendix D for details about labeling requirements).

To be legally shipped, parcels containing alcohol must adhere to strict packing and labeling regulations. As seen photos attest, parcels containing alcohol must be clearly labeled with two-

inch-tall letters stating that "ALCOHOLIC BEVERAGES" are contained within. These regulations also require an itemized receipt clearly listing the type, quantity, and cost of the beverages to be attached to the shipment. The requirements for legally shipping alcohol are well publicized and can be presumed to be known to alcohol retailers, the public, and postal and transport services (a public service announcement appearing in the *Anchorage Press* that outlines shipping requirements is presented in Appendix D). At the hubs, alcohol shipments are separated from other cargo in secure holding areas. Investigators examine these shipments to verify that they (a) meet labeling requirements, (b) are not destined for dry villages, (c) are not to individuals who have previously received their monthly quota of alcohol, and/or (d) are not to individuals restricted from possessing alcohol as part of parole or probation conditions.

In addition to alcohol shipments, other cargo is inspected to detect smuggling. While we do not want to reveal much detail about the various investigative techniques employed, RAI staff described several of these techniques, and we saw them put into practice during our site visits.

One indication that the RAI Program has advanced the effectiveness of local option law investigations is in the cooperative relationships that investigators have developed with most of the air carriers serving western Alaska. The cooperation between ABADE investigators and airline personnel is evident in the access investigators have to hangars, passenger lists, and cargo manifests. For example, in evaluation site visits to Bethel and Kotzebue, our evaluators observed investigators having free access to the secure hangars where retail alcohol shipments were received.

According to the investigators we interviewed for this evaluation, the degree of cooperation varies depending upon the air carrier but is more extensive today than it has ever been. For example, some air carriers provide investigators with hangar access and copies of cargo manifests, others only allow hangar access, and a few still refuse hangar access without a search warrant. The investigator in Kotzebue noted that he had obtained access to all of the air carriers' hangars, but that came only after a concerted effort including calls some airlines' corporate headquarters to attain the cooperation of local agents. Before the RAI Program was implemented, air carriers simply refused access without a warrant, citing concerns about passenger confidentiality and due process rights. Over the course of several years, the ABADE investigators have educated the carriers about rights of privacy and due process, and convinced them of the propriety and legality of their investigations. Investigators have also developed protocols for publicizing arrests for liquor law violations, making sure that air carriers are not identified in press releases in order to insure that they do not receive publicity that has the potential to drive away customers.

While investigator access to airline cargo areas has improved, it still varies across locations and across airlines. To preserve the confidentiality of the investigators interviewed and to avoid damaging the relationships between investigators and specific airlines, we cannot provide details about which airlines at which hubs provide different levels of access. We can say that airlines have great discretion in the access they allow. Within one hub, one independent carrier prints lists of all of the shipments received on any particular day they are requested, and allows the investigators to take the lists back to their offices where the information is entered into a database. Two other air carriers in the same hub will allow inspection of arriving alcohol, but

they will not provide a list of the shipments. Another airline in this hub will not allow investigators any warehouse or information access without a warrant.

Investigators also conduct undercover surveillance of airports, conversing with passengers and being alert to "suspicious behavior." In our site visits, we saw this technique pay off in a substantial drug smuggling interdiction. An undercover investigator contacted a suspected smuggler at an airport. Through the course of the investigation, it was revealed that the individual was transporting 1.3 pounds of marijuana and a hashish brownie destined for a village in the Kotzebue area. The AST estimated the street value of the marijuana in the village to be approximately $25,000 (595 grams of marijuana @ $40/gram, plus the hashish brownie). AST personnel assured the evaluation team that such seizures are not rare events, and named the RAI Program as an important reason that drug interdictions have increased since 2002.

Collaboration Between Police and Prosecutors

Beginning in early 2002, the RAI Program staff has executed extensive operations in Anchorage and the three hubs. The operations involve undercover investigators posing as buyers of alcohol in violation of local option laws, and have often generated more than a dozen cases. In these large-scale operations, the Anchorage-based Alcohol Interdiction Prosecutor remained on call 24 hours a day, seven days a week. Personnel from the AST remark that such large operations benefit from easy access to a prosecutor for legal advice. A prosecutor being accessible to answer legal questions in "real time" as officers/investigators proceeded with sting operations is said to make stronger cases. The investigators receive timely guidance in their investigation, seizure, and arrest procedures, helping them to avoid missteps and allowing them to construct stronger cases for prosecutors.

By specializing, the Alcohol Interdiction Prosecutor has developed deep expertise in what does and does make a good Title 4 case. The collaboration between investigators and prosecutors includes the latter educating the former about details of the law they must know in order to make good cases. For example, the definitions of "bring", "send" and "transport" in Title 4 include attempts, but prosecutors need evidence of an attempt (i.e., a "substantial step" or an "act in furtherance of a crime") to prosecute. For example, merely catching a suspect who resides in a dry village at a hub airport in possession alcohol is not enough to effectively prosecute. Investigators were informed by prosecutors that to make a strong case, proof is needed that suspects checked in for a flight to a dry village or otherwise took a tangible step toward illegally transporting alcohol in order to "prove" an intent or to prove that an attempt to bring alcohol into a dry community had occurred.

Among the legal issues that RAI investigators and prosecutors addressed collaboratively (and ultimately, effectively) was identifying and closing a loophole in Title 4 regarding how local option laws apply to areas between villages. The issue arose in Bethel in the latter half of 2002, concerning a portion of a statute [AS 04.11.508, Subsection (a)] providing that the perimeter of a community, for purposes of local option laws, is a five-mile radius from the post office. Subsection (b), however, provides that if the perimeters from two villages overlap, the local options of both villages apply only to the area of the actual village itself, leaving the area between the two villages free from any local option (AST, 2002b). AST reports (AST, 2002b to

2004a) note that villages in the Kuskokwim Delta do not have 10 miles between them, so the perimeters around villages often overlap. For example, Bethel is only slightly more than five miles from Napaskiak. If a person is caught with alcohol in a fish camp between those two communities, then that person is not subject to the local option laws of either community. RAI investigators and prosecutors argued that this interpretation of the statute makes little sense, especially in cases where both villages are dry but the area of overlap between them is effectively wet. Through efforts led by DOL and assisted by the AST, this loophole was closed by the legislature effective July 1, 2004.

Community Policing

One of the key activities of the community policing component of the RAI Program is visits by investigators to the villages. While in the villages, investigators trained and mentored VPOs and VPSOs, and distributed information to community groups and individual residents about local option laws and how communities could collaborate with police in their efforts to enforce alcohol prohibitions. For example, public information posters such as the ones displayed in Appendix E were distributed in communities surrounding the three hubs. In community meetings, informal gatherings, and conversations, RAI investigators and other public safety officials conveyed information to village residents about penalties for violating local option laws, and about the tip lines and reward system.

In-person communication has been supplemented by media coverage and ads placed by the program to ensure that information about local option laws and related community policing and law enforcement efforts was widely disseminated. The statewide press (e.g., the *Anchorage Daily News*, television outlets) has run stories on the alcohol and drug hotlines. Radio public service announcements are aired and public notices in newspapers are occasionally published in the program coverage areas, conveying the same information as the posters but with more detail about penalties for violating local option laws, and about the tips lines and reward system.

In 2003, the AST restructured their drug and alcohol operational units. The State Troopers Statewide Drug Enforcement Unit was reorganized and renamed the Alaska Bureau of Alcohol and Drug Enforcement (ABADE), and three troopers were reassigned from "C" Detachment to become ABADE investigators. The restructuring affected the RAI Program by shifting the community policing component of the program to 40 "C" Detachment troopers. The shift, occurring in mid 2003, required that the 40 troopers receive additional community policing training.

The restructuring resulted in a significant increase in visits to villages. In the last half of 2002 (before the restructuring), the AST reports that 55 community policing visits were made to the villages by RAI investigators. AST records do not specify how many of these 2002 trips were overnight. In the first half of 2003, a total of 96 visits (including 44 overnight trips) were made to the villages by RAI investigators. In the second half of 2003, after the community policing reassignment, the number of overnight visits increased more than fivefold, from 44 to 229. Between January 1 and June 30, 2004, a total of 196 overnight trips to the villages occurred, and there were 164 in the last half of 2004.

One of the best available indicators of the effects of the community policing effort is public-initiated communication with law enforcement. During the evaluation team's site visit to one of the hubs, we observed a logbook with scores of entries recording tips received from village residents. While we were interviewing RAI personnel in their offices at two of the hubs, several of these calls were received, and the investigators informed us that this is a common (sometimes daily) occurrence. These tips sometime contain actionable intelligence that leads to seizures and/or arrests, and when they do, rewards of between 50 and 600 dollars are given. Award amounts are based upon the amount of alcohol intercepted or how critical the tip information was to making the arrest or interdiction. While we were not able to directly observe interactions between village residents and the RAI staff, the activity and success of the tips line suggests that the investigators (and village public safety officers trained by the investigators) have made inroads into the villages and have established meaningful communication with at least a subset of residents.

Summary of Process Evaluation Findings

We found the program design to be well-conceived and logically sound, with a good fit between the program's goals, resources, activities, and intended outcomes and impact. The program appears to be implemented as intended. Training occurred soon after the program began and has reached its intended population of RAI investigators, other troopers, police department personnel in the hubs, and village public safety officials. For the community policing component of the project, investigators have made hundreds of overnight visits to the villages to provide training, held public meetings, distributed information, and established productive working relationships with village residents. Print media and radio public service announcements have ensured wide distribution of information about local option laws, the efforts being undertaken to enforce them, and the role of residents in helping to enforce them. A high volume of tip line activity points to the success of these public outreach efforts.

Full implementation took some time to develop, and the program appears to have hit full stride in the past two or three years. For example, it wasn't until late 2003 that Nome had an undercover ABADE investigator in place. A three-month gap in staffing of two RAI investigator positions occurred in Bethel in 2004, and a third position became vacant in January 2005 (these positions were filled later in 2005). Staffing of the community policing part of the RAI Program was reconfigured in mid 2003 and training of the 40 newly assigned troopers began. The AST Annual Drug Unit Reports and the Alaska Peace Officers Association directory indicate that the AST staffing levels in the hubs did not stabilize at their current levels until 2005. Interviews with current investigators indicate that it took months or years (depending on the site and the airline) for the relationships between the investigators and the commercial air transportation providers in the hubs to develop to the point where the investigators had the access they needed to cargo holding areas, passenger lists, and cargo manifests. By the time the evaluation data collection and site work occurred in 2006-2007, productive working relationships, investigative techniques, and routines had been developed. Unfortunately, most of the time series data we obtained run only through 2005, so our evaluation may not cover the period when the program has been at its highest level of functioning.

The program has been organizationally and operationally stable from its implementation in 2002 through the present. It has been administered by the same set of partners (AST, with DOL, U.S. Postal Inspection Service, and local law enforcement) and pursuing the same set of goals for over five years. The program has been sustained primarily through BJA grant support, with assistance and in-kind contributions from the AST, VPSOs, VPOs, DOL, U.S. Postal Inspection Service, and municipal police departments.

Chapter 3. Outcome Evaluation

While ***process evaluations*** focus on program design, activities, and procedures, ***outcome evaluations***[6] focus upon what the program does or does not accomplish with respect to its goals. As mentioned in the preceding chapter, our outcome evaluation examines the effect of the RAI Program on alcohol-related arrests, seizures of alcohol destined for dry communities, and the number and rates of successful alcohol-related prosecutions. It also examines whether program activities are associated with reductions in accidental deaths, injuries, or crime.[7] The null hypothesis can be stated as: The RAI Program has no effect on Title 4 cases, arrests, seizures, prosecutions, accidental deaths, injuries, or violent crime. ***The central objective of the evaluation is to determine whether there is evidence compelling enough to cause us to reject the null and accept the alternative hypothesis that the program has produced its intended effects.***

The basic research approach – explained in more detail below and in appendices – is a time series design, examining the target variables of arrests, deaths, and injuries before and after implementation of the RAI Program. In some analyses, we are able to supplement the time series design with comparisons of areas within and outside of the primary RAI Program areas anchored by the three hubs.

The outcome analysis proceeded sequentially, and the presentation that follows is ordered in a sequence following the program logic model: That is, we first examine the intermediate outcomes of the program, then the program impact. In this chapter, we divide the outcome evaluation presentation into three parts:

I. Program Effects on Recorded Cases and Alcohol Seizures
II. Program Effects on Case Referrals and Prosecution
III. Program Effects on Criminal Offenses and Serious Injuries/Fatalities

The first two parts examine intermediate outcomes, and the third examines program impacts. After providing a brief overview of the data gathered for the evaluation, we present the key steps and the major findings of the outcome evaluation.

Outcome Analysis I: RAI Program Effect on Recorded Cases and Alcohol Seizures

[6] In the field of program evaluation, the terms "outcome evaluation" and "impact evaluation" are sometimes used interchangeably. In this report, we are covering the evaluation of program outcomes (the more immediate effects of the program, such as making arrests and seizing alcohol) and impacts (the longer term, ultimate effects targeted in the program goals, such as the reduction in violent crime) together in our discussion of the outcome evaluation.

[7] We would like to have examined program impact on FAS also, but the occurrence was too infrequent and the population base too small to support meaningful statistical analyses.

This section of the report examines whether the RAI Program resulted in tangible increases in law enforcement activity intended to reduce the presence of alcohol in dry communities. An increase in recorded Title 4 cases and alcohol seizures after the RAI Program was implemented in 2002 would suggest that the program's objectives of increasing alcohol investigations and interdictions were being met. We found that:

- Recorded alcohol-related cases increased substantially under RAI, with active interdiction efforts by RAI investigators accounting for the bulk of the total increase.
- The total number of alcohol seizures and the amount of alcohol seized increased under RAI.
- The quality of recorded cases did not deteriorate due to the increased caseload.

Data on Recorded Cases and Seizures

We compiled the alcohol enforcement activities database from reports provided by AST Drug and Alcohol Units, AST Enforcement Units, and Alaskan Village Public Safety Officers (VPSOs) for the years 1996 to 2005. Law enforcement officers record all incidents involving at least one suspected or actual violation of Alaska liquor laws (Alaska Statutes Title 4), regardless of whether or not the incident ultimately results in an arrest or an alcohol seizure. Each such incident is listed as a separate *recorded case* in our database. We collected data only for recorded cases within the RAI Program area; as will be seen below, the lack of data from other nearby localities somewhat limits the utility of the data for our purposes. In total, the final analytic database contains 4700 separate recorded cases: 283 recorded cases from Anchorage unit reports, 2145 from Bethel area units, 608 from Kotzebue units, and 1664 from Nome units.

Recorded cases have been sorted into two broad categories: recorded cases resulting from interdiction activities, and recorded cases resulting from non-interdiction activities[8]. Interdiction cases are defined as recorded cases that arise through active law enforcement intervention efforts geared toward stopping alcohol importation. This includes recorded cases arising from seizures or attempted seizures of alcohol being transported by air carrier (cargo or baggage), the U.S. Postal Service, or other means, undercover "controlled buy" operations, seizures of alcohol improperly labeled for shipment, and seizures of otherwise legally shipped alcohol, either because a shipment exceeds an individual's monthly quota, or because it is intended for an individual with probation/parole conditions prohibiting alcohol possession/consumption.

Non-interdiction cases, in contrast, are reactive, resulting from investigations in which preventing alcohol importation was not the primary focus. Non-interdiction cases are often recorded when alcohol-related offenses, such as possession of home brew or other alcohol in a dry village, underage drinking, or illegal alcohol sales, are uncovered during the investigation of

[8] We used individual case descriptions to typify recorded cases by type of enforcement activity. An alternative approach would have been to classify recorded cases solely by the type of law violated; however, we feel that our more detailed categorizations better reflect actual law enforcement activity. For example, both importation of alcohol into a dry village and possession of alcohol in a dry village are often prosecuted under importation charges, since many villages outlaw importation but not possession. Classifying recorded cases by statute would lump these offenses together, whereas our own classification system allows us to distinguish them.

a violent act or tragedy. This category also includes recorded cases in which citizen reports of possible alcohol offenses were made to the troopers but not acted upon.

