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16. Abstract <p>A Program of Responsible Alcohol Service was developed to enable servers and managers in establishments selling alcoholic beverages to exercise responsibility in their service of alcohol in order to prevent injury to and by intoxicated patrons. The Program, which requires three hours on the part of servers and six hours on the part of managers, deals with the need for responsible alcohol service, preventing intoxication, identifying signs of intoxication, and preventing driving by intoxicated patrons.</p> <p>The Program was field tested on 1,079 servers and managers from 100 establishments in eight different sites across the U.S. The Program yielded improvement in knowledges and attitudes as well as self-reported serving practices and policies at all sites. However, increases in observed intervention with patrons feigning intoxication were confined to 5 out of 8 sites. Type of clientele, business volume, and manner of service (table vs. bar) were related to the amount of intervention but not increases in intervention. The fact that refusal of service to "intoxicated" patrons occurred only 6.9% of the time can be attributed, in part, to an imbalance between incentives and disincentives.</p>					
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TECHNICAL SUMMARY

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Background

Studies by Wolfe (1975), Damkot (1979), Palmer (1986), and Ontario (1980) found that bars and restaurants were among the most common sources of drivers having high blood alcohol levels. In order to reduce injury and illness resulting from intoxication, most jurisdictions make it illegal to serve alcohol to minors or already intoxicated patrons. In a large number of States, statutory and common law permit parties injured by drunken drivers to recover damages not only from the intoxicated driver, but those who served them.

Concern over injury resulting from overservice of alcohol has led to efforts to educate servers, managers, and owners in alcohol service policies and practices that will reduce their liability. The programs have ranged from brief "awareness" seminars to training programs of as much as two days. Topics include alcohol and its effects, the drinking-driving problem, laws and regulations covering the service of alcohol, signs of alcohol impairment, ways of controlling the consumption of alcohol, and handling intoxicated patrons.

Because of their relative novelty, server education programs have not been extensively evaluated. Saltz (1987) administered and evaluated a program for Navy personnel and found a significant drop in overall rate of alcohol consumption and in the consumption over legal limits following administration of a program to server personnel. Russ and Geller (1986) offered a program in two licensed establishments and found slight increases in efforts by servers to slow down the rate of consumption and in the amount of alcohol actually served to staff members posing as patrons.

The goal of the project described in this report was to assess the effectiveness of a large-scale server training program in leading to more responsible service of alcohol.

Development of Server Education Programs

A Program of Responsible Alcohol Service was designed to encourage and enable servers, managers, and owners of licensed establishments to be more responsible in their service of alcohol. The Program was designed in a modular form to permit the different needs of the categories of users—servers, managers, and owners to be met. To foster widespread use of the program, it made extensive use of written and audiovisual materials and left the primary role of the instructor as being that of moderating discussion.

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PREPARED FOR THE DEPARTMENT OF TRANSPORTATION, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION UNDER CONTRACT NO.:DTNH22-84-C-07170. THE OPINIONS, FINDINGS, AND CONCLUSIONS EXPRESSED IN THIS PUBLICATION ARE THOSE OF THE AUTHORS AND NOT NECESSARILY THOSE OF THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION.

The following seven modules comprise the Program of Responsible Alcohol Service:

Module 1 Awareness - An introduction to responsible alcohol service (30 min.)

Module 2 Needs - The problems giving rise to the need for more responsible alcohol service (50 min.)

Module 3 Prevention - What servers and managers can do to prevent patrons from becoming intoxicated (50 min.)

Module 4 Intervention - The intervention by servers and managers when customers have become intoxicated (50 min.)

Module 5 Practice - Role play and discussion of various manager intervention situations (90 min.)

Module 6 Policy - The formulation of policy to foster responsible alcohol service (90 min.)

Module 7 Training - Preparation for administering the instructional program (30 min.)

Evaluation Methodology

The Program of Responsible Alcohol Service was administered on a community-wide basis in eight sites: Ann Arbor and Ypsilanti, Michigan; Lafayette, Louisiana; Springfield, Massachusetts; Houston, Texas; York, Pennsylvania; Newark, New Castle, Delaware; Clinton, Muscatine, Bettendorf, Iowa; Everett, Lynnwood, Marysville, Washington.

At each site, licensed establishments were solicited for participation in the Program. Those responding to the solicitation formed the Treatment group. The number of Treatment establishments per site ranged between seven and sixteen and totaled 100 in all. A separate group of non-participating establishments constituted a Comparison group at each site. Because a number of establishments agreeing to participate failed to follow through, the Comparison group ended up somewhat larger than the Treatment group, totaling 138 establishments.

The 1,079 participants making up the Treatment group completed paper-pencil knowledge, attitude, and self-report behavior measures prior to and following completion of the program. In addition, each Treatment and Comparison establishment was visited 3-4 times prior to and following completion of the Program in a total of 1,580 visits. During each visit, staff members manifested signs of intoxication while ordering drinks and recorded the responses of the server. They also recorded the responses of servers to any patrons who appeared to be intoxicated.

Results

Paper-Pencil Measures

Significant overall knowledge gains and shifts toward more responsible attitudes were found at all sites. The self-reports by servers of their serving practices showed a significant overall improvement and significant improvement at every individual site except one, in which the number of servers was too small to make a valid assessment. Self-reports by managers of their policies also showed a significant overall improvement across all sites collectively, but only four of the eight sites individually. Again, the relatively small numbers of managers involved did not permit a valid assessment at all sites. The lack of a significant interaction between policy changes and sites suggests that the results at individual sites were random fluctuations around a general overall improvement.

Observed Intervention

The responses of servers to signs of intoxication as displayed by staff observers showed a significant overall increase in intervention among Treatment establishments and no significant change in Comparison establishments. However, within the Treatment establishments there was a significant interaction between changes in intervention and site, meaning that the effects of the Program upon intervention varied from site to site. Increases in intervention were found in Michigan, Texas, Delaware, Iowa, and Washington. No increases in intervention were found in Comparison establishments at these sites. In the remaining sites—Louisiana, Massachusetts, and Pennsylvania—intervention failed to increase within either the Treatment or Comparison establishments.

The most frequent forms of intervention involved inquiring as to a patron's condition, suggesting an alternative beverage, and warning that the drink being served was the last one. It is this type of intervention that accounted for most of the changes resulting from the Program. Refusal of service accounted for a minority of the interventions and very little of the improvement.

Significant differences in intervention occurred among establishments as a function of the type of clientele served, with those establishments catering to a moderately affluent clientele showing more intervention and greater gains in intervention than establishments serving a highly affluent, lower class, or college clientele. Volume of business was also associated with intervention, with the highest levels of intervention occurring during periods of moderate business volume, and lower levels of intervention when business was either light or heavy. Neither clientele nor volume of business appeared to contribute the site differences in intervention.

True patron intoxication was witnessed by observers on about a fifth of the visits. Significant increases occurred in level of intervention with intoxicated patrons among Treatment establishments and none in Comparison establishments. The number of cases was, however, too small to permit valid comparisons to be made among individual sites.

Discussion and Conclusions

The Program of Responsible Alcohol Service seems to have been effective in improving knowledge about and attitudes toward responsible alcohol service on the part of servers and managers. It also appears to have led to changes toward more responsible serving practices and more responsible management policies. While these findings are based upon the reports of servers and managers themselves, the manner in which data were collected would have made it difficult to deliberately misrepresent the extent of change.

When it comes to intervention with intoxicated patrons, the Program seems to have led to small but significant improvement in some sites and no improvement in others. No ready explanation for the differences can be found in the data, although differences in type of clientele and volume of business appear to have contributed to intervention levels.

On the basis of the results, it was concluded that the Program of Responsible Alcohol Service is capable of leading to improvements in knowledge of, attitudes toward, and behavior involving responsible alcohol service by servers and managers of licensed establishments. However, when it comes to intervention with intoxicated patrons, the effects of the Program vary as a function of locale, type of establishment, and level of business.

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INTRODUCTION

In 1985, approximately 38% of drivers killed in automobile crashes were intoxicated (FARS, 1985). This figure represents a 6% decrease from the 44% recorded in 1982. Much of the decline is attributed to increased national awareness of the drunk-driving problem and increased efforts to curb drinking and driving through legislation, enforcement, education, and treatment.

For the most part, efforts to curb drinking and driving have focused upon the drinking drivers themselves. In recent years, however, the target of anti drunk-driving efforts has been expanded beyond drunk drivers to the people who serve them alcohol, including bartenders, waiters and waitresses, as well as managers and owners of the bars and restaurants in which they work.

Data gathered from roadside surveys point to bars and restaurants as the place where a major share of the drinking by intoxicated drivers occurs. In a roadside survey conducted in Vermont, Damkot (1979) found that almost half the drivers exceeding the legal limits of intoxication had come from bars or restaurants, while Wolfe (1975) found over half of drivers who had either come from or were going to drinking establishment had measurable amounts of alcohol in their systems.

Palmer (1986) found that, of drivers with positive blood alcohols, the highest concentrations were obtained from those whose most recent stops had been bars and restaurants. The blood alcohol concentration of this group was four times the population average. While the Province of Ontario (1980) found only 15% of intoxicated drivers coming from bars and taverns, such drivers showed a rate of intoxication (17.3%) that was twice that of any other group and almost three times that of the population average.