Results: Recorded Title 4 Cases and Alcohol Interdictions Have Increased

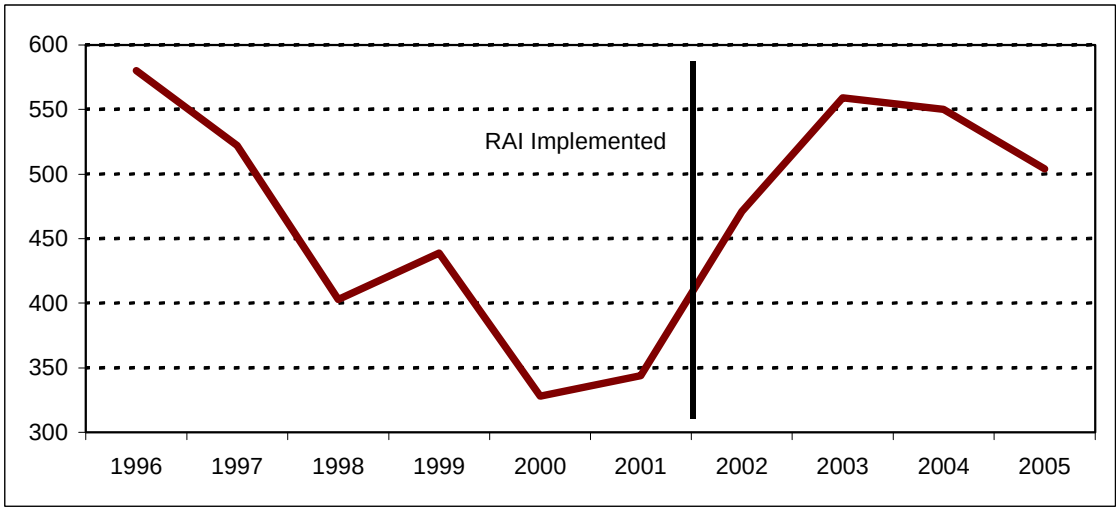
As can be seen in Table 4, more than half (59%) of recorded alcohol cases arose from interdiction efforts, and the majority of these interdiction cases were generated from airline surveillance and investigations. Most of the non-interdiction cases involved underage drinking discovered during the course of normal patrol and investigative work.

Table 4: Percent of Recorded Alcohol Cases, By Category

	Percent
Interdiction Cases	**58.5 %**
Airline Interdictions	**39.7 %**
Postal Interdictions	**5.1 %**
Probation Violations	**0.2 %**
Sale Presumed (Order Over Monthly Limit in Damp Village)	**1.2 %**
Controlled Buys	**4.8 %**
Labeling Case	**3.2 %**
Other Interdiction	**4.3 %**
Non-Interdiction Cases	**41.5 %**
Home Brew	**7.2 %**
Sale	**2.6 %**
Possession in a Dry Village	**7.1 %**
Underage Drinking	**15.3 %**
Information Logged but not Acted Upon	**8.7 %**
Other Alcohol Offense	**0.5 %**

The annual average number of recorded cases rose 19% in the four years following RAI implementation at the beginning of 2002 as compared to the six prior years, from 436 to 521 per year. It is important to note, however, that, as seen in Figure 5, annual recorded cases had been falling steadily over time even prior to RAI implementation, reaching their lowest levels over the observation period in 2000 and 2001. The rebound after RAI implementation brought the number of recorded cases back near levels observed in the mid-nineties. There was some variation in trends across RAI patrol regions; Kotzebue and Anchorage experienced particularly large increases in average annual recorded cases, while recorded cases in Bethel actually fell slightly.

Figure 5: Total Recorded Liquor Law Cases in RAI Program Area, By Year



Without evidence about trends in recorded cases outside the RAI Program area for comparison, it is difficult to ascertain whether the observed increase in recorded cases is in fact a result of RAI Program activity, or simply reflects normal fluctuations in line with changes in other local regions. Fortunately, another data source provides corroborative information.

When a recorded case results in evidence of illegal alcohol-related activity, law enforcement officers refer the case to state prosecutors. The Alaska Department of Law database, described in greater detail in the following section, provides data on the number of alcohol-related cases referred to state prosecutors by law enforcement officers. Unlike our database of recorded cases, the DOL database contains referred cases originating from incidents both inside and outside the RAI Program area.[9]

As one would expect, trends in the number of referred cases originating from inside the RAI Program area roughly tracked trends in the number of recorded cases in the RAI Program area between 1999 and 2005, rising significantly following program implementation. Based on the close correspondence observed between these measures, we can infer that referred cases originating from *outside* the RAI Program area are a reasonable proxy for the number of recorded cases in those locations. Unlike referred cases originating from inside the RAI Program

[9] Note that neither recorded cases investigated but declared to be unfounded (such as airport searches in which no alcohol was discovered), nor recorded cases involving citizens providing information that are logged but not further investigated, are referred to state prosecutors. Additionally, referred cases only involve one individual, while recorded cases may involve more than one person. Thus we would not expect the number of referred ADOL cases to be exactly equal to recorded cases; however, we would still expect overall trends in these two measures to be roughly similar.

area, which rose after 2001, referred cases originating from outside the RAI Program area were essentially unchanged. The divergent trends in *referred* cases inside and outside the program area thus allow us to more confidently attribute the observed increase in *recorded* RAI cases to increased law enforcement activity associated with the RAI Program.

The increase in total recorded liquor law cases following program implementation provides useful information about the broad effects of RAI implementation, but does not allow us to determine how much of that rise stems from more aggressive law enforcement activity, as opposed to a change in the underlying trend in alcohol-related criminal activity. Separately analyzing trends in recorded interdiction cases and recorded non-interdiction cases sheds some light on this question.

Figure 6: Total Recorded Liquor Law Cases, By Case Type

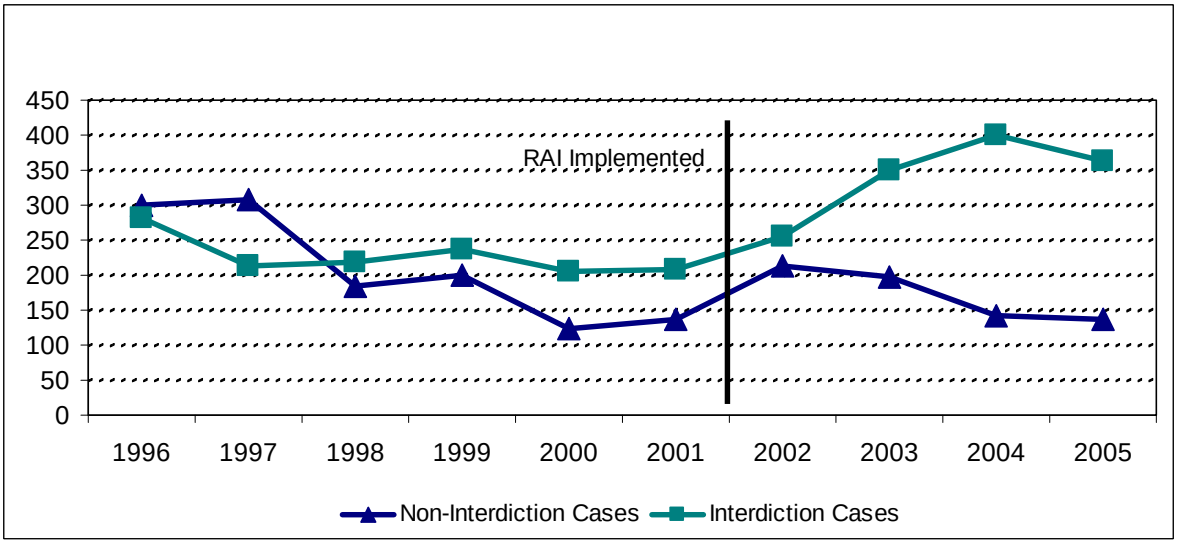


Figure 6 shows the divergent trends in these two categories of recorded cases. Average annual non-interdiction cases fell by 18% after RAI was introduced, as compared to a robust 51% increase in average annual interdiction cases. The increase in interdiction cases is consistent with expectations; the RAI Program is specifically targeted to increase interdiction activities among law enforcement, so it would be surprising if the number of interdiction cases did not rise.

Trends in non-interdiction cases, in contrast, more accurately reflect underlying trends in illegal alcohol-related criminal activity. These are primarily recorded cases in which an alcohol-related offense was discovered in the course of investigating an unrelated crime. If RAI is deterring illegal alcohol activity, we would expect non-interdiction cases to fall after program implementation. In fact, as seen in Figure 6, while there was an uptick in the number non-interdiction cases between 2001 and 2002, this was followed by a steady decline in non-interdiction cases from 2002 to 2005. However, we must be cautious in ascribing the observed decline in annual non-interdiction to a deterrent effect, since annual non-interdiction cases were

falling even prior to RAI implementation. In the absence of additional information about trends in non-interdiction cases outside the RAI Program area (referred cases in the DOL database cannot be categorized by interdiction status), it is difficult to separate program effects from the underlying time trend.

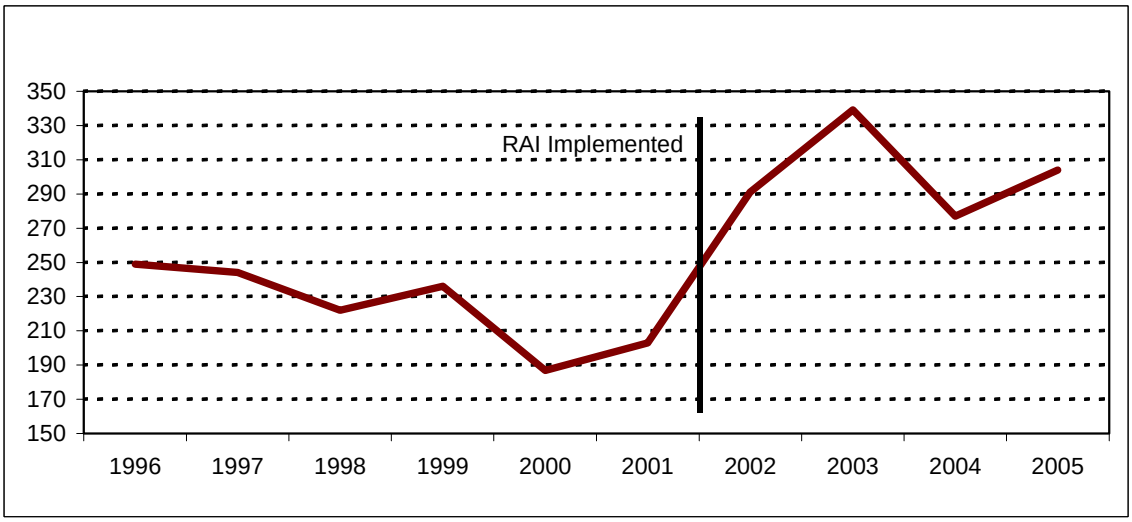
Results: There was an Increase in the Total Number of Recorded Cases – But Not the Odds that a Recorded Case Resulted in Arrest

The total number of recorded cases resulting in an arrest increased following RAI Program implementation (Figure 7). However, logistic regression analysis controlling for underlying time trends indicates that the odds that a recorded case resulted in an arrest were not influenced by RAI implementation (see Appendix F for details about the statistical analyses).

Similarly, there was no change in either the odds that a recorded case was found to be unfounded, or, conversely, the odds that laws were found to have been violated in a recorded case. So, although law enforcement activity as a whole increased under RAI, there is no evidence that this rise was associated with any decline in the overall "quality" of investigations – investigators were equally likely to find evidence that a liquor law was violated in recorded cases under the RAI Program as they were prior to the program's establishment.

Finally, the odds that a recorded case was initiated because of a citizen report but not followed up by investigators declined over time. However, controlling for this overall downward time trend, there was an increase in these odds following RAI Program implementation; logistic regression analysis indicates that the odds were about two and a half times higher that a recorded case was logged but not pursued under RAI than otherwise.

Figure 7: Total Recorded Cases Resulting in Arrest, 1996-2005

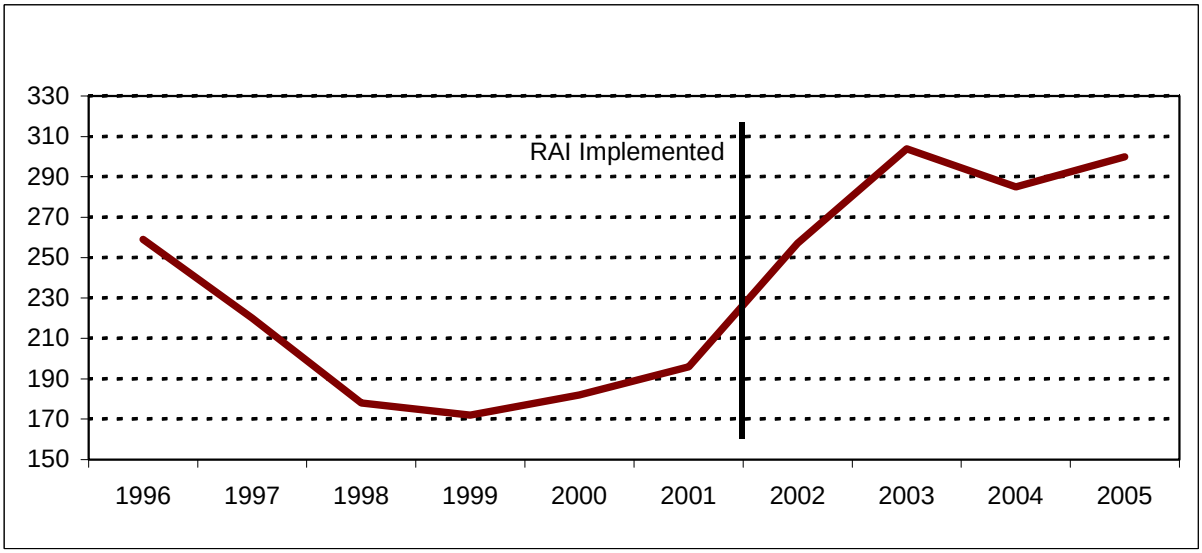


	Law Violated	Case Unfounded	Logged But Not Investigated	Arrest Made
Pre-RAI Average	314	62	59	224
Post-RAI Average	400	91	27	303
% change	**27%**	**46%**	**-54%**	**35%**

Results: Alcohol Seizures Increased

Alcohol was seized in about half of all recorded cases. In recorded cases where alcohol was seized, information about the ultimate village-level destination of the alcohol shipment was included where possible. Additionally, in order to obtain a standard, consistent measure of the amount of alcohol seized, we produced an estimate of the volume of pure ethanol seized in each recorded case: the number of containers seized times the volume of each container times the typical ethanol content of the type of beverage seized. Ethanol content was assumed to be 5% for beer, 12% for wine, 40% for hard liquor, 20% for liqueurs, and 75.5% for over-proof rum and Everclear.[10] By this measure, approximately 4917 liters of pure ethanol were confiscated in 2353 total recorded seizure cases over the ten-year observation period, an average of about 492 liters of pure ethanol annually. This is equivalent to seizing about 1,200 bottled of hard liquor or 4,100 bottles of wine annually.

Figure 8: Total Recorded Alcohol Seizures, 1996-2005



[10] Everclear is a brand of grain alcohol sold in 75.5% and 95% (151 and 190 proof) concentrations; we use the former concentration in our conversions because it is illegal in Alaska to sell alcohol in concentrations exceeding 76%.

	Alcohol Seizures	Total Milliliters Ethanol Seized	Milliliters Ethanol per Seizure
Pre-RAI Average	201	385325	1915
Post-RAI Average	287	651162	2273
% change	**42%**	**69%**	**19%**

The average annual number of recorded alcohol seizure cases increased after RAI was implemented, as did the amount of alcohol seized (Figure 8). This finding is unsurprising in light of the increase in interdiction activity described above. Despite this increase in the total number of recorded seizure cases, logistic regression analysis controlling for underlying time trends found no statistically significant program effect (see Appendix F) on the odds that alcohol was seized in a recorded case. This implies that RAI implementation was not associated with an improvement in investigators' ability to detect illegal alcohol. On the other hand, it also indicates that there was no *decline* in the odds that alcohol was seized in a recorded case; this finding, like the finding above that the odds that a recorded case was unfounded did not increase, shows that RAI investigators were not more likely to initiate unwarranted investigations simply for the sake of increased activity.

Outcome Analysis II: RAI Program Effect on Case Referrals and Prosecution

This section of the report examines whether the RAI Program resulted in significant increases in the quality and quantity of referred Title 4 cases within the program's coverage area. An increase in the number of referred cases accepted by prosecutors and successfully prosecuted would indicate that the increased prosecutorial capacity, specialization, and collaboration with law enforcement officers had been effective. We found that:

- RAI implementation has resulted in a greater number of total cases and charges being referred to and accepted by DOL prosecutors.
- The number of convictions resulting from alcohol-related charges and cases increased within RAI Program areas relative to areas outside the RAI jurisdiction following program implementation.

Data on Referrals, Charges, and Convictions

The Alaska Department of Law database includes all referred cases involving at least one charge under an alcohol or drug statute that were referred to DOL prosecutors between 1999 and 2005. There were 2592 total alcohol-related cases referred to the DOL over this interval: 2166 from the four jurisdictions within the RAI Program area, Anchorage, Bethel, Kotzebue, and Nome, and 426 from six jurisdictions outside the RAI Program area, Barrow, Dillingham, Fairbanks, Ketchikan, Palmer, and Sitka. Because more than one charge was often referred for a single case, the total number of referred charges was higher: 4307 charges total, including 3617 RAI jurisdiction cases and 690 non-RAI jurisdiction cases. Each referred charge is associated with a disposition code and a reason code, if applicable, indicating the ultimate outcome.

Overview of the Prosecution Process

In order to best interpret the analyses to follow, it is important to understand the stages of prosecution for referred cases. Snodgrass (2006) provides a useful overview of the Alaskan system, from which the description below borrows. The process is best conceived as three "stages of prosecution:" referral, acceptance, and conviction. Each of these stages represents a decision point, at which it is determined whether and how prosecution will continue into the next stage.

The referral stage begins when charges are forwarded by police to the DOL. After examining the evidence provided by police, the prosecutor makes an initial screening decision for each referred charge. Charges may be accepted as referred, or accepted but amended to higher or lesser charges, after which proceedings move forward to the acceptance stage. Alternatively, the prosecutor may decline prosecution of the charge entirely, and no further action is taken. In our data, the screening disposition code for each referral indicates the acceptance decision. Approximately 80% of referred charges in our data set were accepted by the state prosecutor.

Acceptance of a charge indicates a formal agreement by the prosecutor to move forward with the prosecution. Prosecutors can also choose to add new charges at this stage in addition to those initially referred to them by police. Once accepted, matters proceed until a final outcome is reached. There are four broad classes of outcomes in our data:

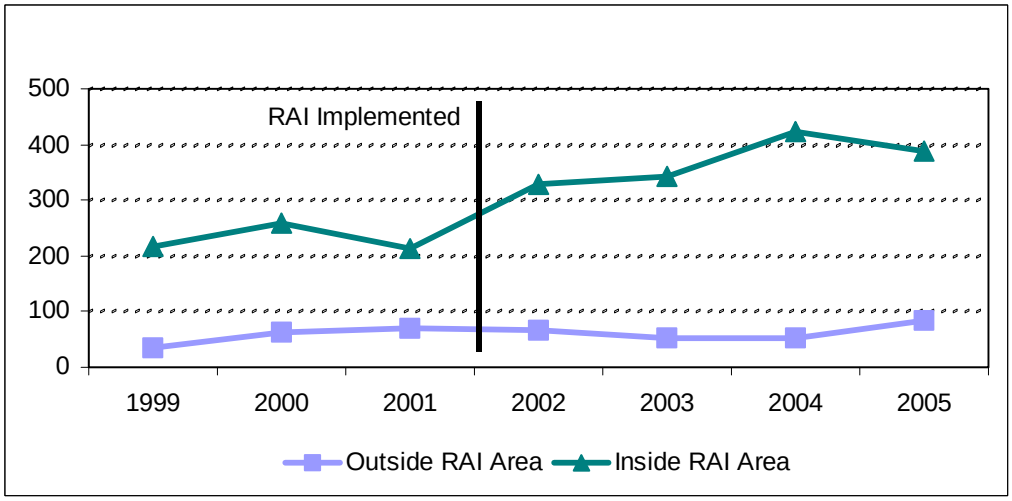
1. **Adjudications**: Verdict handed down by a bench or jury trial. Possible final outcomes in this category include
    a. A finding of guilt by judge or jury, which results in a conviction.
    b. An acquittal or finding of not guilty by judge or jury, in which case no conviction results.
2. **Pleas**: The most final common outcome for accepted charges in our dataset. Pleas always result in a conviction. This includes instances in which defendants plead guilty or no contest either to the charge as accepted, or to an amended charge.
3. **Dismissals**: The second most common outcome for accepted charges in our dataset. Either the court or the prosecutor may decide to dismiss a charge after it has been accepted for prosecution; in either instance, no conviction results.
4. **Transfers**: Charge moved to other agency or other office.

Convictions result either from a finding of guilt by bench or jury trial, or a plea of guilty or no contest. For the referred Title 4 cases resulting in conviction in our database (n = 2200), we found 96.5 percent to be the result of pleas and the remainder the result of trials.

Results: Title 4 Case and Charge Referrals to DOL Increased

There was a substantial increase in referred alcohol/drug cases and charges in the RAI Program area after RAI was introduced (Figure 9). In contrast, outside of the RAI jurisdiction, referred cases increased only moderately and referred charges were essentially unchanged. This finding provides clear evidence of increased law enforcement activity under RAI.

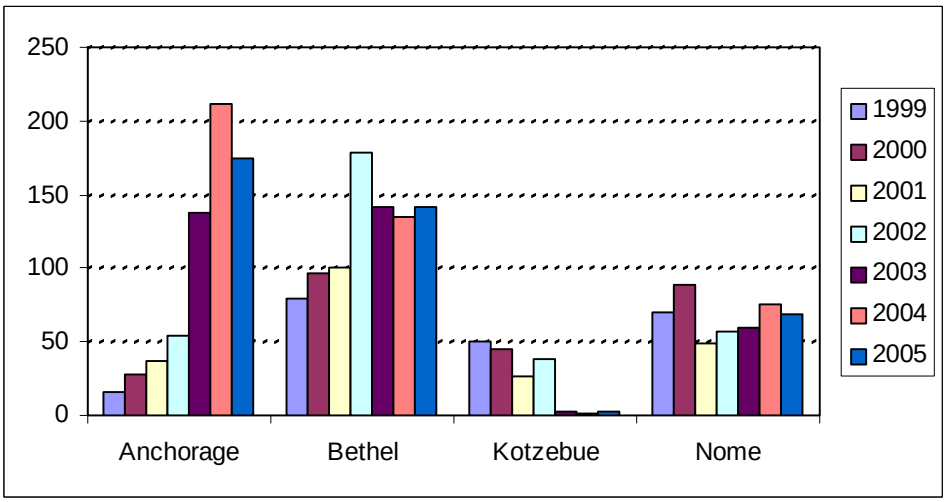
Figure 9: Cases Referred to DOL Within and Outside of Program Coverage Area, 1999-2005



	Cases		Charges	
	Outside RAI jurisdiction	Inside RAI jurisdiction	Outside RAI jurisdiction	Inside RAI jurisdiction
Pre RAI implementation	57	229	97	347
Post RAI implementation	64	370	100	644
Percent Change	**13%**	**62%**	**3%**	**85%**

However, overall trends in referrals varied considerably by individual jurisdiction (Figure 10). Inside the RAI area, there were sharp increases in total referred cases in Anchorage and Bethel, but a sharp decrease in total referred cases in Kotzebue following RAI implementation, while referred cases in Nome did not change significantly. The decrease in Kotzebue-area referred cases reflects the fact that the Anchorage-based special prosecutor took on all Kotzebue cases after RAI was implemented. Jurisdictions outside the RAI Program area were also found to vary widely, with referred cases decreasing in Barrow, increasing in Dillingham and Fairbanks, but remaining unchanged in Ketchikan, Palmer, and Sitka.

Figure 10: Referred Cases Within RAI Program Area, by Court Location



Finally, note that law enforcement officers in RAI jurisdictions referred an increasing number of charges per case following RAI. That is, for any given individual arrested for an alcohol-related offense, a greater number of charges were filed, on average.

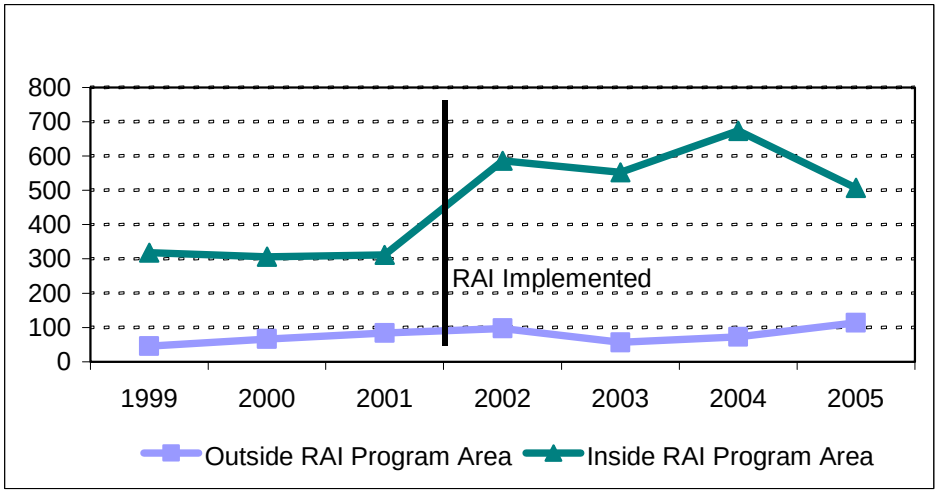
Results: Cases and Charges Accepted by DOL Increased

Overall, more referred cases and charges were accepted by prosecutors both inside and outside the RAI Program area following the implementation of RAI (Figure 11). However, the increase was larger within RAI jurisdictions, and more charges per case were accepted inside RAI jurisdictions than outside.

In addition to the number of acceptances, we examined the acceptance *rate* per referral. There are a number of ways in which RAI implementation might be expected to influence the proportion of referrals accepted for prosecution. Assuming sufficient resources are available, and that the overall "quality" of the referred charges does not change with increased volume of charges, one would expect an increase in the number of charges accepted by RAI prosecutors proportional to the increase in referrals.

On the other hand, if the increase in referrals becomes a strain on prosecutorial resources, or if additional charges tend to be supported by weaker evidence as their numbers increase, the average acceptance rate might go down. Finally, we might expect to see an increase in the acceptance rate (a) if RAI implementation increased prosecutorial resources to the point that prosecutors were actually even *better* equipped to handle referrals (even accounting for the increase), (b) if RAI allowed police to build stronger cases, or (c) if RAI achieved its goal of enhancing police-prosecution coordination.

Figure 11: Charges Accepted Within and Outside of RAI Program Area, 1999-2005

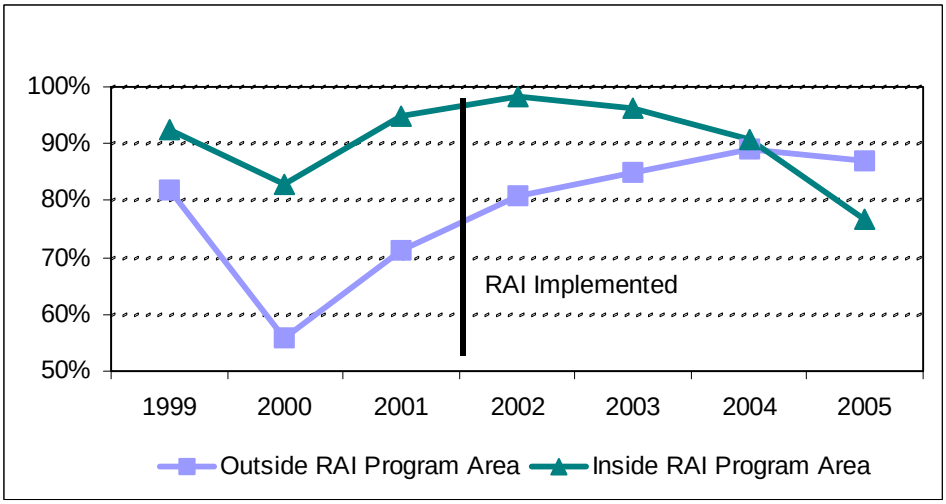


	Cases		Charges	
	Outside RAI jurisdiction	Inside RAI jurisdiction	Outside RAI jurisdiction	Inside RAI jurisdiction
Pre RAI implementation	39	196	65	312
Post RAI implementation	50	311	85	580
Percent Change	**30%**	**58%**	**31%**	**86%**

Trends in acceptance rates moved in tandem in RAI and non-RAI locations prior to program implementation, but after implementation, the trends diverged: acceptance rates outside the RAI Program area increased over time, while acceptance rates inside the RAI Program area decreased (Figure 12). By 2005, the acceptance rate for referred charges outside the RAI Program area was higher than the RAI-area acceptance rate for the first time across our observation period. We estimated the program effect on the odds that a referred charge was accepted via logistic regression analysis (see Appendix F), and found that, controlling for the underlying time trend, the odds of acceptance under RAI were only about two-fifths of those prior to program implementation.

The above measure counts each referred charge separately, regardless of whether more than one charge is filed against an individual on a single case. It does not therefore allow us to distinguish instances in which all charges against an individual were dropped from instances in which extraneous charges were dropped, but investigators still moved forward with one or more charge in the case. As noted above, the average number of charges referred per case increased over RAI, so it is possible that at least part of the decline in acceptance rates can be attributed to prosecutors agreeing to go forward with only the strongest charges associated with each individual case.

Figure 12: Charge Acceptance Rate Within and Outside of RAI Program Area, 1999-2005



To address this issue, we examined trends in the proportion of referred cases in which at least one referred charge was accepted. Trends in this measure tracked more closely in RAI and non-RAI areas than did trends in the total acceptance rate per referred charge, indicating that part of the divergence in total acceptance rates was indeed driven by lower referral acceptance rates in cases in which multiple charges are filed. However, there was still an overall narrowing of the gap between RAI and non-RAI acceptance rates evident over time, with non-RAI cases with at least one accepted charge exceeding RAI cases with at least one accepted charge for the first time in 2005. Logistic regression controlling for the underlying time trend (see Appendix F) confirms that the odds that at least one charge was accepted for a referred case under RAI were only about two fifths of the odds otherwise.