SERVER CONTROL EFFORTS

From roadside surveys, it is obvious that drivers coming from places where alcohol is served are overrepresented among alcohol-impaired and intoxicated drivers. Efforts to reduce the threat represented by drivers who become intoxicated at bars and restaurants have largely taken two forms:

Regulatory—The passage, enforcement, and adjudication of laws and regulations involving the servers of alcohol.

Educational—Instructing servers in the responsible service of alcohol.

Regulation

Efforts to control the service of alcohol through the law involves two types of laws: liquor control and dram shop.

Liquor Control Laws

Almost every establishment engaged in the service of alcohol is subject to State laws or local ordinances regulating the service of alcohol. Such laws make it illegal to serve alcohol to an under-age or an intoxicated patron. While these laws have existed for a long time, they've only recently been enforced as a means of overcoming the drinking-driving problem. Unfortunately, enforcement efforts are largely confined to the service of alcohol to minors. Citing an establishment for serving alcohol to an intoxicated patron in the absence of some other event (injury, damage, violation) is rare.

Most liquor control laws only hold servers of alcohol responsible for withholding service to patrons who are visibly intoxicated. One obstacle to enforcement of laws barring service to intoxicated patrons is the difficulty involved in establishing enforceable standards of what constitutes a visibly intoxicated patron. It is more difficult to prove in a court of law that a patron was visibly intoxicated than to prove that a patron was under the legal drinking age. State liquor control laws, therefore, have not proven to be an effective way of preventing drivers from becoming intoxicated at bars and restaurants.

Dram Shop Laws

In some 35 States, individuals who are injured by a driver who was illegally served alcohol can sue the server of alcohol for recovery of damages. Twenty States have statutes that specifically provide for recovery of damages. In 15 other States, precedent for recovery of damages has been established in State common law. Although enacted to permit innocent parties a means of recovery for damages, they are expected to prevent the service of alcohol to intoxicated and under-age patrons.

While dram shop laws have been on the books for a long time — over a century in some States — they've only recently been invoked on a large-scale basis against servers of alcohol. A recent rise in lawsuits, along with a few but well-publicized large judgments, appears to have aroused the concern of the hospitality industry. While there's no way of knowing what effect concern over dram shop suits has had upon the actual service of alcohol, the trade press has been filled with information advising the constituency on ways of controlling the flow of alcohol. Many establishments, including several large chains and franchises, are instituting policies limiting the alcoholic content of drinks, imposing penalties on servers who violate the law, providing transportation to intoxicated patrons, and the like.

Education

The importance of server responsibility and the potential for server intervention in control of patron drinking were comprehensively reviewed by Mosher (1983). The 1980s have seen the initiation of efforts to educate servers, managers, and owners of bars and restaurants in responsible alcohol service policies and practices. The programs have ranged from brief "awareness" seminars to training programs of as much as two days. Topics include alcohol and its effects, the drinking-driving problem, laws

and regulations covering the service of alcohol, signs of alcohol impairment, ways of controlling the consumption of alcohol, and handling intoxicated patrons. Two of the best known manager programs are "Techniques of Alcohol Management" (TAMS) developed by the Michigan Licensed Beverage Association in cooperation with the Michigan Highway Safety Office, and "Training for Intervention Procedures by Servers of Alcohol" (TIPS), developed by the Health Education Foundation.

Other programs include the "Responsible Beverage Service" program of Intermission Ltd. and the "Bartender Alcohol Awareness Program" (BAAP) developed by the Madison (Wisconsin) Area Technical College. Programs have also been developed and administered by the Connecticut Cafe and Restaurant Liquor Council, the U.S. Navy Recreational Services Department, the Virginia Restaurant Association, the New York Restaurant Association, the California Department of Alcoholic Beverage Control, and a number of other State, county, and local agencies. (Programs developed and given by the associations representing arena concession operators and off-sale establishments are outside the scope of the project described in this report.)

The level of participation in education programs by servers of alcohol has not been encouraging. According to Cozzens, Mackintosh, and Ostrove (1983), "In part, the licensees seemed to resist efforts to get them involved because of the perception of self-interest — feared loss of revenues and profits."

To overcome the lack of participation in educational programs, several jurisdictions have made successful completion of education programs mandatory for servers of alcohol. One of the first was the City of Madison, Wisconsin, which in 1981 imposed the requirement on all holders of liquor licenses, on- and off-sale, as well as all servers of alcohol. In 1985, the State of Oregon passed a law requiring all servers of alcohol renewing their work permits after January 1987 to complete an approved program. In 1986, Utah passed a law requiring all permit holders to complete an approved program by June of 1987. In 1988 Texas put into effect a law which, while not requiring server education, encouraged it by relieving licensed establishments of liability for damages if servers have participated in an approved course.

The Effectiveness of Server Education Programs

Because of their relative novelty, server education programs have not been extensively evaluated. Saltz (1987) administered and evaluated a program for Navy personnel and found a significant drop in overall rate of alcohol consumption and in the consumption of over-size drinks following administration of a program to server personnel. Russ and Geller (1986) offered a program in two licensed establishments and found slight increases in efforts by servers to slow down the rate of consumption and decreases in the amount of alcohol actually served to staff members posing as patrons.

While the evaluation of the two programs produced positive results, both efforts involved limited numbers of establishments and somewhat atypical situations. And, neither program assessed the effectiveness of server education in reducing the number

of drivers who become intoxicated. The issue of intoxication is of critical importance on two counts: (1) it is of importance to injury prevention in that the likelihood of alcohol-involved automobile crashes tends to rise sharply as the .08-.10 BAC level, the legal definition of intoxication, is reached, and (2) it is important to licensed establishments since it is primarily service of alcohol to intoxicated patrons that renders them liable for legal action.

Evidence that server education programs are effective in leading to more responsible service of alcohol could help lead to an increase in both the number of establishments that would participate in server programs voluntarily and the number of jurisdictions mandating participation. On the other hand, conclusive evidence that they are not effective would point to the need for either alternative or additional steps in the improvement of serving practices and policies.

The Russ and Geller study is certainly encouraging in indicating that servers will voluntarily participate in education programs and that such programs can be effective in leading to more responsible alcohol service. It is limited in that (1) it was confined to the employees of two establishments and one location, (2) the six-hour program given was more intensive than what many servers are likely to volunteer for or many governments require, (3) the program was administered by specialists in server intervention, who may not be representative of those likely to teach local programs, and (4) intervention to the point of terminating service was not assessed.

Volume I of this report describes an initial assessment of a server education program designed specifically for evaluation purposes. The results of this effort, carried out in Louisiana and Michigan, were somewhat equivocal. While the server education program led to significant improvements in knowledge about, attitudes toward, and self-reported behavior involving intervention, observations of server intervention in the drinking of intoxicated patrons showed but a small gain in one site and none at the other. It was because of this somewhat inconclusive result that the evaluation was extended to another six sites.

Additional Research Needs

The previous assessments of server education programs, while well-designed and executed, did not attempt to address, or conclusively assess, certain of the issues that bear upon the effectiveness of server education. Specific issues not addressed include the following:

Representativeness The Geller and Russ and Saltz studies took place within two selected, cooperating establishments. If server education is truly to have a significant impact upon the numbers of intoxicated patrons in bars and restaurants and the number of intoxicated drivers on the nation's highways, it must reach all kinds of servers and all types of establishments. All servers and managers must have in common the willingness to cooperate. However, their cooperation must be generated through community-wide marketing efforts capable of appealing to a wide range of establishments. Therefore, an evaluation of what server education is likely to

accomplish in attaining its ultimate goal requires an assessment that involves a representative sample of all the types of establishments from which servers can be recruited, using a community-wide recruitment program.

Intoxicated Patrons The Saltz and Russ & Geller studies focused primarily upon the effectiveness of server education in inducing servers to initiate those preventive actions that reduce the likelihood of patrons becoming intoxicated. While such actions are to be encouraged, they are not the most critical to the prevention of injury. It is well established, through the high BACs that characterize drivers in fatal accidents, that the greatest threat to the safety of the public comes from continued service of alcohol to patrons who are already intoxicated. Intervening with such patrons is not only the most important step in assuring public safety but also one of the two aspects of server intervention demanded by law (the other being not serving alcohol to minors). An objective assessment of this variable in the Russ and Geller study was largely precluded by the fact that the amount of alcohol served was in part a function of how much was requested by the research staff acting as patrons.

Intervention Parameters It is likely that the effects of education upon intervention by servers carries a function of many factors, including characteristics of the servers, the types of establishments in which they work, and the laws of the jurisdiction in which they operate. Some of these factors could interact with server education, leading to intervention in certain circumstances but not in others. Determining the effects of these factors requires more observations of service, involving a broader range of servers, establishments and jurisdictions, than were encompassed by the earlier study.

PROJECT OBJECTIVE

The goal of the project described in this report was to assess the effectiveness of server education in leading to more responsible service of alcohol. Specific objectives were:

- To define the requirements of potentially effective server education programs.
- To prepare and pilot test a server education program meeting the specified requirements.
- To assess the effectiveness of a server education program in modifying the behavior of servers.

The attainment of each specific objective constituted a phase of the project. The first phase, "Program Definition", involved identifying an appropriate set of instructional objectives and designing an instructional program to fulfill those objectives.

The second phase, "Program Development and Test", involved development of a preliminary program, a test of the program through its administration to servers and managers in hotels, bars, and restaurants, and revision of the program.

The final phase, "Program Evaluation", involved administration of the program in eight different localities and assessment of the program's effectiveness in modifying the behavior of servers and managers.