An examination of the reasons why referred cases were not accepted by prosecutors can help us to understand why acceptance rates decreased under RAI. If acceptance rates declined because insufficient resources (staffing, financial, etc.) were available to handle the increased volume of incoming referrals, we might expect to see an increase in the likelihood that charges were declined for discretionary and/or miscellaneous reasons in RAI areas post-implementation, (assuming that prosecutors accurately report the reasons for declining charges). However, logistic regression analysis (see Appendix F) found no statistically significant decrease in the odds that charges or cases were declined for these reasons.

On the other hand, if acceptance rates declined because the increased number of referred charges under RAI was associated with a decrease in the overall quality of evidence, we would expect to see an increase in the likelihood that charges were declined for evidentiary reasons. Our logistic regression indeed found evidence of such an increase; the odds of a prosecutor declining

individual charges for evidentiary reasons were over three and a half times greater under RAI, while the odds that at least one charge per case was declined for evidentiary reasons rose by over three times.

Overall, these findings are consistent with the hypothesis that the average "quality" of charges referred by law enforcement declined as the volume of charges increased. This implies that prosecutors are engaging in active "filtering" of referred charges in order to weed out individual charges supported by weaker evidence. Note that this finding implicitly assumes that prosecutors accurately report the reasons why individual charges were dropped; if, on the other hand, reason codes are not a true representation of the reasons charges were dropped, we cannot make inferences about overall charge quality from these data.

Results: Title IV Convictions Increased

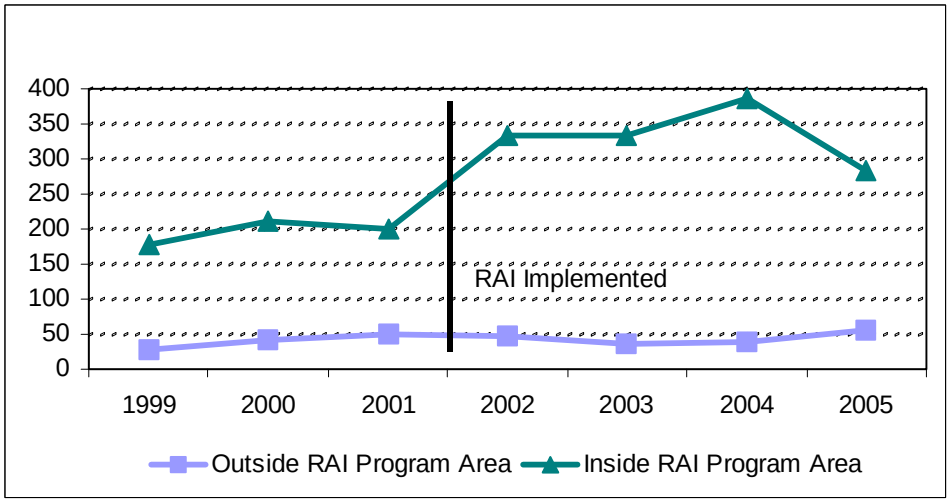
Like the trend in total acceptances, the overall trend in the number of convictions closely tracked the overall trend in referrals (Figure 13). Convictions rose sharply in the RAI area following program implementation, while increasing much more modestly outside RAI jurisdictions. Additionally, for cases resulting in convictions, the average number of convictions per case fell 11 % outside RAI jurisdictions and rose 11% inside RAI jurisdictions following program implementation.

Examining conviction rates provides us with additional evidence regarding the overall quality of charges and cases. The acceptance rate is an indicator of the state prosecutor's overall assessment of the quality of a given charge or case. Once a charge or case is accepted, however, the conviction rate additionally depends on the assessment of other individuals involved in the case: the defendant and his or her representatives, as well as judges and/or jury members who help to determine the final outcome.

Our previous findings regarding referrals and acceptances do not allow us to form an initial hypothesis about how RAI Program implementation was likely to have influenced the conviction rate per accepted charge. If prosecutorial "filtering" of additional charges resulted in accepted cases of equal quality relative to pre-RAI levels, then we'd see no change in the conviction rate per accepted charge.

Alternatively, if the larger volume of charges allows prosecutors to be more selective in the cases they *do* choose to take on, we would see an increase in conviction rates. Finally, if filtering at the screening stage was inadequate to maintain average quality of accepted cases, and/or if the prosecutor has insufficient resources to deal with the increase in the number of accepted cases, we would see a decrease in conviction rates.

Figure 13: Charges Resulting in Convictions, 1999-2005

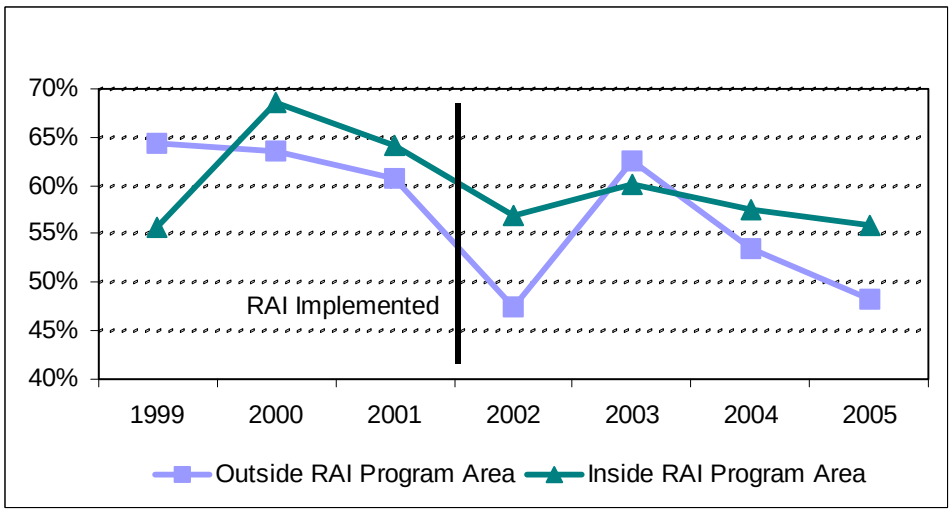


	Cases		Charges	
	Outside RAI jurisdiction	Inside RAI jurisdiction	Outside RAI jurisdiction	Inside RAI jurisdiction
Pre RAI implementation	31	161	41	196
Post RAI implementation	38	247	44	334
Percent Change	**21%**	**54%**	**8%**	**71%**

As shown in Figure 14, with the exception of a couple of single-year fluctuations, trends in conviction rates inside and outside the RAI Program area tracked each other relatively closely. Logistic regression analysis (see Appendix F) indeed found no evidence of a program effect on the overall odds of conviction, no program effect on the odds of being convicted by being found guilty in a jury or bench trial, or pleading guilty, nor a program effect on the odds that an accepted charge was ultimately dismissed by the prosecutor.

Together, these findings suggest that any "weeding out" of weaker charges occurs mostly at the acceptance phase. Once a case or charge is accepted by prosecutors, the RAI Program does not appear to influence the final disposition of that case or charge.

Figure 14: Rate of Convictions Per Accepted Case, 1999-2005



Outcome Analysis III: RAI Program Effect on Criminal Offenses and Serious Injuries/Fatalities

This third section of the outcome evaluation report examines the RAI Program's impact on crime, injuries, and fatalities. Significant decreases in the rates of violent crime, injuries, and fatalities would indicate that the program's activities had achieved its primary goals. We found no conclusive evidence that the RAI Program decreased rates of criminal activity, accidental deaths, or injuries.

Data on Crime, Injuries, and Fatalities

The analytic database compiled from Alaska State Trooper incident reports contained individual-level observations on 8743 reported incidents by date, location, and type of incident. About 6% of incidents included in the original database were excluded from our analysis: suicides, automobile crashes, drownings, plane crashes, and unintentional deaths. Data on these types of incidents from public health records are considered more reliable, and have been recorded separately in the serious injuries and fatalities database (see below). We also eliminated incidents that took place within the hub towns, Nome, Bethel, and Kotzebue. These three hubs are all either damp or wet, and much larger than any dry villages in our sample; it was not therefore considered appropriate to include incidents occurring in hubs in our analysis. The final analytic database included 7887 total reported criminal offenses.

The vast majority (87%) of reported criminal offenses were assaults, either simple or aggravated (Table 5). Overall trends in reported offenses were therefore primarily driven by trends in total assaults. Rapes made up an additional 8% of reported offenses, and resisting arrest another 3%.

Other individual offense types were quite rare, making up less than one percent of all reported crimes apiece. Our outcome analysis therefore focuses on offense types that occurred with sufficient frequency to perform adequate statistical inference. The final set of outcome categories analyzed includes assaults and rapes.

Table 5: Criminal Offenses by Type: Percent of All Crimes (n=7887)

	Percent
Total Assaults	**87.0 %**
Simple Assaults	**64.0 %**
Aggravated Assaults	**23.0 %**
Rapes	**8.3 %**
Robberies	**.3 %**
Murders	**.8 %**
Negligent Homicides	**.2 %**
Stalking	**.6 %**
Resisting Arrest	**2.7 %**

The serious injuries and fatalities database combines data from the Alaska Trauma Registry and the Bureau of Vital Statistics Death Certificate Database, and contains 6734 individual-level observations of reported injuries and fatalities by date, location, type, and severity. As with the criminal offense data, we excluded reported injuries and fatalities occurring in any of the three hub towns, resulting in a final sample of 3908. Injuries and deaths were categorized by cause, including assaults, suicide/self-harm incidents, motor vehicle crashes, falls, and other injuries (Table 6). Unlike the criminal offenses data, the injury and fatality data were fairly evenly divided across causes; we therefore analyzed each injury category separately.

Table 6: Serious Injury and Death by Cause: Proportion of All Serious Injuries and Deaths (n=3908)

	Percent
Assaults	**8.9 %**
Suicide/self harm	**18.9 %**
Motor vehicle crashes	**20.2 %**
Falls	**20.8 %**
Other Injuries	**31.2 %**

Though we analyzed data for reported crimes and injuries only within the RAI Program area as a whole, information about the individual villages in which incidents occurred allows us to determine whether the increased RAI interdiction and prosecution activities described in previous sections differentially influenced crime rates in villages with local option laws. To this

end, the individual-level criminal and injury/fatality incident data were aggregated and combined with data on village populations to create a village-level panel database. The final panel included annual crimes in each of 86 RAI Program area villages from 1994 to 2005 (1032 total observations over 12 years), and annual injuries and fatalities from 1994 to 2004 (946 total observations over 11 years).

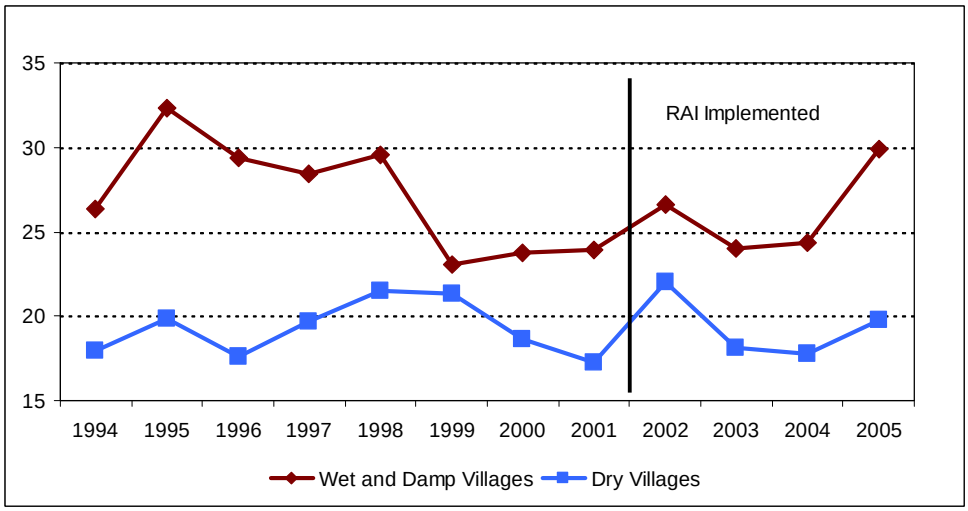
The effect of RAI implementation on reported criminal activity and serious injuries/fatalities was analyzed using negative binomial regression, including a village-level fixed effect. For more information on the model selection and methodology employed in these analyses, see Appendix G.

Results: Criminal Offense Rates Did Not Decline

There was little change in the rate of total assaults in villages allowing alcohol possession in the years following RAI implementation. In contrast, assault rates in villages where alcohol possession was prohibited spiked in the first year following RAI implementation before falling back to levels more in line with pre-implementation trends in later years (Figure 15). Unfortunately, our data do not allow us to distinguish whether this increase stems from increased reporting associated with more aggressive law enforcement activity, or an actual rise in the underlying assault rate.

No evidence of a statistically significant change in total assaults following RAI implementation was found in our regression analysis, which controls for underlying time trends, interdiction intensity, village size, and time-invariant village-level characteristics. A statistically significant increase in aggravated assaults and a decrease of comparable magnitude in simple assaults were associated with RAI implementation, but this is most likely an artifact related to having a VPSO to report to rather than an indication of a true program effect (see Appendix G).

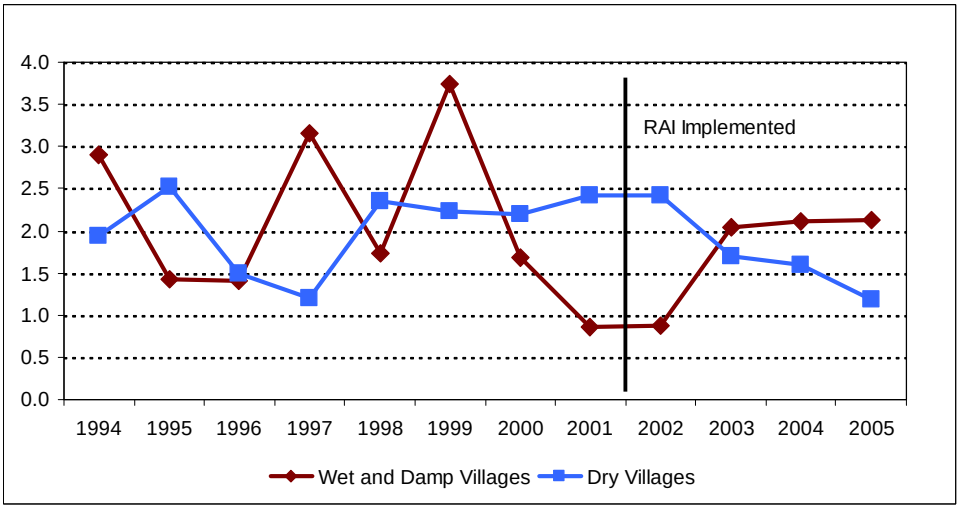
Figure 15: Annual Reported Assault Rate Per 1000 Individuals, Wet and Damp Villages Versus Dry Villages, 1994-2005



	Total Assaults		Simple Assaults		Aggravated Assaults		Rapes	
	Wet & Damp Villages	Dry Villages	Wet & Damp Villages	Dry Villages	Wet & Damp Villages	Dry Villages	Wet & Damp Villages	Dry Villages
Pre-RAI	27.1	19.2	18.3	14.4	8.8	4.8	2.1	2.1
Post-RAI	26.2	19.4	21.4	14.0	4.8	5.4	1.8	1.7
% Change	**-3%**	**1%**	**17%**	**-3%**	**-45%**	**12%**	**-15%**	**-16%**

Average annual reported rape rates fell steadily in dry villages following RAI implementation (Figure 16), while rising somewhat in wet and damp villages over the same period. However, rapes were infrequent enough overall that these results should be interpreted with caution. As with assaults, our regression analysis yielded no evidence of a statistically significant program effect on rapes.