Each of these phases is described in a separate section of the report. The closing section of the report offers conclusions concerning the effectiveness of server education and recommendations as to efforts that must be undertaken, including server education, to improve the responsibility of alcohol service.

PROGRAM DEFINITION

This section of the report will describe the definition of requirements for a Responsible Alcohol Service Program for servers and managers in establishments engaged in the on-premises service of alcohol.

SOURCES OF INFORMATION

Three major sources of information were applied to the development of a program of responsible alcohol service:

- Design study
- Literature review
- Existing programs.

Design Study

Prior to the start of the effort described in this report, National Capital Systems, Inc. (NCSI) undertook a study of intervention by various "intermediaries" as a means of deterring drunk driving (Cozzens, Mackintosh, and Ostrove, 1983). This program identified potential targets for drunk driving intervention programs. One such target was patrons of bars and restaurants. The study also provided a design for a 2-3 hour server education program, consisting of an introduction, a video presentation, a discussion and question period, role-playing exercises, and a brief conclusion. Each section of the program was outlined and the materials needed to support the program described in general terms.

The design provided by NCSI, along with the discussion of its rationale, provided a very useful resource in development of the server education program described in this report. It was not, of course, sufficiently detailed to serve as the only source of information. Nor was it completely up to date since the authors of the report were not in a position to take advantage of experience gained in actual administration of server education programs. Nevertheless, results of the NCSI study gave the project a head start in developing a server education program.

Literature Review

At the beginning of the project in 1984, the scientific and technical literature were rather barren of references dealing directly with server education. However, there was available a considerable volume of material in subjects bearing upon various aspects of server education. Included were:

- The results of law suits and other court actions involving dram shop and liquor control laws;

- State laws and regulations covering the sale of alcohol and driving while intoxicated;
- Surveys of servers, managers, and owners attitudes toward various aspects of responsible alcohol service;
- Common drinking patterns (who, where, when, etc.);
- Patron behavior in relation to various social and environmental factors;
- Effects of alcohol upon driving behavior.

The review of the literature was facilitated by abstract searches conducted through computerized abstract services of the National Institutes of Health (MEDLARS), the Transportation Research Board (TRIS), and the American Psychological Association (PASAR).

Existing Programs

Development of the Program of Responsible Alcohol Service was greatly benefited by access to materials prepared for a number of existing server education programs including most of those listed earlier. The organizations responsible for developing and administering these programs were most accommodating in making available lesson plans, handouts, videos and other items. In addition, arrangements were made for the project staff to sit in on administration of the TAMS and TIPS programs. By reviewing program materials and observing administration of the programs, the project staff not only gained access to instructional content and methods but also valuable insight into the strengths of each program.

INSTRUCTIONAL OBJECTIVES

From a review of the materials described above, the project staff compiled a comprehensive list of all of the specific functions that servers have been called upon to carry out. From these lists were prepared sets of objectives for performance, knowledge and attitude. Different instructional objectives were developed for servers, managers and owners in order to accommodate their differing functions, levels of experience and responsibility.

The staff was assisted in the development of instructional objectives by a panel of representatives from the highway safety community and the hospitality industry. This panel surveyed the entire behaviors and knowledges developed from the literature by the project staff, assisted in formulating a set of objectives, and advised on the division of objectives among servers, managers, and owners. The objectives appear in Appendix A.

DESIGN CONSIDERATIONS

A number of important design considerations were identified from the literature, as well as from discussions with representatives of the hospitality industry. These considerations dealt with:

- Separate courses for servers, managers, and owners
- User administration
- Audiovisual materials
- Role playing.

Separate Courses

It was recognized early that there needed to be separate courses for servers, managers and owners.

Owners— Need only to be convinced of the need for an educational program and given a brief overview of what they are being asked to send their employees to.

Servers— Need to be both able and willing to intervene as necessary to keep patrons from becoming impaired by alcohol, and to keep them from injuring themselves and others once they become impaired.

Managers— Have the same needs as servers, plus the ability to set policy, supervise, and train servers, as well as handle the more difficult forms of intervention.

Having a series of courses improves the marketability of the program by tailoring the investment to the need. Few owners are willing to spare several hours learning about details of responsible alcohol service. Nor are many willing to invest great amounts of time and expense in training an entire staff of servers who tend to change jobs frequently. They are more likely to make that investment in managers. Allowing each category of participants to take only as much instruction as they need will tend to enhance the marketability of a program.

User Administration

Discussions with representatives of the hospitality industry suggested that a useful program would be one that could be administered by people within the industry itself, rather than through formal schools administered by outside agencies. Several of the programs already described were available through organizations outside of the hospitality industry. While their programs were certainly acceptable and the cost of taking them modest, there still seems to be a need for a program that did not require out-of-pocket expenses, nor having to meet someone else's schedule of administration. A program that individual establishments or associations of establishments could secure and use by themselves would fill an apparent need.

Audiovisual Materials

A program that could be user-administered would lean heavily toward use of audiovisual (AV) presentations as the primary vehicle for transmitting information. AV presentations are well suited to user-administered programs in that they can ease the instructional burden on the instructor. Not all instructors will be highly qualified lecturers. The more information that AV presentations can handle, the less

dependance is placed upon the ability of the instructor. Moreover, an audiovisual presentation can present information vividly, through vignettes and real life situations that the audience can directly relate to.

Role Playing

Role playing is frequently used to help students develop skill and confidence in carrying out a certain behavior. The intervention behavior requiring the greatest level of skill and confidence would clearly be terminating service to intoxicated patrons. Most server education programs involve extensive role playing of such situations. However, the purpose is not so much to develop skill and confidence as to provide a mechanism for discussing strategies for intervention. In such an application, more time must be spent on the discussion that follows these role playing exercises than is spent on the role play exercise itself.

PROGRAM DEVELOPMENT AND TEST

A server education program was developed to meet the specified instructional objectives and follow the specified guidelines. This section will describe the program that was developed, the "Responsible Alcohol Service Program," the methods used to test it, and the results of the test program.

RESPONSIBLE ALCOHOL SERVICE PROGRAM

A modularized program was employed in order to meet the differing needs of servers, managers, and owners. The Program of Responsible Alcohol Service itself consisted of six modules. An additional training module was added for preparing instructors to administer the program.

Program Outline

The following seven modules comprise the Program of Responsible Alcohol Service:

- Module 1 Awareness – An introduction to responsible alcohol service (30 minutes)
- Module 2 Needs – The problems giving rise to the need for more responsible alcohol service (50 minutes)
- Module 3 Prevention – What servers and managers can do to prevent patrons from becoming intoxicated (50 minutes)
- Module 4 Intervention – The intervention by servers and managers when customers have become intoxicated (50 minutes)
- Module 5 Practice – Role play and discussion of various manager intervention situations (90 minutes)
- Module 6 Policy – The formulation of policy to foster responsible alcohol service (90 minutes)
- Module 7 Training – Preparation for administering the instructional program (30 minutes)

The seven modules can be combined to form separate programs for owners, servers, managers, and instructors as follows:

Owners:

- Module 1 Awareness (30 minutes)
- Total Program: 30 minutes

Servers:

- Module 1 Awareness (30 minutes)
- Module 2 Needs (50 minutes)
- Module 3 Prevention (50 minutes)
- Module 4 Intervention (50 minutes)
- Total Program: 3 hours

Managers:

- Server program (3 hours)
- Module 5 Practice (1 and 1/2 hours)
- Module 6 Policy (1 and 1/2 hours)
- Total Program: 6 hours

Instructors:

- Server/Manager Program (6 hours)
- Module 7 Training (1 hour)
- Total Program: 7 hours

Module 1 – Awareness

The "Awareness" module is intended to help make owners, managers, and servers aware of the need for responsible alcohol service. It consists of a 10 minute audiovisual presentation followed by a 20 minute discussion.

AV Presentation

The "Responsible Alcohol Service" presentation is designed to provide an overview of the drinking-driving problem and the ways that commercial establishments can help alleviate it. It is intended to (1) arouse interest in the program on the part of owners in order that they will permit their servers and managers to attend, and (2) provide an introduction to the program for servers and managers.

In this presentation, the participants are introduced to Stan, the manager, the character who serves as the moderator throughout most of the other presentations and to his bar, the setting for all subsequent action. The audience is also introduced to the concept of server liability and its implications in the daily operation of a commercial establishment. The following issues are addressed:

The magnitude of the drinking-driving problem.

The responsibility of the hospitality industry to keep aware of the problem.

Ways of recognizing and controlling service to impaired patrons.

Preventing drinking and driving by intoxicated patrons.

Discussion

No attempt is made during the discussion to deal at length with any of the issues raised in the AV presentation. It is the resolution of these issues that makes up most of the program itself.

Among a group of owners, a brief discussion would focus upon the advantages of having their employees participate in the program and the mechanics of doing so. In a class of servers and managers, participants would be asked their views of their responsibilities in serving alcohol to patrons and assured that whatever questions they raise or concerns they voice will be dealt with throughout the remainder of the program.

Module 2—Needs

This module consists of a 20 minute audiovisual presentation, "The Need for Responsible Alcohol Service," followed by a 30 minute discussion.

AV Presentation

The audiovisual presentation, "The Need for Responsible Alcohol Service," is intended to convince participants of their responsibility for protecting the public by making sure that no one leaves their establishments in an intoxicated condition. At the heart of the program is a presentation by a young woman who became a quadriplegic at the age of 25 at the hands of a driver who became intoxicated at a public drinking establishment. The remainder of the program is intended to communicate information concerning the nature and the magnitude of the drinking-driving problem, the involvement of the public serving establishments in the problem, and the legal obligations and moral responsibilities of servers and managers for helping overcome the problem.

Discussion

The primary objective of this discussion is to convince participants of their moral and legal responsibilities in preventing intoxicated patrons from driving. The points stressed include:

- Society's concern for innocent victims of drunk drivers, rather than the drunk drivers themselves.
- Servers' responsibilities for upholding the law and not serving intoxicated patrons and minors. Servers are being held accountable for overservice in the same way that drunk drivers are held accountable for overdrinking.

- Alcohol is a drug. Establishments accept the responsibility of dispensing it properly when they receive a liquor license. They are expected to protect the public from any potential harm.

Module 3 – Prevention

This module consists of a 20 minute audio visual presentation followed by a 30 minute discussion.

AV Presentation

The AV presentation, "Preventing Intoxication," describes techniques that may be used by servers to keep patrons from becoming intoxicated. The two major topics are prevention techniques and means of recognizing impairment.

Prevention Techniques – This presentation stresses the importance of regulating service as the key to controlling consumption and, in turn, reducing levels of impairment. Servers are shown using various prevention techniques including:

Checking IDs and verifying authenticity;

Encouraging alternatives to drinking like low- and non-alcoholic beverages, food, and activities;

Preventing patrons from becoming intoxicated is always preferable to dealing with it afterwards.

Recognizing Impairment – Participants are given instruction as to the kinds of impairment signs to watch for, as well as how to go about observing them. Recognizing impairment signs is presented as crucial to preventing intoxication from occurring. The sooner that intervention occurs, the better, easier and more successful it is likely to be.

Discussion

The discussion here addresses server concerns in order to alleviate anxiety about implementing a preventive approach. In order for servers and managers to accept this approach, they must be convinced that it poses no economic threat to their livelihoods or businesses, respectively. The discussion is intended to resolve this issue by pointing out that it is generally better to take steps to prevent intoxication from occurring than to have to deal with drunk patrons.

Module 4 – Intervention

This module consists of a 20 minute audiovisual presentation followed by a 30 minute discussion.

AV Presentation

The AV presentation, "Intervening With Intoxicated Patrons," describes the responsibility of servers and managers in (1) terminating service to intoxicated patrons, and (2) preventing intoxicated patrons from driving and becoming a hazard to the public. While it is expected that managers will carry out these activities, it is appropriate that servers also view the presentation in order to exercise their responsibilities in reporting intoxicated patrons and assisting managers in carrying out intervention. The presentation deals with the following steps in intervention:

- Reporting intoxicated patrons
- Getting the facts
- Approaching intoxicated patrons
- Terminating service
- Protecting patrons
- Handling disturbances.

Discussion

The point of this discussion is to help servers and managers relate the situations depicted in the AV presentation to what they have actually experienced in their establishments. Most servers and managers have experienced both success and failure in intervention and, by examining their approaches, can gain insight into more effective techniques for future use.

When managers and servers from the same establishments are attending the program, the discussion can also provide an avenue of communication between the two. For example, managers are sometimes unaware that servers feel pressured to serve VIPs even when it may involve overserving them. This discussion can help to resolve such issues.

Module 5—Practice

Objectives

In Module 5, role plays permit managers to practice intervention. A total of 1½ hours is devoted to role playing intended to help managers:

- Refine their strategies;
- Develop special techniques for particular types of situations;
- Gain greater skill and confidence in using them.

Those not taking part in a particular role play are expected to watch the action critically in anticipation of the discussion that will follow. Each role play is critiqued in order for participants to arrive at effective intervention strategies. Participants can

gain valuable insight from their colleagues that should make for better future intervention efforts.

Module 6 – Policy

Module 6 is a 1½ hour long discussion designed to help managers translate the prevention and intervention approaches presented throughout the program into policy. This module allows managers to work out policy that can serve as the basis for new or reformulated service practices in their own establishments. The various elements of responsible alcohol service discussed in the course are examined and those which should be incorporated into policy are identified. A checklist is used to enable managers to identify their alcohol service policies where policy might be changed.

Module 7 – Training

This 1 hour module is optional and is provided for those participants who are expected to teach the program to others. It is not intended to teach them how to become instructors; that obviously cannot be done through a teaching guide alone. Rather, it is intended to (1) familiarize them with the first six modules of the instructor guide, and (2) acquaint them with the most frequent issues raised in training and how to deal with them.

Instructor Guide

An Instructor Guide was prepared to assist instructors in administering the Program of Responsible Alcohol Service. The guide makes up Volume II of this report.¹ The guide provides three types of material: guidance, technical discussion, and tests.

Guidance

The guidance in the Instructor Guide is organized according to the program's seven modules. Each module provides the following: an Overview, Introduction, and Lesson Plan. Those which have an accompanying AV presentation also include a copy of the script.

Overview – The first section of each module provides an overview of the module's contents including a description of its purpose, its objectives, and the activities of which it is comprised.

Lesson Plan – The second section consists of the Lesson Plan which provides instructors with guidance as to the nature of activities, as well as discussion issues. The Lesson Plan is designed to help instructors anticipate

¹ McKnight, A. James and Weinstein, Karen, P. *Development and Field Test Of A Responsible Alcohol Service Program. Volume II: Server Education Program Materials.* (DOT-HS-807-222). Available from the National Technical Information Service, Springfield, VA 22161.

the kinds of issues and questions that may arise and suggests appropriate responses.

Script—For those modules which contain an AV presentation, a script of the presentation is provided. The script is included to allow instructors to preview the presentations before teaching the course, to obtain a better idea of the points of emphasis and the way in which the discussion has been integrated into each module.

Role Plays—Copies of role play scenarios appear at the end of the Guide. These can be duplicated and handed out. A shorter description of each scenario is provided for instructors who would prefer describing the scenes to the class orally or for those who lack equipment for reproducing printed scenarios.

Technical Discussion

A technical discussion is presented at the beginning of the Instructor Guide in order to provide instructors with the depth of information concerning the drinking-driving problem and server responsibility to permit them to handle questions and issues raised by students. It is expected that many instructors will not be well versed in matters relating to drinking and driving. The technical discussion includes such topics as the drinking-driving problem, the effect of alcohol upon driving, the relationship between BAC level and impairment, laws and regulations dealing with alcohol service, and compensation of drunk driving victims through dram shop laws and common law liability.

Laws and regulations regarding alcohol service, server liability, and other aspects of drunk driving vary considerably from State to State. It is not feasible to include all relevant State laws and regulations within the Instructor Guide. The task of compiling such a compendium would be enormous, to say nothing of the problem of keeping it up to date. Therefore, instructors are urged to obtain information bearing upon their States and localities and are given information concerning the sources of such information. A very brief summary of the most critical laws, as of 1985, is provided along with caveats governing its use.

Pre- and Post-Tests

It was expected that some instructors might wish to assess their accomplishments in improving the knowledge and attitudes of participants relative to responsible alcohol service. To permit this assessment, knowledge and opinion measures were developed. (The development was part of the test of the program which will be described in the next section.) In the case of the knowledge measure, separate pre- and post-tests were developed in order to prevent prior exposure to knowledge test items from biasing assessment of knowledge gain.

The knowledge pre- and post-tests consist of 10 multiple choice items, each of which provides a sample of material that was covered in the video presentations. The opinion survey also consists of 10 multiple choice items. Each item presents an issue

and four alternative opinions which reflect differing attitudes towards intervention. Copies of the knowledge and opinion measures appear in the Instructor Guide.

Where the server education program must be taken to fulfill a requirement, the pre- and post-test versions of the knowledge test could be combined to form one "final examination." Participants would have to pass the test in order to pass the course.

PILOT TEST

The Program of Responsible Alcohol Service was completed in spring of 1985 and pilot tested in order to (1) assess its ability to improve knowledge and attitudes toward responsible alcohol service, and (2) identify deficiencies in the program as a means of identifying needed modifications. Actually, the program being described is the program which resulted from the pilot test, rather than the program in the form in which it was tested. (It would serve no purpose to provide a detailed description of the program in its original form.) The program underwent continuous revision, with deficiencies identified in earlier tests being corrected before the program was evaluated in later pilot tests. The program being described is, therefore, actually the result of a fairly lengthy trial-and-error development process.

Prototype Audiovisuals

A prototype version of the Program of Responsible Alcohol Service was developed for pilot testing. The objectives, content and methods employed in the prototype were the same as those that were described in the preceding section. However, the audiovisual presentation was prepared in slide/tape form rather than as the videos that were ultimately developed. The use of a slide/cassette approach involved less cost and offered greater flexibility.

Cost—Because the program was likely to require extensive modification following the pilot test, it was imperative that the cost of the pilot test program be held to an absolute minimum. The slide/tape format was far less expensive than videotape because the visuals could be more expeditiously obtained. The sound track was also recorded inexpensively because a small number of actors took on several roles.

Flexibility—The slide/tape format allowed for greater flexibility since changes, additions and deletions in the script were anticipated. The slides made such changes a matter of replacing individual slides or reordering their sequence. The audio track was also fairly simple to edit; new sections were added by dubbing over old material.

Pilot Test Sites

The Program of Responsible Alcohol Service was pilot tested in two types of sites:

- Hotels
- Bars/restaurants

Hotels

Through the cooperation of the Sheraton Corporation, the program was pilot tested at three Sheraton Hotels in:

- Washington, D.C.
- New York, New York
- Bal Harbour, Florida

By working through Sheraton headquarters, arrangements at all three sites could be expeditiously made. For this reason, the hotel pilot tests were administered first. The tests were administered approximately two weeks apart to allow time for revision of the program after each test.