Figure 16: Annual Reported Rape Rates Per 1000 Individuals, 1994-2005



Results: Serious Injuries and Fatalities Did Not Decline

Self-harm and suicide rates per thousand rose sharply in both wet and dry villages following program implementation (Figure 17), suggesting a larger trend, but also failing to show that this trend was positively influenced by the RAI Program. Other causes of accidental deaths and injuries, such as assault and motor vehicle accidents, also appear to have been unaffected by the RAI Program. Unlike the criminal offense data, data on accidental deaths and injuries are unlikely to be affected by any reporting bias associated with RAI, so we can more confidently conclude that the observed trends in these data reflect actual changes in underlying incident rates, rather than changes in reporting practices.

Figure 17: Annual Rates of Injury and Fatality from Self-Harm/Suicide, 1994-2004

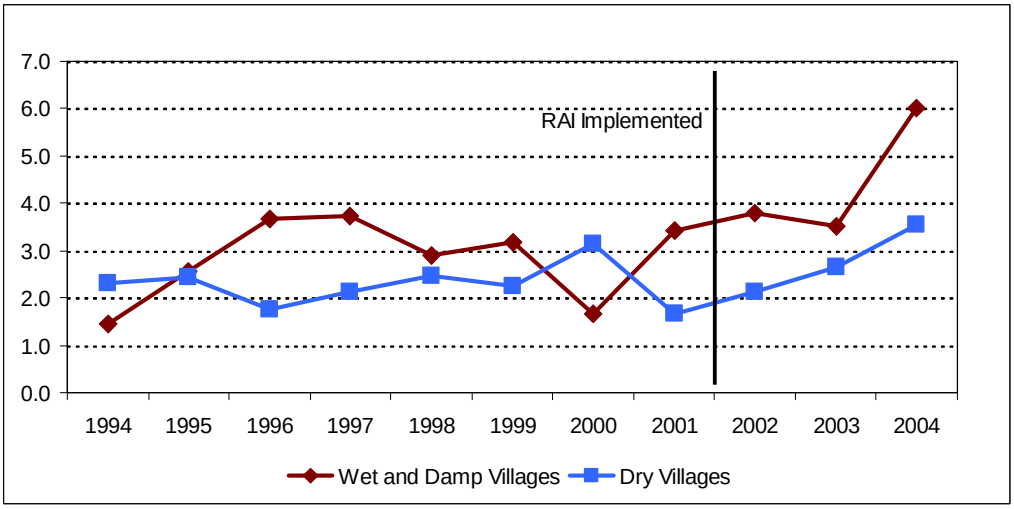


Table 7 displays a summary of pre-post trends in rates per thousand of accidental injuries due to various causes. It is tempting to attribute the relatively more favorable trends in self-harm/suicide and "other" cause injury and fatality rates in dry villages as compared to wet and damp villages to RAI implementation based solely on the pictorial evidence. However, our regression analysis finds no evidence of a statistically discernible program effect on injuries or fatalities from any cause, controlling for underlying time trends and other village characteristics. It remains to be seen whether additional years of data will yield more definitive evidence of an RAI Program effect on injury and fatality rates.

Table 7: Average Annual Serious Injuries and Fatalities, by Cause, Before and After Program Implementation

	Homicide/Assault		Self-harm/Suicide		Motor Vehicle Crash		Falls		Other Causes	
	Wet & Damp Villages	Dry Villages	Wet & Damp Villages	Dry Villages	Wet & Damp Villages	Dry Villages	Wet & Damp Villages	Dry Villages	Wet & Damp Villages	Dry Villages
Pre-RAI	2.1	1.0	2.8	2.3	4.0	2.5	3.6	2.6	6.6	4.1
Post-RAI	2.1	1.1	4.4	2.8	3.8	2.6	3.7	2.8	6.4	3.4
% change	**-3%**	**3%**	**57%**	**22%**	**-4%**	**5%**	**4%**	**5%**	**-3%**	**-26%**

Interpreting the Outcome Evaluation Results

The RAI Program was found to increase law enforcement activity, prosecutorial caseload, and convictions. More specifically, the program was associated with increases in alcohol-related (a) arrests and seizures, (b) cases referred to prosecutors, (c) prosecutions, and (d) convictions. Prosecutors appear to have responded to increased caseload by "filtering out" weaker charges prior to prosecution, but case quality was not found to be negatively affected by the increased caseload due to RAI. However, these positive intermediate outcomes were not found to have produced the program's targeted impact on crimes, injuries, and fatalities.

There are a number of possible reasons for our finding that the RAI Program did not reduce crime or trauma. First, it is possible that local production of alcohol – mostly "home brew" – offsets whatever gains the RAI Program makes in deterring smuggling or seizing bootlegged alcohol. This possibility is supported by anecdotal evidence gathered from the residents of dry villages and the observations of troopers and investigators. In our interviews, investigators spoke of large shipments of yeast and sugar being made to dry villages in quantities far greater than would make sense for normal household consumption. However, Title IV provides no legal restriction on the ingredients for making home brew. There are no "personal use" guidelines for these substances, and law enforcement cannot use these shipments to establish probable cause supporting further investigation.

A gallon of "home brew" seized by RAI inspectors in Nome. Seizures of home brew have increased since the RAI Program was implemented, indicating that local production has ramped up to offset losses due to seizures and the increased risk and cost of smuggling.

Second, smugglers may be successfully evading detection using air transportation. Given the bulkiness of alcohol and the limited space in the small airplanes linking villages to hubs, continuing to use commercial air travel while evading detection is unlikely to allow enough alcohol to slip through the RAI net in quantities sufficient to offset the interdiction losses.

Third, it may be that alcohol may be reaching dry villages by smugglers using alternatives to air transport between the hubs and villages. For example, snow machines can be used to travel over frozen rivers, lakes, or ocean between some villages and hubs during some times of the year, and boats can travel over water routes during other parts of the year. A related possibility is that alcohol may be legally transported to "damp" villages, and then trafficked from there to dry villages. However, there are few damp villages in the program area, and with few exceptions, villages tend to be clustered by level of alcohol regulation.

Fourth, it is possible that the program "dosage" was insufficient to make a large enough dent in the availability of alcohol in the target areas to produce a measurable effect on outcomes. In other words, there may be so much alcohol transported into dry villages that even doubling the amount interdicted or deterred may reduce the overall amount of alcohol by only a small percentage, and if so, the program would have to be much larger in scope and to interdict much more alcohol in order to produce a statistically significant impact. Without knowing the total volume of alcohol present in dry communities, it is impossible to determine what percentage of the total has been seized or otherwise kept out of restricted areas. A hypothetical example can illustrate the point: The 2006 Annual Drug Report states that the efforts of the five RAI Program investigators "…resulted in alcohol seizures for 2006 of approximately 708 gallons" (ABADE, 2007). For our hypothetical scenario, we can assume that none of this alcohol would have been interdicted without the program. If 708 gallons represents half of all the alcohol available in the program's target areas, we would expect a substantial impact. But if the baseline amount of illegal alcohol were 25,000 gallons, the amount interdicted by the RAI staff in 2006 would have reduced the total amount available by less than 3%. Speculating that the program may interdict a small percentage of smuggled and illegally produced alcohol is not to disregard the undeniable success and significance of interdicting hundreds of gallons of alcohol. Rather, the point for the purpose of interpreting our evaluation findings is that a large baseline volume of illicit alcohol could dilute the impact made by the program.

Chapter 4: Program Costs

To fully account for program costs, data must be assembled to calculate the costs associated with each program activity: conducting investigations, processing cases from investigation to prosecution, conducting and/or participating in training, etc. accounting for the time and resources involved in accomplishing each step in the activity by personnel. Tracking such costs can be complicated for program administrators because program staff are often engaged in multiple activities on a given day, using a variety of resources to engage in each function. However, without this information it is impossible to develop a complete accounting for each program activity that could then be assessed in relation to specific outcomes.

We found that expenditures were not tracked in a manner that would support our proposed cost analysis. Program expenditures were tracked by primary budget categories (as required by the grant) and not by activity, which is necessary to assess costs in relation to actual program performance. For example, with available data it is impossible to link personnel costs (which accounts for most of the grant) back to specific program activities.

What we are able to do within the scope and resources available for the evaluation is document the resources used by the program that are directly tied to the BJA grants which provide most of the program support. After reviewing reports from the AST to BJA and holding discussions with RAI Program staff, we conclude that the program funds were expended and accounted for consistent with grant requirements. All of the evidence we could gather points to the grant funds being used as intended, that is, to deploy five experienced investigators, one prosecutor, and support staff to focus on alcohol violation investigations. However, it was unclear the extent to which individuals in these positions – particularly the investigators - were able to dedicate a 100% of their time to grant activities. From January 2002 through December 2004, half of the semi-annual progress reports from the AST to BJA stated that all of the RAI positions were filled and the staff engaged full-time in program activities. The report covering the last six months of 2002 stated that "For the *majority* of this reporting period, the five investigators assigned to this project have been assigned *nearly full-time* without interruption in their efforts (emphasis added; AST, 2002b). The January to June 2004 reports noted that one of the Bethel investigators was promoted in May and the other retired in June, so at the end of the reporting period the two investigator positions in Bethel were vacant. The following report stated that these two positions were vacant until October 15, so that the Bethel post was without either of its RAI investigators for at least four months. Interviews with RAI investigators indicated that there had been occasional gaps from 2005-2007 in RAI staffing at the other hubs due to promotions, retirements, and transfers.[11] However, combining all the available evidence, it appears that all five positions were staffed and actively engaged in RAI work for the vast majority of the time the program has been in place.

[11] Gaps in investigator coverage are perhaps inevitable in a program covering remote, isolated areas with harsh climates. Like Federal law enforcement and most state police agencies, the AST also has an organizational philosophy encouraging transfer of troopers among various duties and locations to avoid boredom or burnout, and to cross-train and disseminate knowledge about crime and enforcement practices throughout the state. However, in the future the AST may be able to institute a system to provide temporary coverage in cases where unexpected gaps occur.

Table 8: BJA Grant Fund Expenditures for RAI Program

	FY2003	FY2004	FY2005	FY2006	FY2007	Total
Personnel Services	498,144	506,969	95,786	621,494	628,254	**2,750,647**
Travel	34,191	16,759	17,373	9,816	0	**78,140**
Supplies	5,433	4,441	21,369	26,187	0	**57,430**
Contractual	257,198	290,796	526,714	486,531	329,648	**1,890,887**
Other	30,944	4,283	14,795	89,671	0	**139,743**
Total	**$825,961**	**$823,249**	**$1,076,037**	**$1,233,699**	**$957,902**	**$4,916,847**

Table 8 outlines program expenditures by budget category for each fiscal year the program has been in operation. As can be seen here, 56 percent of the grant funds were spent on personnel services (covering the deployment of five experienced investigators) and 38 percent were spent on contracts to secure the positions of DOL prosecutors and support staff to focus on alcohol violation investigations. Together these two labor expense categories account for 94 percent of the program budget. Travel expenditures covered costs associated with travel between the hubs and the outlying communities (as well as less frequent travel among the hubs and to Anchorage), and consumed less than two percent of the program budget. Supplies and "other" expenditures include costs associated with leases, communication and data services, conference and training fees, fuel, production of community outreach flyers, and purchase of ad space in media outlets for public announcements.

The cost data received from the AST address only the costs associated with the grant, and the grant was specifically designed to add five key personnel and cover some support staff and miscellaneous costs associated with the activity of the key staff. However, the program involved other staff, and there are costs associated with their activity. For example, as discussed above, 40 "C" Detachment troopers spent some unknown amount of their time engaged in training and in community policing activities associated with the RAI Program, beginning in 2004. The evaluation team received no data on the costs associated with the larger community policing effort of the 40 troopers. Also, the U.S. Postal Inspection Service also has a formal role in the RAI Program, but since their positions are Federal and were not covered by the BJA grant, we received no data on their costs.

Chapter 5: Program Transferability

Among the keys to the potential effectiveness of the RAI Program are the unique geography, climate, and transportation infrastructure of Alaska. The vast majority of goods and people moving among western Alaska communities travel by air, and alternative means of transportation are often too costly or unsafe due to extreme terrain or weather. With the scope of investigation and interdiction efforts narrowed primarily to air cargo and passengers, it is reasonable to expect that a significant portion of the smuggled alcohol could be intercepted.

The program can (and perhaps does, to some extent) transfer beyond the primary RAI Program coverage area to other parts of rural Alaska that have prohibited alcohol and are off of the main highway system. North Slope Borough villages as well as isolated Alaska Native villages along the Tanana and upper Yukon Rivers are other places within Alaska where interdiction efforts similar to the RAI Program might prove effective. The conditions are in place to possibly extend the program to parts of the Aleutians and the southeast portions of the state, although few communities in those areas are dry and the prospects for success in those areas would be reduced due to having more alternatives to air transport. (i.e., given that marine traffic can access most of Aleutians and the coastal areas of the southeast year round, and with milder weather in the latter, interdiction efforts focusing on air transport can more easily be circumvented).

For the RAI Program (as presently constituted) to be successfully applied elsewhere in the United States, the replication sites must be isolated by distance, terrain, and/or transportation infrastructure. Few other areas within the Lower 48 states can be regarded as comparable to Alaska in these respects, and direct application of the program is unlikely to succeed in most other parts of the country. Previous attempts at prohibition in areas such as the Appalachians have failed due to illicit production and the inability to conduct adequate investigation and searches of all road traffic. However, adaptations of the RAI Program approach might be transferable to portions of U.S. protectorates such as American Samoa, Guam, North Marianna Islands, Puerto Rico, and the U.S. Virgin Islands. Of course, adaptations in these territories would require adoption of legal prohibitions on alcohol, but none of the U.S. protectorates outlaw alcohol (Vila, 2007). The island of Chuuk in the Federated States of Micronesia does, but it stopped being a US protectorate back in the 1980s.

Chapter 6: Conclusions

Our evaluation found the program design to be well-conceived and logically sound, with a good fit between the program's goals, resources, activities, and intended outcomes and impact. The program has been organizationally and operationally stable from its implementation in 2002 through the present. It has been administered by the same set of partners (the AST as the managing agency, in partnership with DOL, the U.S. Postal Inspection Service, and local police and public safety officials) and pursuing the same set of goals for over five years. The program has been sustained primarily through BJA grant support, with assistance and in-kind contributions from the AST, VPSOs, municipal police, and the U.S. Postal Inspection Service.

The evidence we could gather indicated that the program was implemented as intended, overall. Training occurred soon after the program began and reached its intended population of RAI investigators and other public safety officers. Full functioning of the program took some time to develop, given training and staffing time in 2002, a major reorganization creating a need for additional training in 2003-2004, and the time to took to develop relationships with communities and with commercial air carriers that opened up access to facilities and information necessary for effective investigation. Such start-up issues and mid-stream reorganizations are common in the implementation of new programs, and do not indicate any particular problem with the program design or processes. As we discussed in the body of the report, the time it took for the program to mature extends to about the end of our time series data on program outcomes and impact, making it possible that our evaluation examines the program during a time when it was not at its current or optimal level of performance.

There have been periodic gaps in RAI Program staffing throughout the program's lifespan. While all five of the key RAI positions were filled and the staff engaged full-time in program activities during most of the performance period, there was a period of at least four months where as many as three investigator positions in Bethel were vacant, and smaller gaps occurred at all three hubs due to promotions, retirements, and transfers. Gaps in staffing are perhaps inevitable in a program implemented in remote, isolated areas with harsh climates. In addition, the AST has an organizational philosophy encouraging transfer of troopers among various duties and locations to avoid boredom or burnout, and to cross-train and disseminate knowledge about crime and enforcement practices throughout the state. While gaps cannot be prevented entirely, a reasonable recommendation for the future would be for the AST to institute systems to better anticipate staffing moves and losses, and to provide temporary coverage where unexpected gaps occur. Notwithstanding these issues, productive working relationships, investigative techniques, and routines had been developed by the time the evaluation data collection and site work occurred in 2006-2007.