Bars/Restaurants

The participation of individual bars and restaurants was sought at a community level. The cooperation of communities was solicited at a national conference on drunk driving. While several communities expressed an interest, only three communities appeared able to muster sufficient numbers to support a pilot test within the time limits imposed by the project schedule. These were in:

- Louisiana
- Michigan
- New Hampshire

The pilot tests in the case of bars/restaurants also provided a way to examine each of the communities as a possible field test site. It certainly was not necessary to confine the field test to one of the pilot test sites to support a pilot test. In order not to use any more of the available subject pool than necessary, the pilot test in each location was confined to one session, not to exceed 25 participants.

Subjects

The subjects consisted of servers and managers from the Sheraton hotels participating in the pilot test, and from individual bars and restaurants in the three pilot test communities. A total of 146 servers and managers participated in the six workshops. Because the distinction between server and manager was not entirely clear in some cases, and because some servers participated in the manager portion of the program, the composition of the participant group cannot be precisely described. However, as nearly as can be estimated, the ratio of servers to managers was approximately 3.5 to 1.

Evaluation Measures

Both objective and subjective evaluation measures were employed. The objective measures consisted of knowledge and opinion surveys, while the subjective measures

consisted of forms by which participants could evaluate modules and comment upon their strengths and weaknesses.

Knowledge Test

In its original form, the knowledge test consisted of 27 items employing a three-alternative multiple choice format. The items sampled the informational content of the first four modules (Modules 5-7 did not involve the presentation of information). The same test was given prior to and following administration of the program to hotel participants.

Using data collected from the first three pilot tests, two 10-item alternate forms were developed. The purpose in doing so was two-fold:

- To allow use of two different measures in pre-test and post-test administration, thereby avoiding any spurious information gain resulting from prior exposure to items (subjects would tend to remember answers to items they had seen before, resulting in a spuriously high estimate of information gain).
- To reduce the pre-test and post-test administration time, which originally consumed an hour. Use of the evaluation measures within the pilot test communities, as well as in an operational program, was thought to necessitate a substantial reduction in testing time.

An item analysis was performed on the results of the hotel pilot test. From the original 27 items, 7 items were eliminated on the basis of (1) *low discrimination*—the overwhelming majority of participants answered correctly on the pre-test, and (2) *low part-whole relationship*—those scoring high on the test tended to select incorrect answers. The remaining 20 items were divided into two 10-item forms being approximately equal in mean difficulty (less than 1 percentage point difference on pre- and post-test) and covering similar content. These measures, the ones appearing earlier in this report, were then administered to the bar/restaurant group and made a part of the program itself.

Opinion Measure

The original opinion measure consisted of 24 scalar items. Each item presented an issue and four statements of opinion related to that issue. The opinion statements were rank-ordered in terms of the extent to which they reflected a responsible attitude toward the service of alcohol. The original measure was administered to participants in the hotel group.

In order to reduce the time required for administration of the pre-test and post-test, the opinion measure was reduced from 24 to 10 items. Because prior administration of an opinion measure does not introduce any natural bias in administration of the post-test, it was possible to use the same items for both measures. From the original 24 items, 10 items were selected on the basis of:

Discrimination—Items in which responses were spread across all four alternatives were preferred over those in which the majority selected one or two alternatives.

Part-Whole Relationship—Items selected were confined to those in which mean test scores for those selecting each alternative followed a monotonic relationship, with those selecting the most favorable alternative having the highest overall mean score, those selecting the second most favorable alternative having the second highest mean score, and so on.

Content—Items were selected to cover all major issues, and no two items dealt with the same issue.

Subjective Measures

For each module, a form was developed in which participants could provide an overall rating of the audiovisual presentation and discussion as well as describe strengths and weaknesses of each. The instructor paused after each module to give participants a few moments to enter their comments.

During the hotel workshops, it became apparent that participants were prepared to go into a great deal more detail in describing deficiencies orally than in written form. Indeed, most of the constructive information came from the oral critique. For this reason, use of the written form was abandoned after the hotel workshops.

Administrative Procedure

The Program of Responsible Alcohol Service was given in the prescribed sequence at each workshop. In the three bar/restaurant workshops, Modules 1 through 4 were given to servers and managers in the morning, while Modules 5 and 6 were given in the afternoon. However, in the hotel workshops, the practice was to give Modules 1-4 on one day and Modules 5-6 on another. This was necessitated by the schedule of the servers, who generally reported for work in the late morning or early afternoon, too late to permit administration of the entire program in one day. In two workshops, Modules 5-6 were given to managers on the following day while, in the other, it was given at the end of a three-day period.

The knowledge and opinion measures were administered prior to the first module and after the fourth module. The fourth module marked the end of the information presentation portion of the program and administering it at that time allowed data to be collected from both managers and servers.

Not all the participants arrived early enough to complete the pre-test before the program began, or were able to remain after the fourth module to take the post-test. Of the 146 people participating in the program, 91 completed both pre-test and post-test.

The evaluation measures were not administered at the Concord workshop. Of the approximately 20 individuals attending the Concord workshop, only five were servers

or managers. The remainder were owners, representatives of the State Hospitality Association, or representatives of government agencies. It would have been difficult to delay the beginning of the entire workshop for five participants to complete the pre-test, particularly in view of the fact that the workshop had already been delayed 45 minutes due to problems with audiovisual equipment.

There's no reason to believe that the failure of slightly more than a third of the participants to complete both pre-test and post-test introduced any bias into the results. The reasons for their inability to complete both tests were primarily administrative and unrelated to factors that might have influenced test results.

Instructors

A truly valid test of any training program requires that it be taught by instructors representative of those who would ordinarily teach the course. This was done in a third of the hotel workshops. The particular instructor was a member of the Training Department of the Sheraton Bal Harbour and was the one primarily responsible for teaching other courses to hotel employees. She was both a trained and experienced instructor. Since the program requires instructors to participate in the program before attempting to teach it, she journeyed to New York to participate in the second workshop. The first and second workshops were, of necessity, conducted by a representative of the staff that assembled the program.

It would have been desirable to continue the process of using representative instructors to conduct the bar/restaurant workshops. However, it was not feasible to transport a prospective instructor from one pilot test site to another in order to prepare for teaching the program.

RESULTS

This section will describe results obtained from the pilot test of the Program of Responsible Alcohol Service among servers and managers from (1) a large hotel chain, and (2) small bars and restaurants. Results will be described in terms of knowledges, opinions, and qualitative comments.

Knowledge

Results obtained from the administration of the knowledge test before and after participation in the program are presented in Table 1.

The program produced significant knowledge gains for both groups of participants. There was not a sufficient number of managers to permit a meaningful analysis for that group alone. Therefore, the results for managers and servers are combined.

It is important to remember that the test was abbreviated after administration to the hotel group. The differences between the two groups may reflect changes in the

TABLE 1
MEAN PERCENT CORRECT ON KNOWLEDGE TEST
FOR
PARTICIPANTS IN RESPONSIBLE ALCOHOL SERVICE PROGRAM

Group	N	Pre-Test		Post-Test		r	Diff	t	P
		Mean	S.D.	Mean	S.D.				
Hotel	59	55.7	17.0	64.1	21.5	.68	8.4	4.0	< .01
Bars/ restaurant	32	62.2	16.8	74.1	16.4	.00	11.9	2.9	< .01

test rather than any differences between the pre-test or post-test knowledge of the two groups.

Expressed as a percent of pre-test score, the gains for the hotel and bar/restaurant groups were 15% and 19%, respectively. A more meaningful way to describe the knowledge gain would be to express the changes in the mean score as a function of the distribution of scores. The percent of the post-test scores exceeding the mean of the pre-test was 70% for the hotel group and 75% for the restaurant group. The information gain might best be described as "modest."

The groups were not entirely ignorant of the subject matter before the course started nor did they learn everything that was taught. The fact that post-test scores only ranged from 64% to 74% correct, indicates that there is plenty of room for improvement in the ability of the course to communicate information.

The specific post-test questions that were failed by large numbers of students dealt primarily with facts and figures such as the number of alcohol-involved fatalities each year. Given the amount of information that was presented, it is not surprising that students failed to retain a number of these facts. Generally they did a good deal better on more conceptual items, such as those dealing with the nature of server liability.

One interesting finding is the difference between the two groups in the correlation between pre-test and post-test scores. The high correlation for the hotel group indicates that, despite the gains in information, participants maintained their relative standing. In the bar/restaurant group, the gains differed sufficiently to alter the relative standing. We know of no ready explanation for this difference except for the fact that the hotel group received the same questions on pre- and post-tests, while the bar/restaurant group received different items. It is also true that the two groups were discernibly different, the average hotel employee being a great deal older and more experienced in serving than the average bar or restaurant employee. However, why this difference should influence the pre-/post-test correlation, or what implications it has for instruction are unknown.

Opinions

The results obtained from the administration of the opinion questionnaire are shown in Table 2.

TABLE 2
PERCENTAGE SCORES IN THE OPINION QUESTIONNAIRE
FOR
HOTEL AND BAR/RESTAURANT EMPLOYEES

Group	N	Pre-Test		Post-Test		r	Diff	t	P
		Mean	S.D.	Mean	S.D.				
Hotel	60	51.8	7.3	55.3	7.6	.47	3.5	3.4	<.01
Bars/ Restaurant	31	52.7	5.3	59.2	12.8	.33	6.5	2.9	<.01

The numbers shown in the table are composed of raw scores expressed as a percent of the maximum score. Again, the fact that the measure was different for the hotels/restaurants, bars/restaurants makes it inappropriate to compare the scores of the two groups.

Both groups showed a significant improvement. Since there is no true zero value to the opinion measure, it is not possible to express gains as a function of initial scores. However, as was done with knowledge test scores, they can be expressed relative to the pre-text distribution of scores. The percent of post-test scores exceeding the mean of the pre-test was 68% for the hotel group and 71% for the bar/restaurant group—very similar to the change in knowledge scores. Again, the attitude shift may be considered "modest."

The fact that knowledge and attitude shifts are of approximately the same relative magnitude is noteworthy. It is usually easier to improve knowledge than to alter attitudes. This is particularly true where attitude change is expected to result primarily from the information that is gained. One might speculate that the attitude shift in the case of server liability is relatively less dependent upon information than in other applications. Non-cognitive factors that may play a major role in attitude shifts include (1) the use of server role models in the audiovisual presentation, (2) the taped interview with an injured third party, and (3) the extensive opportunity for discussion among participants.

Participant Comments

While the knowledge and attitude measures provided an objective, quantitative means of assessing change, it was participants' comments concerning various aspects of the course that were most useful in leading to changes in the program. During the earlier pilot tests, these comments were solicited on a participant evaluation form. This form called upon students to rate both the AV presentations and the discussions on scales of 1 to 5. It also invited evaluative comments on both aspects of the program.

and suggestions for improvement. Separate forms were provided for each module of instruction.

While a volume of comment was supplied, a great deal more was expressed orally than on the form. In short, participants said a lot more than they were willing to take the time to write down. It would be very time-consuming and serve no useful purpose to describe every specific comment received, recommendation offered, or change made. However, relating the major criticisms and recommendation should be helpful in providing a rationale for the content and structure of the program in its final form.

Some of the criticisms and recommended changes affected the program as a whole; others were confined to individual modules. A detailed discussion of the comments appears in Appendix B of this report. These comments are summarized below. Readers desiring more information than is provided in the summary are invited to refer to the appendix.

General Comments—Use audiovisual presentations primarily to communicate information rather than to serve as a trigger for discussion.

Module I: Awareness—Call upon participants to present issues and questions, but defer discussion of them to later modules rather than discussing them during Module 1.

Module II: Need—Convey more vividly the need to protect innocent victims (rather than just the drinking driver), possibly with someone who was injured by a driver who was the victim of irresponsible alcohol service.

Module III: Prevention—Shift discussion of drinking signs to impairment rather than intoxication and tie them to prevention rather than intervention; also give more emphasis to the servers' responsibility for noticing impairment regardless of the volume of business.

Module IV: Intervention—Broaden the discussion of intervention techniques to consider additional situations; also discuss situations in which patrons should be approached in the company of others versus taken aside and handled individually.

Module V: Practice—Give more emphasis to discussion following role-playing exercises, covering fewer situations and greater depth.

- Expand the range of situations to include the "open bar," intoxicated patrons receiving drinks from others, and enlisting the cooperation of sober patrons.
- Help instructors present scenarios verbally as an alternative to use of written scenarios.

Module VI: Policy—Shift from a presentation of recommended policy to a discussion in which managers commit themselves to policy changes.

PROGRAM EVALUATION

The Program of Responsible Alcohol Service was evaluated for its effectiveness in modifying the behavior of servers and managers of establishments serving alcohol. The evaluation actually took place in two phases. The first phase occurred in the spring of 1986 in Louisiana and Michigan. As will be seen, the outcome was somewhat equivocal. Therefore, the evaluation was extended to six additional sites. The sites were Massachusetts, Pennsylvania, Texas, Washington State, Delaware, and Iowa. The extended evaluation occurred during the winter of 1987-88. Because the methods employed in the two evaluations were largely the same, the description of both methods and results will be integrated into a single discussion. This section will discuss the evaluation design, sample selection, and evaluation measures, and the manner in which the program and measures were administered.

EVALUATION DESIGN

An evaluation of the Program of Responsible Alcohol Service was performed using a before-and-after design with Comparison groups. The program was administered in a selected set of drinking establishments in eight different sites. Data bearing upon the performance of servers was collected before and after the program had been administered in order to assess the effect of the program. The same information was obtained over equivalent time periods from a group of servers not participating in the program in order to control for the effects of factors extraneous to the program.

Experimental Groups

The experimental sample was divided into *Treatment* groups, which received the program, and *Comparison* groups, which did not receive the program.

Treatment Groups

The Treatment groups in each of the evaluation sites consisted of drinking establishments that were invited to participate and actually sent one or more representatives. In issuing invitations, an attempt was made to include all types and sizes of establishments, from small neighborhood taverns to large places of entertainment accommodating several hundred patrons. There was, unfortunately, no way to demand that establishments send servers or managers. Therefore, the Treatment group was ultimately defined not by the design but by the characteristics of those servers and managers who accepted the invitation and participated in the program. As is typically the case, establishments whose owners and managers volunteered participation tended not to include the most irresponsible establishments, the ones that were most in need of improvement.

Comparison Groups

In each site, a set of Comparison establishments was selected so as to match as closely as possible the size and characteristics of the Treatment establishments. Each Comparison group was augmented by a number of establishments that were originally selected as part of the Treatment group but which, for one reason or another, failed to send any representatives to the program. While it would have been possible to eliminate the non-participating establishments from the sample entirely, considerable time and effort has already been devoted to collection of pre-program data from these sites. Efficient use of project resources argued for collection of post-program data and inclusion of these sites in the Comparison sample.

While the Comparison groups were not totally comparable to Treatment groups, they were similar enough to register and, therefore control, the effects of any trends capable of leading to spurious pre/post differences in the Treatment establishments.

Measures

The measures that were employed in the evaluation of the server education program included:

Behavior Observations—Observations of servers' responses to project staff members who were presenting signs of intoxication.

Behavior Self-reports—Self-reports of servers as to their serving practices, and managers as to establishment policies.

Knowledge and Opinion Measure—The same knowledge and opinion measures as were employed in the pilot test.

These measures will be discussed in detail in the section "Evaluation Measures." Only the observation measures were applied to the Comparison groups. Since the paper-pencil measures of behavior, knowledge, and attitude were closely tied to the program itself, there was neither opportunity nor need to administer them to the Comparison group.

Program Administration

The specific procedures by which the program was administered will be described shortly. The general approach can be summarized as follows:

1. The participation of establishments making up the Treatment group was solicited.
2. Those agreeing to participate were scheduled for instruction.
3. Baseline or "pre" observations were taken in Treatment and Comparison establishments over a six-week period prior to program administration.
4. The program was administered to the Treatment group, with knowledge, opinion, and behavior self-report measures being given immediately prior

to the program. Knowledge and opinion measures were administered immediately after the program.

5. "Post" behavior observations were taken in Treatment and Comparison establishments over a six week period following completion of the program in the Treatment group.
6. Behavior self-report measures were administered to servers and managers in the Treatment establishments approximately six weeks following completion of the program.

EVALUATION SAMPLE

The evaluation sample consisted of employees of Treatment and Comparison establishments in eight different sites. For the pre/post comparisons of knowledge, opinion and behavior self-report, the sampling unit consisted of the servers and managers who completed both sets of measures. In the case of the behavior observations, the sampling unit consisted of the establishments since it was not feasible to observe all of the individual employees.

Sites

In selecting sites for the evaluation, the objective was to find communities in which suitable numbers of alcohol-serving establishments would be willing and able to assure the participation of the majority of its service and management staff in the Program of Responsible Alcohol Service. Primary selection criteria were as follows:

Level of Participation During the first phase of the evaluation, 16 establishments were induced to participate in the program in each site. Obtaining this level of participation required a major effort by a local organization willing to take on server education as a cause. The existence of such an organization and its ability to furnish requisite numbers of participating establishments, became the primary criterion in the selection of sites.

Lack of prior participation In order to provide a valid assessment of server education through a pre-post comparison, it was vital that "pre" measures be unaffected by prior participation in a server education program. This requirement necessarily excluded communities that had been subject for any length of time to local or state laws mandating server education. It also meant exclusion of communities where there was widespread voluntary participation in ongoing server education programs. While several of the selected communities had hosted server education "awareness" programs, they had been largely attended by owners and local officials and had reached very few of the intended target audience, servers and managers.

Dram shop legislation Protection against litigation is widely believed to be a powerful incentive in inducing licensed establishments to participate in server education programs. The extent to which litigation can serve as an incentive obviously depends upon the extent to which suits are facilitated by

local dram shop laws. In order to study the interaction of server education with this influential factor, the sites had to be selected so as to represent differences in status relative to dram shop legislation.

Within the time available to solicit participation in the study, eight localities were able to furnish a sufficient number of establishments agreeing to participate. The eight participating "sites" were as follows:

Louisiana: Lafayette

Michigan: Washtenaw County

Pennsylvania: York

Texas: Houston

Massachusetts: Springfield

Delaware: Newark, Newcastle

Iowa: Clinton, Muscatine, Bettendorf

Washington: Everett, Lynwood, Marysville

Establishments

Within each site groups of licensed establishments made up the Treatment and Control groups. It was through the establishments that participants for the program were solicited. Moreover, in the case of behavior observations, establishments formed the sampling unit.