For the community policing component of the project, investigators and other troopers have made hundreds of overnight visits and used other means establish productive working relationships with village residents, organizations, and public safety officers. Print media and radio public service announcements have been used to maximize distribution of information about local option laws, the efforts to enforce them, and the role of residents in assisting law enforcement. A high volume of tip line activity points to the success of these public outreach efforts.

The RAI Program was found to increase seizures and alcohol-related arrests, prosecutorial caseload, and successful prosecutions. Although not a specific target of the RAI Program, the activity of program personnel has also led to the discovery of other crimes, such as drug trafficking.

While the program was found to well designed and executed, we did not find that it had a statistically significant impact on the targeted outcomes of reduced crime, accidental deaths, or injuries. One of the plausible explanations for this finding is that the program is simply ineffective. It is possible that smugglers are finding alternative means of evading detection using air transportation, or are using alternatives to air transport. Local production of alcohol may offset whatever gains the RAI Program makes in deterring smuggling or seizing bootlegged alcohol. Western Alaska may have experienced what most other U.S. prohibition efforts have experienced: the demand for alcohol may be strong enough to motivate bootleggers to overcome whatever obstacles law enforcement places before them.

It is also possible that the program "dosage" was insufficient to make a large enough dent in the availability of alcohol in the target areas to produce a measurable effect on outcomes. There may be so much alcohol transported into dry villages that even doubling the amount interdicted or deterred may reduce the overall amount of alcohol by only a small percentage, and if so, the program would have to be much larger in scope and to interdict much more alcohol in order to produce a statistically significant impact. The true baseline amount of alcohol in dry villages is not readily measurable and would be difficult to estimate accurately. One way to test whether the program was too small in scope would be to significantly expand the program, track process and outcome data for several years, then test whether there are effects of the increments from no program to the present RAI, and then from the present RAI to an expanded program.

We have concluded that it is unlikely that the RAI Program could be successfully transferred to most locations in the United States. Among the keys to the potential effectiveness of the RAI Program are the unique geography, climate, and transportation infrastructure of Alaska. To feasibly investigate and intercept smuggled alcohol with a law enforcement effort similar in scope to the RAI Program, potential replication sites must be relatively isolated and dependent upon a limited number of transportation options – and preferably air transport. The RAI Program can and perhaps does transfer beyond the primary coverage area to other parts of rural Alaska that have prohibited alcohol. North Slope Borough villages as well as isolated Alaska Native villages along the Tanana and upper Yukon Rivers are other places within Alaska where RAI Program types of interdictions might prove effective.

For the RAI Program (as presently constituted) to be successfully applied elsewhere in the United States, the replication sites must be isolated by distance, terrain, and/or transportation infrastructure. Few other areas within the Lower 48 states can be regarded as comparable to Alaska in these respects, and direct application of the program is unlikely to succeed in most other parts of the country. For example, previous attempts at prohibition in areas such as the Appalachians have failed due to illicit production and the inability to conduct adequate investigation and searches of all road traffic. However, adaptations of the RAI Program approach might work in U.S. protectorates where air travel between islands is necessary, such as the Commonwealth of the Northern Mariana Islands, American Samoa, Puerto Rico, or the U.S.

Virgin Islands. Of course, none of these locales currently have alcohol prohibition, which would be necessary before attempting to adapt the RAI Program to these territories.

References

Adams, W.L., Yuan, Z., Barboriak, J.J., & Rimm, A. (1993). Alcohol-related hospitalizations of elderly people: Prevalence and geographic variation in the United States. *Journal of the American Medical Association*, 270:1222-1225.

Akins, S., Mosher, C., Rotolo, T., & Griffin, R. (2003). Patterns and correlates of substance abuse among American Indians in Washington State. *Journal of Drug Issues*, 33(1):45-72.

Alaska Bureau of Vital Statistics. (2001). *Alaska Vital Signs: Leading Causes of Death in Alaska, 1999*. Juneau, AK: Alaska Department of Health and Social Services.

Alaska Bureau of Vital Statistics. (2002). *2000 Annual Report*. Juneau, AK: Alaska Department of Health and Social Services.

Alaska Bureau of Alcohol and Drug Enforcement. (2007). *2006 Annual Drug Report.* Alaska State Troopers.

Alaska State Troopers. (2002a). *Illegal Alcohol Interdiction/Community Policing Grant Award #2002-DD-BX-0004, Semi-Annual Progress report: January 1, 2002, to June 30, 2002.* Department of Public Safety, Division of Alaska State Troopers.

Alaska State Troopers. (2002b). *Illegal Alcohol Interdiction/Community Policing Grant Award #2002-DD-BX-0004, Semi-Annual Progress report: July 1, 2002, to December 31, 2002.* Department of Public Safety, Division of Alaska State Troopers.

Alaska State Troopers. (2003a). *Illegal Alcohol Interdiction/Community Policing Grant Award #2002-DD-BX-0004, Semi-Annual Progress report: January 1, 2003, to June 30, 2003.* Department of Public Safety, Division of Alaska State Troopers.

Alaska State Troopers. (2003b). *Illegal Alcohol Interdiction/Community Policing Grant Award #2002-DD-BX-0004, Semi-Annual Progress report: July 1, 2003, to December 31, 2003.* Department of Public Safety, Division of Alaska State Troopers.

Alaska State Troopers. (2004a). *Illegal Alcohol Interdiction/Community Policing Grant Award #2002-DD-BX-0004, Semi-Annual Progress report: January 1, 2004, to June 30, 2004.* Department of Public Safety, Division of Alaska State Troopers.

Alaska State Troopers. (2004b). *Illegal Alcohol Interdiction/Community Policing Grant Award #2002-DD-BX-0004, Semi-Annual Progress report: July 1, 2004, to December 31, 2004.* Department of Public Safety, Division of Alaska State Troopers.

Benson, B.L., Rasmussen, D.W., & Zimmerman, P.R. (2001). *The Impact of Alcohol Control Policies on the Incidence of Violent Crime.* Final report submitted to the National Institute of Justice, U.S. Department of Justice, for grant #99-IJ-CX-0041.

Berman, M.D. & Hull, T. (1999). *A Historical Sketch of the Elections for Local Option Control of Alcoholic Beverages in Communities of Alaska*. AK: Institute for Social and Economic Research, University of Alaska, Anchorage. Available online at: http://www.iser.uaa.alaska.edu/projects/alcohol/elections.htm.

Berman, M. D., & Hull, T. (1997) Community control of alcohol in Alaska. *Alaska Review of Social and Economic Conditions*, 31(1):1-4.

Berman, M.D., & Hull, T. (2001). Alcohol control by referendum in northern Native communities: The Alaska local option law. *Arctic*, 54(1), 77-83.

Berman, M.D., Hull, T., & May, P. (2000). Alcohol control and injury death in Alaska Native communities: Wet, damp and dry under Alaska's local option law. *Journal of Studies on Alcohol*, 61, 311-319.

Berman, M.D. & Leask, L. (1994). Violent death in Alaska: Who is most likely to die? *Alaska Review of Social and Economic Conditions*, 29(1):1-12.

Bolen, J.C., Rhodes, L., Powell-Griner, E.E., Bland, S.D., & Holtzman, D. (2000). State-specific prevalence of selected health behaviors, by race and ethnicity -- Behavioral Risk Factor Surveillance System, 1997. *MMWR*, 49 (No. SS-2):1-60.

Bowerman, RJ. (1997). The effect of a community-sponsored alcohol ban on prenatal alcohol and other substance abuse. *American Journal of Public Health*, 87:1378-1379.

Brant, T. (2005). Troopers bust Alaskans trying to import liquor. *Anchorage Daily News*, Saturday, February 19. B2.

Brick, J., & Carpenter, J.A. (2001). Identification of alcohol intoxification by police. *Alcoholism: Clinical and Experimental Research*, 25(6):850-855.

Bureau of Vital Statistics. (2005). *Births by Census Area: 1993-2003*. Juneau, AK: Alaska Division of Public Health.

Center for Disease Control and Prevention. (2002). Fetal Alcohol Syndrome – Alaska, Arizona, Colorado and New York, 1995-1997. *Morbidity and Mortality Weekly, 51*(20):433-435.

Chiu, A.Y. & Perez, P.E. (1998). The effect of an alcohol ban on the number of alcohol-related hospital visits in Barrow, Alaska. *International Journal of Circumpolar Health*, 57 (Supplement 1), 439-442.

Chiu, A.Y., Perez, P.E, & Parker, R.N. (1997). Impact of banning alcohol on outpatient visits in Barrow, Alaska. *Journal of the American Medical Association*, 278, 1775-1777.

Conn, S. & Moras, A. (1986). *No Need of Gold: Alcohol Control Laws and the Alaska Native Population*. Anchorage, Alaska: School of Justice, University of Alaska.

Dills, A.K., Jacobson, M., & Miron, J.A. (2005). The effect of alcohol prohibition on alcohol consumption: Evidence from drunkenness arrests. *Economics Letters*, February:279-294.

Dills, A.K., & Miron, J.A. (2004). Alcohol prohibition and cirrhosis. *American Law and Economics Review*, 6(2):285-318.

Donnelly, N., Poynton, S., Weatherburn, D., Bamford, E., & Nottage, J. (2006). Liquor outlet concentrations and alcohol-related neighborhood problems. *Alcohol Studies Bulletin*, April, 8:1-16.

Ferguson, S.A., Wells, J.K. & Lund, A.K. (1995). The role of passive alcohol sensors in detecting alcohol-impaired drivers at sobriety checkpoints. *Alcohol Drugs and Driving*, 11:23-29.

Gallaher, M.M., Fleming, D.W., Berger, L.R. & Sewell, C. (1992). Pedestrian and hypothermia deaths among Native Americans in New Mexico. *Journal of the American Medical Association*, 267:1345-1348.

Griffin, D.B. (2006). *Schedule of Local Option Communities*. Anchorage, AK: Alcoholic Beverage Control Board. Accessed online at: www.dps.state.ak.us/abc/LocalOption.htm.

Jensen, G.F. (2000). Prohibition, alcohol, and murder: Untangling countervailing mechanisms. *Homicide Studies*, 4(1):18-36.

Johnson, M.S., Moore, M., Mitchell, P., Owen, P., & Pilby, J. (2000) Serious and fatal firearm injuries among children and adolescents in Alaska: 1991-1997. *Alaska Medicine*, 41(1): 3-10, 27.

Landen, M.G. (1997). Alcohol-related mortality and tribal alcohol legislation. *Journal of Rural Health*, 13:38-44.

Landen, MG. Beller, M., Funk, E., Propst, M., Middaugh, J., & Moolenaar, R. L. (1997). Alcohol-related injury death and alcohol availability in remote Alaska. *Journal of the American Medical Association*, 278:1755-1758.

Lee, N. (1997). Impossible mission: A history of the legal control of Native drinking in Alaska. *Wicazo Sa Review*, 12(2):95-109.

Levine, H.G. & Reinarman, C. (2004). *Alcohol Prohibition and Drug Prohibition: Lessons Learned from Alcohol Policy and Drug Policy*. Amsterdam: CEDRO.

Lonner, T.D. (1985). Village alcohol control: Traditional methods and the "Local Option Law." *Circumpolar Health*, 84:335-339.

May, P.A. (1976). *Alcohol Legalization and Native Americans: A Sociological Inquiry*. Ph.D. Dissertation, University of Montana.

McDowell Group. (2001). *Economic Costs of Alcohol and Other Drug Abuse in Alaska, Phase Two*. Prepared for The Advisory Board on Alcoholism and Drug Abuse, Alaska Department of Health and Social Services.

Moore, M. & Murphy, Z. (2001) *Serious and Fatal Child and Adolescent Injuries in Alaska 1994-1998*. Juneau, AK: Alaska Community Health and Emergency Medical Services.

Moskowitz, H., Burns, M., & Ferguson, S. (1999). Police officer's detection of breath odors from alcohol ingestion. *Accident Analysis and Prevention*, 31:175-180.

Myrstol, B. (2004). Police patrol and public alcohol use in Anchorage. *Alaska Justice Forum*, 21:1,9-12.

National Highway Traffick Safety Administration. (2001). *Traffick Safety Facts 2000*. Washington, DC: U.S. Department of Transportation.

Nephew, T.M.; Williams, G.D.; Yi, H.; Hoy, A.K.; Stinson, F.S.; & Dufour, M. (2003). *Surveillance Report #59: Apparent Per Capita Alcohol Consumption: National, State, and Regional Trends, 1977–2000.* Rockville, MD: NIAAA, Division of Biometry and Epidemiology, Alcohol Epidemiologic Data System.

Nome Convention and Visitors Bureau. (2001). *Nome's Roads System*. Accessed online at: www.nomealaska.org/vc/roads.htm

North Slope Borough Department of Public Safety. (1995). *The Barrow Temperance Project: Reducing Alcohol-Related Crime and Disorder With Prohibition in an Alaskan Community.*

Office of Fetal Alcohol Syndrome. (2005). *Alaska's Comprehensive FAS Project*. Alaska Department of Health and Social Services. Accessed at: www.hhs.state.ak.us/FAS/Akfiveyrgoal/challenge.htm

Office of Justice Programs. (1998). *National Symposium on Alcohol Abuse and Crime: Recommendations to the Office Of Justice Programs*. Washington, DC: U.S. Department of Justice.

Powers, E.L., & Wilson, J.K. (2004). Access denied: The relationship between alcohol prohibition and driving under the influence. *Sociological Inquiry*, 74(3):318-337.

Richey, J.H., Asay, E., & Kasper, J. (2003). *Health Risks in Alaska Among Adults*. Juneau, AK: Department of Health and Social Services.

Rice, D.P. (1993). The economic cost of alcohol abuse and alcohol dependence: 1990. *Alcohol Health and Research World*, 17(1):10-11.

Sallee, D., Moore, M. & Johnson, M. (2000) Traumatic brain injuries in Alaska, 1996-1998. *Alaska Medicine*, 42(2):37-40.

Saylor, B., et al. (2000). *Evaluation of the Chemical Misuse Treatment and Recovery Services (CMTRS) Program*. Anchorage, AK: University of Alaska, Anchorage, Institute for Circumpolar Health Studies.

Schoelhorn, J. & Podvin, D. (2002). Fetal alcohol syndrome prevalence in Alaska: New findings from the FAS Surveillance Project. *Family Health Dateline*, 8(2):1-5. Juneau, AK; Alaska Department of Health and Social Services.

Schulte, G.S.L., Aultman-Hall, L., McCourt, M., & Stamatiadis, N. (2003). Consideration of driver home county prohibition and alcohol-related vehicle crashes. *Accident Analysis and Prevention*, 35(5):641-648.

Sjogren, H., Bjornstig, U., & Eriksson, A. (1997). Comparison between blood analysis and police assessment of drug and alcohol use by injured drivers. *Scandinavian Journal of Social Medicine*, 25:217-223.

Smart, R.G. (1979). A note on the effects of changes in alcohol control policies in the Canadian north. *Journal of Studies on Alcohol*, 40:908-913.

Snodgrass, G. Matthew. (2006). Sexual assault case processing: A descriptive model of attrition and decision making. *Alaska Justice Forum*, 23(1):1,4-8.

Thornton, M. (1991). *Policy Analysis: Alcohol Prohibition Was a Failure*. Cato Institute Policy Analysis No. 157.

U.S. Department of Health and Human Services. (2000). *Special Report to the U.S. Congress on Alcohol and Health*.

Vila, B. (2007). Personal communication. October 3.

Wilson, R.W., Niva, G., & Nicholson, T. (1993). Prohibition revisited: County alcohol control consequences. *Journal of the Kentucky Medical Association*, 91(1):9-12.

Wood, D.S. (1997). *Violent Crime and Characteristics of Twelve Inuit Communities in the Baffin Region, NWT*. Ph.D. Dissertation, Simon Fraser University, Burnaby, BC, Canada.