Soliciting Establishments

In the initial phase of the evaluation, in Louisiana and Michigan, the establishments most often identified by convicted DWIs as the place at which they had their last drink were rank ordered in terms of the numbers of convictions and randomly assigned to Treatment and Comparison group. This process was intended to insure that the two groups were as similar as possible with respect to outside variables that could affect the intoxication of patrons. However, the objective was not met due to the failure of almost a third of the assigned Treatment establishments to accept the invitation to participate. This rather substantial nonparticipation rate destroyed the equality of the experimental groups and produced a sizable imbalance in the number of Treatment and Comparison establishments.

For the remaining six sites, the selection process was altered so as to begin with the solicitation of Treatment establishments and continue until the requisite number had committed themselves to the program. Then, a Comparison group was created by selecting individual establishments in such a way as to match those in the Treatment group as closely as possible with respect to size and type. While such a post-hoc matching process doesn't offer the statistical control of a random assignment, it is the only course open when a random assignment is not feasible.

While some defections also occurred during the second phase among those establishments which had committed to participation, the number was smaller than the 35% loss that occurred in the first phase. It is worth noting again that since the assessment of program effectiveness involved pre-post comparisons within the Treatment group, the equality of the groups is not quite so critical as it would be were it necessary to make direct comparisons between Treatment and Comparison groups.

Numbers of Establishments

The numbers of establishments making up Treatment and Control groups in each site are shown in Table 3.

TABLE 3
COMPOSITION OF EXPERIMENTAL SAMPLE BY DRAM SHOP STATUS,
NUMBER OF ESTABLISHMENTS,
AND NUMBER OF PARTICIPANTS

State	Dram Shop	Number of Establishments		Number of Participants	
		Treatment	Control	Servers	Manager
Louisiana	Precedent	16	31	122	38
Massachusetts	Precedent	14	14	158	45
Michigan	Statute	16	34	99	26
Pennsylvania	Statute	15	15	134	32
Texas	None	14	13	153	36
Washington	Precedent	7	10	47	19
Delaware	None	10	15	102	14
Iowa	Statute	8	6	41	13
Totals		100	138	856	223

Except in Louisiana and Michigan, the number of Treatment and Comparison establishments was approximately equal. As pointed out earlier, this marked inequality of Treatment and Comparison sites occurred in those two sites when sites were randomly divided into the two categories and approximately a third of those designated as Treatment establishments failed to participate. Picking Comparison establishments after Treatment establishments had been solicited and committed themselves to participation, the process followed in the remaining six sites, produced more similar numbers, in Treatment and Comparison groups.

The number of Treatment establishments ranged from 7 to 16 per site, and was primarily a function of the number of available licensed establishments. The communities making up the experimental sites in Delaware, Iowa, and Washington were considerably smaller than the remaining communities. While the communities representing Texas (Houston) and Massachusetts (Springfield) could have furnished a far larger number of establishments, available study resources limited the maximum number of establishments in any one site.

In Table 3, the status of the sites with respect to dram shop law is categorized as follows:

Statute—A State law specifically providing for collection of damages by victims of intoxicated patrons.

Precedent—No statute, but a precedent within the State for collection of damages under common law.

None—Neither a statute nor precedent providing for collection of damages.

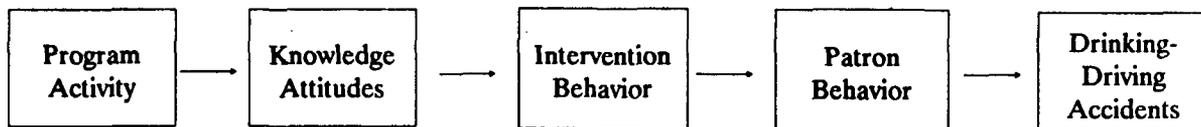
The table presents the status of a site at the time the program was implemented. Since the conclusion of the study, Louisiana has enacted a statute that relieves establishments of liability for damages. The constitutionality of the law has not yet been tested.

Participants

Participants in the program included 856 servers and 223 managers for a total of 1,079 in all. For the knowledge, opinion and self-report behavior measures, the participants (rather than establishments) were the unit of analysis. For any one measure, however, the numbers of subjects consisted of the number of participants completing both pre-program and post-program measures. These numbers will be given in the tables in which results from the various measures are presented.

EVALUATION MEASURES

The ultimate goal of the server education program was to reduce the incidence of drinking-driving accidents. Between the program and the accidents there exists a causal chain which may be represented by the diagram below:



As depicted in the diagram, a server intervention program is expected to bring about changes in server knowledge and attitudes. These changes are expected to produce changes in the intervention behavior of servers which, in turn, is expected to change the drinking and driving behavior of the patrons. The final result should be a change in the incidence of drinking-driving accidents.

Evaluation Criteria

Each one of the events depicted in the diagram represents a potential evaluative criterion. [Insofar as highway safety is concerned the ultimate criterion of success is the effect of the program upon drinking and driving accidents. However, the ultimate criteria are causally quite remote from the program. The more remote changes become from the program that stimulated them, the more the effect of the program is

likely to be obscured by the effects of other variables that may also produce similar changes.] For this reason, measures of change at several points along the causal chain were considered.

Program Activity—The most immediate and direct effect of a program is the activity that is generated by the program itself. In the case of the server education program, the measure of program activity is the number of servers and managers who participated. Evaluating the level of participation was important in determining the effectiveness of solicitation procedures in obtaining participation of servers and managers.

Knowledges and Attitudes—The ability of the Program of Responsible Alcohol Service to produce changes in knowledges and attitudes relative to server intervention was established in the earlier pilot test. However, since it is through changes in knowledge and attitude that any changes in behavior would be induced, measuring change at this level was desirable in trying to interpret behavioral changes.

Intervention Behavior — If the Program of Responsible Alcohol Service is to have an impact on drinking and driving, it must produce significant changes in the behavior of servers and managers. Behavior changes were assessed in two ways: through the servers' and managers' self-reports of their own intervention behavior and the observations of their behavior by objective observers.

Patron Behavior — Effective intervention should, in the long run, reduce patron overdrinking. However, since the level of patron alcohol consumption is influenced far more by the characteristics of a patron than by those of the server, it would require an extremely large number of observations of patron behavior to detect program effects. The behavior of the server is a far more sensitive measure.

Drinking-Driving Accidents — While the ultimate goal of server intervention is to reduce the incidence of drinking-driving accidents, the number of such accidents is far too few and the accuracy with which alcohol involvement can be assessed is far too inaccurate to permit accidents to serve as an evaluative criterion.

The four evaluation measures employed, then, were observations of intervention behavior, self-reports of intervention behavior, measures of knowledge and attitude, and measures of program activity.

The knowledge and attitude measures were the same ones employed in the Pilot Test and need no further discussion. Measures of program activity involved simple tabulations of the numbers of servers and managers trained. This discussion will therefore focus upon the measures of intervention behavior, both observed and self-reported.

Observations of Server Intervention

This section will describe the type of server intervention observed and the development of observational approaches.

Type of Server Intervention

The intervention of servers in the drinking of patrons involves a wide range of behavior including not only the service of alcoholic beverages, but the service of food and non-alcoholic beverages as well. Previous assessments of intervention by Russ and Geller (1986) and by Saltz (1987) involved observing all levels of intervention. To do so, it was necessary to observe servers over long periods of time, essentially a whole evening in a single establishment. Such an approach, while feasible in one or two establishments would have been far too time consuming and costly given the large number of establishments involved in the present study.

While all levels of intervention were of concern, the most crucial by far was terminating service to an already intoxicated patron. From both laboratory and epidemiological studies of drinking and driving it is clear that the risk of a serious accident begins to rise sharply near blood alcohol levels of .08 to .10, the legal definition of intoxication. Along with withholding service to minors, it is also the only intervention behavior that is required by law. For these reasons, observation of server intervention was confined to the intervention with intoxicated patrons.

Study of Observational Approaches

Russ and Geller observed intervention in the free drinking of project staff members, posing as patrons, over the course of an evening. Having staff observers drink to the point of intoxication would have required far too much time for the large number of observations needed in assessing a community level program. Prior to initiating the evaluation of the program of Responsible Alcohol Service, two alternative approaches to observation of intervention behavior were tried out and assessed. These involved:

Patron Intoxication—Observation of server intervention with patrons who have become intoxicated.

Simulated Intoxication—Observation of server intervention with staff members feigning signs of intoxication.

The observations of true patron intoxication offered the advantage of being an inherently valid criterion. Questions concerning the feasibility of this approach involved (1) how much observational time would be necessary to actually witness servers responding to impaired patrons, and (2) the ability of observers to truly witness the interaction between servers and patrons.

The advantage of simulated impairment was the ability to assure that each visit to an establishment would indeed result in an observation of server intervention as well as the ability to present a controlled set of impairment signs to servers. The primary

disadvantage was the question of whether the signs of intoxication exhibited by the observers were truly valid. If they were not, servers might respond to observers in ways that differed from their responses to actual patrons.

A series of observations was carried out by members of the project staff in the Washington, D.C. area. The procedures used in and results obtained from application of each method are described in Volume I of this report. It became evident that the limited number of visits that could be scheduled during an evaluation would provide little opportunity to observe a server's responses to intoxicated patrons. Simulated impairment would permit every visit to result in an observation of server practice. Based upon the results of the observations, an approach relying primarily upon *simulated impairment* was selected.