Wood, D.S. (2002). Explanations of employment turnover among Alaska Village Public Safety Officers. *Journal of Criminal Justice*, 30(3):197-215.

Wood, D.S. (2003). Village Public Safety Officer turnover and violent crime in Alaska Native communities. *The Northern Review*, 28:246-260..

Wood, D.S. (2003). Measures of outcomes associated with alcohol abuse in Alaska. *Alaska Justice Forum*, 21(1):5-9.

Wood, DS & Gruenewald, P.J. (2006). Local alcohol prohibition, police presence and serious injury in isolated Alaska Native villages. *Addiction*, 101:393-403.

APPENDIX A

RAI Staff Interview Guide

Evaluation of the Rural Alaska Alcohol Interdiction, Investigation, and Prosecution Program

Note to Interviewer: This is not a formal interview protocol. It is a set of points intended to provide a foundation for in-depth, loosely structured discussions about the program. No single person is likely to be asked to discuss all of the issues listed. Some of the questions listed below need not be discussed with more than one or two individuals. For example, we will ask the program administrator and perhaps another staff member to confirm documentation regarding the time the program began. Once this has been confirmed there is little reason to continue asking this question.

Discussion Points

RAI Program Planning:

- When planning begin.
- Reasons for considering developing the RAI program (e.g., critical incident, media attention, legal issue, etc.).
- Who was involved in program planning.
- How the needs for the RAI program were determined.
- Who was asked about needs.
- What need data were collected (and whether they are still available).
- What specific problems were initially targeted.
- How these problems were identified.
- How were program goals determined.
- How program planners arrived at the final set of program activities.
- How the program was designed to be integrated with, augment, or complement other law enforcement programs and activities. E.g.,
- Regular AST trooper activity
    - ABADE
    - WAANT
    - VPO
    - VPSO
    - Feds (Postal Inspectors, ATF, Customs)
- Obstacles encountered in the planning process. (If any, how they were overcome)

Initial Program Implementation (first 6 months of the program):

- When the RAI program was implemented.
- How the program was initially integrated with other law enforcement programs and activities:
    - Regular AST trooper activity
    - ABADE
    - WAANT

    - VPO
    - VPSO
    - Feds (Postal Inspectors, ATF, Customs)
- Number of officers initially assigned to the program.
    - Areas they were assigned to and why.
    - Unique characteristics of those areas (geography, demography, alcohol-related problems, etc.).
- Who had program oversight.
- How the program was initially funded.
- Specialized training of RAI staff (if any, describe the purpose, content, and name the provider).
- Regularly scheduled meetings of RAI staff. If any,
    - how frequent.
    - describe the nature of the meetings.
    - Who attended, and who was required to attend.
    - Ask to collect meeting minutes, agendas, schedules, presentation materials.
- Facilities and equipment acquired (purchased, leased, rented) specifically for the RAI program.
- Previously existing facilities and equipment used by the RAI program. (e.g., meeting space; K-9; vehicles)
- The nature of agreements between the AST and other agencies regarding alcohol enforcement activities and jurisdictional issues.
- Law enforcement activities the RAI staff initially performed. Hours per week they engaged in these activities.
    - RAI Troopers
    - RAI Investigators
    - Prosecutor
    - Support staff
- Groups or organizations the RAI staff regularly collaborate with as a routine part of their activities (name the groups and describe the nature of that collaboration)
    - Tribal Councils
    - Community organizations
    - Department public health
    - Alcohol beverage control board
    - Etc.
- Obstacles and problems associated with initial implementation (and how they were resolved).
- Successes of initial implementation.
- Confirm the kinds of data used to monitor program activity and performance (e.g., seizures, investigations, prosecutions, arrests).

RAI Activities (after first 6 month through the present)

Note to Interviewer: Try to get a sense about the current program, and then changes over time. Often, staff will cover some of this when asked about planning and implementation, but if they have not then we need to acquire this information.

- How the program is integrated with other law enforcement programs and activities:
  - Regular AST trooper activity
  - ABADE
  - WAANT
  - VPO
  - VPSO
  - Feds (Postal Inspectors, ATF, Customs)
- Number of officers assigned to the program.
  - Areas they are assigned to and why.
  - Unique characteristics of those areas (geography, demography, alcohol-related problems, etc.).
- Who has program oversight.
- How the program is funded.
- Specialized training of RAI staff (if any, describe the purpose, content, and name the provider).
- Regularly scheduled meetings of RAI staff. If any,
  - how frequent.
  - describe the nature of the meetings.
  - who attends, and who is required to attend.
  - ask to collect meeting minutes, agendas, schedules, presentation materials.
- Facilities and equipment acquired (purchased, leased, rented) specifically for the RAI program.
- Previously existing facilities and equipment used by the RAI program. (e.g., meeting space; K-9; vehicles)
- The nature of agreements between the AST and other agencies regarding alcohol enforcement activities and jurisdictional issues.
- Law enforcement activities the RAI staff initially performed. Hours per week they engage in these activities.
  - RAI Troopers
  - RAI Investigators
  - Prosecutor
  - Support staff
- Groups or organizations the RAI staff regularly collaborate with as a routine part of their activities (name the groups and describe the nature of that collaboration)
  - Tribal Councils
  - Community organizations
  - Department public health
  - Alcohol beverage control board
  - Etc.

- Obstacles and problems associated with initial implementation (and how they were resolved).
- Successes of initial implementation.
- Confirm the kinds of data used to monitor program activity and performance (e.g., seizures, investigations, prosecutions, arrests).

Securing Process and Outcome Data

Note to Interviewer: Present our current list of data sources, and ask whether additional process data or outcome are routinely collected and maintained about RAI activities and outcomes (can also use terms "performance measures," "program monitoring," and "administrative data to probe for other sources)?

- How can we gain access to the following data for evaluation purposes? E.g.,
    - Meeting agendas, notes
    - Collaboration agreements, MOUs
    - Documented planning activities
    - Document about RAI trooper recruitment
    - RAI goal/mission statements
    - Grant proposals
    - Quarterly, semi-annual, or annual reports
    - Training or technical assistance provided
    - Funding & budget information
    - Calls for service
    - Arrests
    - Citations
    - Alcohol seized
    - Public safety surveys
    - Etc.

Note to Interviewer: If we already have these data in hand prior to the interviews, then data can be summarized or presented to respondent during the site visit/interview. In the case of more complicated data, respondent could be sent summaries or copies in advance to allow to for respondents to review be fore responding to them in the interview.

Appendix B

Interview Consent Form

Evaluation of BJA FY2003 Discretionary Fund Project: Rural Alaska Alcohol Interdiction, Investigation, and Prosecution Program

CONSENT FORM

PRINCIPAL INVESTIGATORS:

Dr. Darryl Wood
Justice Center
University of Alaska Anchorage
phone: 907 786 1126
email: wood@uaa.alaska.edu

Dr. Michael Shively
Abt Associates
Cambridge, Massachusetts
phone: 617 520 3562
email: michael_shively@abtassoc.com

DESCRIPTION:

As part of an overall evaluation of the Rural Alaska Alcohol Interdiction, Investigation, and Prosecution Program (RAI Program), we are conducting interviews with Alaska State Troopers, Prosecutors from the Alaska Department of Law, and other key personnel. In these interviews we will ask you questions about the changes in operations, policies, and procedures that were enacted with the implementation of the RAI Program. We will also ask for your assistance in interpreting the results of some of our preliminary data analyses on the RAI Program.

The interview should take between an hour to two hours of your time. To insure accuracy, the interview will be tape recorded and transcribed. We might also contact you by telephone after this interview has been completed should we have additional questions.

CONFIDENTIALITY:

In this study we will follow conventional techniques for the protection of participants' privacy. Your name will not be used in any report. The tapes of your interview will be destroyed after transcription has been completed. A code number will be assigned in place of your name on the transcript of your interview. The sheet linking your name to your code number will be kept in a locked file that is only accessible to the principal investigators of this study. Direct quotes will not be used in study reports because it is possible that readers who are knowledgeable about criminal justice in rural Alaska could surmise your identity by reading something you said. Any indirect statements will be attributed only to your particular agency and the stage that you were involved with the RAI Program (e.g., "…as noted by a Trooper involved in the implementation of the RAI Program.").

BENEFITS:

There is no direct benefit to you for participating in this study. The results of this study may benefit the residents of Alaska Native villages by influencing policies geared toward reducing the negative consequences of alcohol use.

RISKS:

During the interview it is possible that you might experience feelings of aggravation, sadness, or anger about your experiences with the RAI Program. There are no other known risks to you as an interview participant.

CONTACT PEOPLE:

If you have any questions about this research, please contact either of the Principal Investigators at the phone numbers listed above. If you have any questions about your rights as a research subject, please contact Douglas Causey in Academic Affairs at the University of Alaska Anchorage at (907) 786-1099 or Marianne Beauregard, Principal Associate and Vice President of Operations, Abt Associates, at (617)349-2852.

VOLUNTARY NATURE OF PARTICIPATION:

Your participation in this study is voluntary. If you don't wish to participate, or would like to end your participation in this study, there will be no penalty or loss of benefits to you to which you are otherwise entitled. Likewise, you are not required to respond to our requests for additional information after this interview has been completed. In other words, you are free to make your own choice about being in this study or not, and may quit at any time without penalty.

SIGNATURE:

Your signature on this consent form indicates that you fully understand the above study, what is being asked of you in this study, and that you are signing this voluntarily. If you have any questions about this study, please feel free to ask them now or at any time throughout the interview.

Signature _____ Date _____

A copy of this consent form is available for you to keep.

Appendix C

Examples of Commercial Air Routes From Hubs to Villages – Bering Air, Frontier Flying Service, and Hageland Aviation Services

1. Bering Air Destinations

Bering Air serves 32 cities in Western Alaska from hubs in Nome, Kotzebue and Unalakleet.

Nome & Unalakleet Destinations:

Bering Air serves 18 villages from its Nome hub.

- Brevig Mission KTS
- Council CIL
- Elim ELI
- Gambell GAM
- Golovin GLV
- Koyuk KKA
- Little Diomede DIO
- Port Clarence KPC
- Saint Michael SMK
- Nome OME
- Savoonga SVA
- Shaktoolik SKK
- Shishmaref SHH
- Stebbins WBB
- Teller TLA
- Tin City TNC
- Unalakleet UNK
- Wales WAA
- White Mountain WMO

Kotzebue Destinations:

Bering Air serves 11 villages from its Kotzebue hub.

- Ambler ABL
- Buckland BKC
- Deering DRG
- Kiana IAN
- Kivalina KVL
- Kobuk OBU
- Kotzebue OTZ
- Noatak WTK
- Noorvik ORV
- Point Hope PHO
- Selawik WLK
- Shungnak SHG

Source: Website of Bering Air; www.beringair.com/content.php?action=ourregion#nome

2. Frontier Flying Service Route Map

Source: Website of Frontier Flying Service, Inc.; http://www.frontierflying.com/routemap.html

3. **Hageland Aviation Services' Map of Destinations served from Bethel**

Source: Website of Hageland Aviation Services; http://www.hageland.com/bethel.html#map

Appendix D

ARE YOU SHIPPING ALCOHOLIC BEVERAGES?

Remember: if you are transporting alcohol by common carrier in checked or carry-on baggage, or shipping packages, to an area that restricts the sale of alcohol, Alaska law requires you must clearly label the shipping container as:

ALCOHOLIC BEVERAGES

Letters must be

- **at least 2 inches tall**
- **in a contrasting color**

A clear and itemized receipt or list must be

- **attached**
- **in plain view**
- **name each type, quantity, and value of the alcohol contained in the package.**

Violation of the labeling law is a class A misdemeanor crime punishable with a $10,000 fine and/or up to 1 year in jail. (AS 04.16.125).

For more information or to report suspected violations, please call the Alaska State Troopers Bureau of Alcohol and Drug Enforcement. Stop the bootlegging and drug dealing in your area! *You can remain completely anonymous and if your tip leads to an alcohol or drug seizure, you could receive a reward of $50 to $600.*

Anchorage: 1-800-478-3325
Bethel: 1-800-478-2294

A reminder from the Alaska State Troopers ABADE.

Anchorage Press, November 4-10, 2004, p. 49

Appendix E

It's Your Call to Stop Bootleggers and Drug Dealers in Your Community

Law Enforcement Officers Need Your Help

Report Illegal Alcohol Activities

You Will Receive a Reward if Illegal Alcohol or Drugs are Seized

You Don't Have to Give Your Name!

Make the Call!

1-888-443-2441

Funded through the Alaska State Troopers and a grant from the Bureau of Justice Assistance, USDOJ

Help Stop Bootlegging and Drug Dealing in Your Community

Report Illegal Alcohol Activities

You Will Receive a Reward if Illegal Alcohol or Drugs are Seized

You Don't Have to Give Your Name!

Make the Call!

1-800-478-2294

Funded through the Alaska State Troopers and a grant from the Bureau of Justice Assistance, USDOJ

It's the Bootleggers

Who are Trying to Send Our Communities Down the Drain

Don't Let Them Get Away With It!

Report Illegal Alcohol Activities

You Will Receive a Reward if Illegal Alcohol or Drugs are Seized

You Don't Have to Give Your Name!

Make the Call!

1-800-475-9559

Funded through the Alaska State Troopers and a grant from the Bureau of Justice Assistance, USDOJ

Appendix F

Statistical Appendix 1

In the outcome evaluation presented in Chapter 3, we apply a logistic regression model to data on the outcomes of recorded cases from our alcohol enforcement activities database (Outcome Analysis Section I) and referred and accepted charges and cases from our Alaska Department of Law database (Outcome Analysis Section II). Logistic regressions are commonly employed to analyze binary outcomes – for example, whether or not a recorded case resulted in an arrest. In this statistical appendix, we present the details of our model specification and the full set of resulting regression parameters.

For recorded case outcomes, we wished to determine whether RAI program implementation influenced the likelihood that a recorded case resulted in each of the following set of possible binary outcomes:

1. An arrest was made.
2. A law was found to have been violated.
3. No law was found to have been broken (i.e., that the case was unfounded).
4. A case was logged in response to information from a citizen, but no investigation was conducted.
5. Alcohol was seized.

For ADOL referred charge and case outcomes, we wished to determine the program effect on the likelihood that:

1. A referred charge or case was accepted…
    a. As referred or as a higher charge, or
    b. Downgraded to a lesser charge.
2. A referred charge or case was declined…
    a. For evidentiary reasons,
    b. For discretionary reasons, or
    c. For miscellaneous reasons.
3. An accepted charge or case resulted in conviction…
    a. Due to adjudication or plea, or
    b. Due to revocation of probation.

A simple comparison of the average frequency of these outcomes before and after program implementation provides us with some information about the likely program effect. However, such an analysis does not control for the possibility that some underlying time trend unrelated to program implementation is in fact driving this effect. For example, if arrest rates happened to be climbing over time independently of the RAI intervention, then higher rates observed following RAI implementation might stem from this underlying trend rather than a true program effect.

Our logistic regression analysis of the recorded case outcome data therefore includes a linear time trend variable, allowing us to separate out effects of the overall time trend from the influence of the RAI program itself. Ideally, we would also like to control for other characteristics of recorded cases, such as the geographical region where the incident took place,

but these data were not available for recorded cases. The recorded case outcome specifications therefore include only two explanatory variables: the time trend variable *t*, and the program effect variable *T*, set equal to 1 if the case was recorded in the RAI program area following RAI implementation in 2002, and 0 otherwise.[1]

Unlike the recorded case database, the ADOL database contains data on the jurisdiction from which each case was referred. This allows us to additionally control for the possibility that trends in these outcomes are being influenced by region-wide factors affecting both the RAI program area and nearby locales outside the RAI jurisdiction area. The ADOL outcome specifications therefore include the following explanatory variables: the time trend variable *t*, the program area variable *A*, set equal to 1 if the case arose from an incident occurring within the RAI jurisdiction area (before or after program implementation), and 0 otherwise[2], the program implementation variable *I*, set equal to 1 if the case was referred following RAI implementation in 2002, 0 otherwise, and the program effect variable *T*, defined here as 1 if the case arose from an incident occurring within the RAI jurisdiction after the program was implemented, and 0 otherwise.

We specify the structural form of the model as follows. Let *Y* represent the binary outcome of interest, with *Y* set equal to 1 if the outcome occurred (e.g., if an arrest was made), and 0 otherwise. Then the probability *P* that the outcome occurred is given by

$$P(Y=1) = \frac{e^{Z}}{(1+e^{Z})}, \text{ where}$$
$$Z = T\alpha + A\beta_1 + I\beta_2 + t\beta_3 .$$

In the above equation, α represents the program effect parameter, β_1 the program area parameter, β_2 the program implementation parameter, and β_3 the time trend parameter. For the recorded case outcome specifications, we restrict the program area and implementation parameters such that $\beta_1 = \beta_2 = 0$, since geographical detail was not available for these cases.

We estimated model parameters using the statistical software Stata 10. All logistic regression coefficients are reported in their exponentiated form, and may therefore be interpreted as *odds ratios*. The "odds" is the ratio of the probability that the outcome of interest occurs over the probability that it does not. The odds are often estimated by the ratio of the number of times an event occurs over the number of times that it does not. For our treatment effect estimate, then, the odds ratio represents the odds that the outcome occurred under the RAI program over the odds that the outcome occurred otherwise.

---

[1] Note that all recorded cases in this database occurred in the RAI program area, so this regional distinction is superfluous here, but meaningful with regard to the ADOL data discussed below, which include referred cases originating both inside and outside the program area.

[2] Though the level of geographic detail in the ADOL allowed us to identify which individual jurisdiction a case was referred from, changes in staffing appear to have caused some shifting of cases across RAI jurisdictions, e.g. from Kotzebue to Anchorage, which may render these distinctions unreliable. We therefore restrict our analysis to whether a case originated from inside or outside the RAI program area only, since there is no evidence that RAI cases were ever handled by non-RAI jurisdictions, or vice versa.

For example, suppose that in a sample of 100 recorded cases collected in the RAI program area prior to RAI implementation, 22 resulted in arrests and 78 did not. Then the odds would be estimated by the ratio 22/78=.28. Suppose further that in a second sample of 100 recorded cases collected in the RAI program area after program implementation, 30 resulted in arrests and 70 did not, resulting in estimated odds of 30/70=.43. The estimated odds ratio would then be (30/70)/(22/78)=.43/.28=1.52.

The program effect parameter reported in the tables below thus represents an estimate of the odds ratio *controlling for the influence of the other included parameters.* An estimated program effect greater than one implies an increase in the odds of the outcome of interest associated with RAI implementation, an estimated program effect less than one implies a decrease in the odds, and an estimated program effect equal to one implies unchanged odds. A statistically significant parameter estimate allows us to reject the null hypothesis that RAI implementation had zero effect on the odds that the outcome of interest occurred.

Logistic Regression Results

Recorded Case Outcomes

Odds ratios: Effect of RAI program implementation on recorded case outcomes, controlling for linear time trends (n=4700)

	Any arrest made	Law violated	Case unfounded	Cased logged but not investigated	Alcohol seized
Estimated program effect	0.839	0.777	0.728	**2.465**	0.909
	(0.103)	(0.109)	(0.120)	**(0.576)****	(0.111)
Linear time trend	**1.088**	**1.098**	**1.111**	**0.704**	**1.088**
	(0.022)**	**(0.025)****	**(0.031)****	**(0.025)****	**(0.022)****

(Standard errors in parentheses)

*** significant at 5%; ** significant at 1%**

Screening Dispositions – Referred charges

Odds ratios: Effect of RAI program implementation on the probability that referred charges are accepted (n=4307)			
	Charge accepted	Same or higher charge accepted	Lesser charge accepted
Estimated RAI program effect	**0.393**	**0.411**	1.997
	(0.077)**	**(0.078)****	(1.483)
RAI program area	**3.311**	**2.831**	1.692
	(0.490)**	**(0.406)****	(0.754)
Post RAI implementation	**4.026**	**3.714**	0.569
	(0.860)**	**(0.772)****	(0.442)
Linear time trend	**0.815**	**0.845**	0.869
	(0.031)**	**(0.030)****	(0.084)
(Standard errors in parentheses)			
*** significant at 5%; ** significant at 1%**			

Odds ratios: Effect of RAI program implementation on the probability that referred charges are declined (n=4307)				
	Charge declined	Charge declined, evidentiary reasons	Charge declined, discretionary reasons	Charge declined, miscellaneous reasons
Estimated RAI program effect	**2.598**	**3.558**	1.381	1.492
	(0.512)**	**(0.926)****	(0.449)	(0.716)
RAI program area	**0.300**	**0.280**	0.799	**0.179**
	(0.044)**	**(0.052)****	(0.190)	**(0.074)****
Post RAI implementation	**0.269**	**0.170**	0.578	1.270
	(0.058)**	**(0.049)****	(0.204)	(0.579)
Linear time trend	**1.175**	**1.243**	1.050	1.027
	(0.045)**	**(0.064)****	(0.061)	(0.096)
(Standard errors in parentheses)				
*** significant at 5%; ** significant at 1%**				

Screening Dispositions – Referred cases

Odds ratios: Effect of RAI program implementation on the probability that at least one charge is accepted for a referred case (n=2592)			
	Charge accepted	Same or higher charge accepted	Lesser charge accepted
Estimated RAI program effect	**0.533**	**0.549**	2.414
	(0.140)*	**(0.138)***	-1.801
RAI program area	**2.658**	**2.237**	1.503
	(0.530)**	**(0.423)****	-0.675
Post RAI implementation	**6.568**	**5.378**	0.584
	(1.980)**	**(1.537)****	-0.458
Linear time trend	**0.681**	**0.743**	0.838
	(0.037)**	**(0.037)****	-0.084
(Standard errors in parentheses)			
*** significant at 5%; ** significant at 1%**			

Odds ratios: Effect of RAI program implementation on the probability that at least one charge is declined for a referred case (n=2592)				
	Charge declined	Charge declined, evidentiary reasons	Charge declined, discretionary reasons	Charge declined, miscellaneous reasons
Estimated RAI program effect	**2.619**	**3.285**	1.095	2.679
	(0.627)**	**(0.968)****	(0.419)	(1.530)
RAI program area	**0.353**	**0.297**	1.013	**0.189**
	(0.064)**	**(0.063)****	(0.306)	**(0.087)****
Post RAI implementation	**0.28**	**0.157**	0.941	0.931
	(0.074)**	**(0.052)****	(0.390)	(0.545)
Linear time trend	**1.171**	**1.283**	1.024	0.923
	(0.053)**	**(0.077)****	(0.067)	(0.110)
(Standard errors in parentheses)				
*** significant at 5%; ** significant at 1%**				

Convictions – Accepted Charges

Odds ratios: Effect of RAI program implementation on the probability that accepted charges result in conviction (n=3791)			
	Conviction	Conviction due to adjudication or plea	Probation revoked
Estimated RAI program effect	1.279	1.057	**4.013**
	-0.256	-0.209	**(2.183)***
RAI program area	1.004	1.102	0.464
	-0.163	-0.176	-0.199
Post RAI implementation	**0.614**	**0.575**	1.397
	(0.131)*	**(0.121)****	-0.759
Linear time trend	1.01	1.046	**0.815**
	-0.032	-0.033	**(0.063)****
(Standard errors in parentheses)			
*** significant at 5%; ** significant at 1%**			

Convictions – Accepted Cases

Odds ratios: Effect of RAI program implementation on the probability that an accepted case will result in at least one conviction (n=2086)			
	Conviction	Conviction due to adjudication or plea	Probation revoked
Estimated RAI program effect	1.239	1.239	2.620
	-0.407	-0.407	-1.662
RAI program area	1.137	1.137	0.613
	-0.309	-0.309	-0.321
Post RAI implementation	0.726	0.726	1.277
	-0.259	-0.259	-0.831
Linear time trend	0.990	0.990	0.942
	-0.056	-0.056	-0.086
(Standard errors in parentheses)			
*** significant at 5%; ** significant at 1%**			

Appendix G

Statistical Appendix 2

In Section III of the outcome analysis presented in Chapter 3, we discuss the results of fixed effects negative binomial regressions analyzing the influence of RAI program implementation on rates of criminal offenses and accidental deaths and injuries. In this statistical appendix, we present the details of our model specification and the full set of resulting regression parameters. Categories of criminal offense outcomes examined included assaults, both simple and aggravated, and rapes. Accidental death and injury categories included traumas resulting from homicides/assaults, suicide/self-harm, motor vehicle crashes, falls, and other causes.

Unlike the law enforcement activities database and the ADOL referred cases database discussed earlier in the outcome analysis chapter, our criminal offense and accidental death and injury databases allow us to identify the village location in which each incident in the database occurred. This detailed geographical information allows us to create a village-level panel for use in our outcome analysis. A fixed effects specification is a commonly-used panel data method that assumes that differences in rates across villages can be modeled as village-specific constant terms that do not change over time. An F test indicated that village-level fixed effects were indeed present in the data. A random effects specification was also considered, since random effects models, if correctly specified, are more efficient than fixed effects models. Fixed effects specifications require the estimation of a large number of individual-level parameters, with the consequential loss of degrees of freedom. Furthermore, all the information in fixed effects models comes from temporal variation *within* individual villages – unlike random effects models, which additionally exploit cross-village variation.

Random effects specifications assume that village-specific constant terms are randomly distributed; this distributional assumption obviates the need to estimate village-specific parameters, resulting in an increase in efficiency when the model is correctly specified, as well as generalizability of results outside the original sample. However, if village-specific effects are correlated with other regressors, a random effects specification is inappropriate and will yield inconsistent estimates. A Hausman test suggested that, in this case, the village-level effects were indeed correlated with other variables in the model, implying that a fixed effects specification was more appropriate for our purposes.

Negative binomial regression is a standard technique used when the outcome variable is reported as a count, i.e. the number of times an event occurs over some interval. A Poisson regression specification was considered as an alternative to the negative binomial model. However, Poisson models incorporate the assumption that the predicted variance is equal to the predicted mean; in this case, the data showed evidence of over-dispersion, i.e. observed variance *higher* than the mean. In such cases, negative binomial models are preferred.

Our structural model is formulated as follows. For in village *i* in year *t*, define λ_{it} as the annual rate of criminal offenses or accidental deaths and injuries. The negative binomial specification with conditional fixed effects assumes that

$$\lambda_{it} = p_{it} \exp\{T_{it}\alpha + X_{it}\beta + u_i + v_{it}\}$$

The program effect variable T_{it} is equal to 1 in dry villages in 2002 and after, and 0 for all villages prior to 2002 and wet/damp villages over the entire observation period. Village population p_{it} was used to calculate incident rates.

X_{it} is a matrix of additional explanatory variables included in the model. We attempted to control for varying levels of interdiction activity by including covariates from the recorded cases and seizures database in X_{it}: total annual alcohol seizures destined for each village, total volume of alcohol seized, and total number of interdiction cases associated with each village. Village size p_{it} was also included as a covariate. A quadratic time trend was included to control for the possibility that an underlying time trend unrelated to RAI implementation was driving changes in crimes or injuries. Finally, an area-wide program implementation dummy (=1 for the year 2002 and later, 0 otherwise) was included to control for possible spillover effects of RAI implementation in wet/damp villages without local option laws.

Note that there are two error terms in the model, u_i and v_{it}. The error term u_i is specific to each individual village, and does not vary over time – this is the village-level "fixed effect." The error term v_{it} is random noise, varying over both village and time. We assume a gamma distribution for the parameter $\gamma_{it} = e^{v_{it}}$.

The model was estimated via maximum likelihood using Stata 10. All parameter estimates are reported in exponentiated form, and can be interpreted as *incident rate ratios*. For our program effect parameter, this is simply the estimated incident rate in dry villages following RAI program implementation over the incident rate in villages not falling under RAI jurisdiction, either because the program had not yet been implemented, or because alcohol possession was not banned in these localities. An estimated incident rate ratio less than one implies that RAI was associated with a decrease in the outcome of interest in dry villages. Conversely, an estimated incident rate ratio greater than one implies that RAI increased incident rates. Finally, an incident rate ratio equal to one implies there was no change in incident rates associated with RAI. A statistically significant parameter estimate allows us to reject the null hypothesis that RAI was not associated with a change in the rates of criminal offenses and/or accidental deaths and injuries.

Negative binomial regression results

Dependent variable is annual crimes in Alaskan villages, negative binomial specification with village-level fixed effects				
	Total assaults	Aggravated assaults	Simple assaults	Total rapes
Estimated RAI program effect	1.100	**1.884**	0.929	1.054
	(0.123)	**(0.390)****	(0.120)	(0.312)
RAI program active	**1.042**	**0.619**	1.265	1.058
	(0.132)	**(0.151)***	(0.184)	(0.352)
Population	**0.997**	**0.997**	**0.997**	**0.997**
	(0.000)**	**(0.001)****	**(0.000)****	**(0.001)****
Alcohol seizures	0.990	1.045	0.974	1.008
	(0.013)	(0.024)	(0.015)	(0.035)
Liters of alcohol seized	1.003	0.998	**1.005**	0.992
	(0.003)	(0.004)	**(0.003)**	(0.008)
Total alcohol interdiction cases	1.009	0.978	1.014	0.999
	(0.009)	(0.018)	(0.011)	(0.026)
Time	1.024	**0.706**	**1.223**	1.116
	(0.025)	**(0.029)****	**(0.038)****	(0.073)
Time squared	0.998	**1.025**	**0.985**	0.991
	(0.002)	**(0.004)****	**(0.003)****	(0.006)
Total observations	870	852	858	816
Number of villages	73	71	72	68
(Standard errors in parentheses)				
*** significant at 5%; ** significant at 1%**				

Dependent variable is annual traumas in Alaskan villages, by cause, negative binomial specification with village-level fixed effects					
	Homicide/ Assault	Suicide/ Self-harm	Motor vehicle crashes	Falls	Other causes
Estimated RAI program effect	1.630	1.065	1.236	1.596	0.997
	(0.610)	(0.297)	(0.301)	(0.397)	(0.190)
RAI program active	0.674	0.861	0.978	0.641	0.920
	(0.284)	(0.281)	(0.270)	(0.180)	(0.206)
Population	1.003	1.000	1.002	**0.996**	**0.998**
	(0.002)	(0.001)	(0.001)	**(0.001)****	**(0.001)***
Alcohol seizures	0.967	0.991	1.000	0.987	1.011
	(0.033)	(0.026)	(0.024)	(0.024)	(0.022)
Liters of alcohol seized	1.001	1.001	1.005	0.995	0.990
	(0.007)	(0.007)	(0.004)	(0.006)	(0.005)
Total alcohol interdiction cases	1.045	1.018	0.992	1.022	1.025
	(0.026)	(0.018)	(0.019)	(0.018)	(0.015)
Time	1.051	0.923	**1.251**	1.027	1.044
	(0.097)	(0.066)	**(0.083)****	(0.062)	(0.055)
Time squared	0.995	1.010	**0.982**	1.001	0.995
	(0.009)	(0.007)	**(0.006)****	(0.006)	(0.005)
Total observations	737	781	814	825	836
Number of villages	67	71	74	75	76
(Standard errors in parentheses)					
*** significant at 5%; ** significant at 1%**					