While simulated impairment was selected as the primary measure of server behavior, the fact that observations of any freely occurring instances of intervention could readily be made at the same time warranted an inclusion of actual impairment as a secondary criterion. After acting out signs of intoxication, the observers could not simply head for the door without arousing suspicion. It was necessary for them to remain for at least 15 minutes. During this time, they would have an opportunity to observe other patrons and note how many appeared to be intoxicated. While it seemed unlikely they would witness many instances of intervention, if the results of the program were really to lead to more responsible alcohol service, it might possibly show up even during a short time. However, the collection of information from actual impairments was only a secondary criterion.

Observation Procedure

Each establishment in the Treatment and Control groups was visited several times to observe server responses to simulated signs of interaction in staff observers. During the first phase (Louisiana and Michigan), four visits were made before and after the program. In the last six sites the number was reduced to three. The total number of visits was 1,580.

The procedure employed in each visit was as follows:

- Observers were assigned certain establishments to be visited and told whether to sit at the bar or at a table (depending upon earlier visits). The assignments grouped establishments by location. This allowed observers to visit several establishments in one night with minimal travel time. The observers were permitted to schedule their visits around their other obligations. However, they were required to submit their schedules one week in advance.
- Upon entering an establishment, observers proceeded to the bar or to a table to request service. The location was alternated in such a way that the observer went to the bar half the time and to a table half the time. However if they could not be accommodated at one location, they could go to the other.

- Upon encountering a server, the observer placed an order while acting out signs of intoxication. The signs that were acted out included (1) swaying or staggering from the door to the bar/table, using the hands as out-riggers; (2) "missing" the stool or chair when attempting to sit down; (3) slurring of speech; (4) difficulty in extracting money from the billfold in order to pay for the drinks.
- The beverage ordered was always beer. In addition to being the cheapest alcoholic beverage, its alcohol content was assured (a mixed drink could be weakened without the observer realizing it). The drink was not to be consumed.
- After the order was taken, observations were made of other patrons in the establishment. The observer estimated the number of patrons being served, counted the number that met the criterion of "visibly intoxicated", the number of drinks served to apparently drunk customers, and whether or not patrons of questionable age were checked for I.D.
- A minimum of 15 minutes was spent in the establishment making observations. If service was slow, the observations could be made before the order was placed.
- Observers carried out the process alone. It was undesirable to provide any indication to servers that the observers had anyone to take them home or otherwise assist them.
- Upon leaving the establishment, the observers recorded the following information using a checklist kept in their vehicles:
 - Observer name
 - Name of establishment
 - Time in
 - Time out
 - Level of business (light, moderate, very busy)
 - Day/date (at the beginning of each observation session)
 - Type of server (waiter, waitress, bartender, other)
 - Symptoms of intoxication acted out
 - Number of other patrons appearing to be intoxicated
 - The nature of server intervention, using a predetermined code
 - The number of other patrons observed to be intoxicated
 - Number of drinks served to apparently intoxicated patrons
 - Number of apparently under-age patrons checked for I.D.

During the first phase of the evaluation, observers recorded their observations on small cassette recorders kept in their vehicles. While this facilitated their recording of data, it introduced an additional data reduction task in transcribing results from tapes. The benefits of such a two-step process were not commensurate with the expense and

the procedure was dropped in favor of having observers record data directly upon checklists.

Consideration had been given to "wiring" observers so that they could record their observations as they were making them. (This was done during the study of observational approaches mentioned earlier.) However, this procedure carried with it two great risks:

- With over 1,500 observations, that the procedure would be discovered was almost certain. If a tape recorder did not itself become visible, a "patron" talking to himself would have been certain to arouse suspicion. If word of the observations had leaked out, it could certainly have affected server behavior being assessed.
- As long as the behavior of servers was being reported by observers, the servers themselves remained anonymous. However, if their voices were picked up in a tape recording, they would no longer be truly anonymous and the confidentiality of the record would have to be protected. It might have even been necessary to disclose the process to the servers, something almost certain to affect the behavior being observed.

The meager benefit to be gained by hearing the observer's voice did not appear to be worth the risks, to say nothing of the cost involved in furnishing tape recorders to all of the observers and having to monitor about 400 hours of tape.

There is no indication that any of the servers recognized or even suspected that the behavior exhibited by the observers was anything but genuine. While half of the observations were made before the program was given, none of the servers or managers in the course ever mentioned patrons whose behavior was suspicious.

Observers

Three to six observers were engaged at each site. All were of legal drinking age, and most were between ages 21 and 24. This relatively young age was necessary to allow observers to visit all establishments, including college hangouts, without appearing out of place. All observers were male. This was not a requirement. However, none of the women interviewed for the job were willing to enter drinking establishments unaccompanied late at night.

Observers were recruited from among acquaintances of local site coordinators. To advertise for people to observe alcoholic beverage serving practices would have alerted servers. No attempt was made to recruit trained actors as observers. Actors are experienced in responding to other actors, in front of an audience and technicians who know they are acting. Exhibiting bizarre behavior in front of "real people," without anxiety, on repeated occasions (over 50 per observer on the average) requires a particular type of personality—"somewhere between a salesman and a psychopath" as described by one observer.

All observers were informed that their activities were to be kept strictly confidential and that any violation of confidence would result in their being dismissed from this project. Since they were being reasonably well compensated for their efforts, it was in their interests to accept this constraint.

Training sessions were held during which observers were informed about the project and its purposes, instructed in carrying out the procedures, and required to act out various signs of intoxication. Their performance was videotaped and reviewed by the observers themselves and the project staff.

Quality Control

As a means of quality control, the performance of observers was monitored on a random basis once each week. The observers were informed of this and assured that the procedure was being carried out for purposes of scientific verification and not because the observers weren't trusted. While they were informed that their performances would be monitored, they were not told when or by whom it was to be done. They had no way of knowing when they were being watched and therefore had to assume that it could occur at any time.

The monitors were unacquainted with the observers. They were given an opportunity to view the videotapes of the observers in order to recognize them and were provided the observers' schedules in order to time each visit to coincide with that of the observer. They were to report whether the observer showed up, how long the observer stayed, and whether the observer exhibited "visible" intoxication.

Data Reduction

The checklists used by observers were given to the local site coordinators as soon as they were filled. The area coordinators forwarded the checklists to the project staff on a continuous basis, making a quick tally before forwarding each packet to guard against the loss of data should something happen to the packet in the mail.

Since the coding of observations was relatively objective, very few questions arose in coding them. However, when questions did arise, or when data entry clerks had any doubt as to the appropriate code, it was brought to the attention of the Project Director who sought clarification with the observers through the site coordinator.

Behavior Self-Reports

Self-report measures were developed to permit reporting of both server practices and management policy. The server questionnaire describes 22 serving practices to which servers respond by indicating the frequency with which they engage in those practices, ranging from "never" to "all the time". The practices involve general service of alcohol, checking I.D.s, handling of patrons who are impaired, and handling of patrons who are intoxicated.

The management questionnaire presents 32 items of alcohol policy to which managers respond by indicating whether they have adopted the policy or not.

Copies of each questionnaire appear in Volume II of this report.

Role of Self-Reports

The response to a visibly intoxicated patron, while the most important form of intervention from both a safety and legal viewpoint, is not the only one dealt with in the course. Unfortunately, the attempt to measure the remaining intervention behaviors through an observational process like that employed in measuring responses to intoxication simply wasn't feasible. First, not all forms of intervention can be elicited by an act on the part of the observer as is termination of service. How does one trigger such preventive behavior as providing table snacks, suggesting coffee at late hours, or talking with patrons to judge their condition?

Servers are not the only ones who intervene. Managers also do so, sometimes directly with patrons (e.g., terminating service, offering transportation home) and sometimes through the ways they manage an establishment (e.g., hours of service, disciplining employees). Some of these management behaviors are codified in the forms of written policy. Most, however, can only be identified by observing managers over long periods of time.

Given the large number of establishments, servers, and managers encompassed by the community-wide efforts being evaluated, trying to observe all aspects of intervention was simply not feasible. For behaviors that are so diverse and so distributed over time, self-report provided the only practical method of assessing behavior. Drinking/driving self-reports have been used extensively to assess the effectiveness of educational programs aimed at reducing drunk driving.

Validity of Self-Reports

The validity of self-report measures has frequently been challenged on the grounds that people are generally inclined to give more favorable, "socially desirable" reports of their own behavior than is warranted. In a before-after evaluation of a program, participants in a program might be inclined to report favorable changes in behavior because they think that changes are desired rather than because of a change in their actual behavior.

There's no way of knowing to what extent self-reports are influenced by various response biases. Many studies that have failed to show significant changes in self-reported behavior argue against any universal tendency to report favorable behavior (Mann et al., 1983). Moreover, even favorable self-reported changes in behavior have tended to be specific to the behavior covered in a program.

One way to guard against spurious reports of behavior change is not to query subjects on behavior change directly, but rather have them report their behavior before and after a program has occurred. In order to be able to bias the reports in a favorable

direction, respondents would have to remember from one administration to the next exactly how they responded to each question. This would be extremely difficult to do, particularly when questionnaires are presented many weeks apart.

Development of Server Practices Reports

From the objectives of the program, a list of performances servers were expected to perform were prepared. From this list of practices, items were prepared to permit servers to indicate the extent to which they employed various practices. Each item presented a practice and a choice of the frequency with which the practices were employed, including "never", "rarely", "occasionally", "frequently", "all the time". There was also a "not applicable" response for those who for some reason or another were not presented with situations calling for the practice.

The draft version of the practices questionnaire was administered to 25 servers in the Washington, DC area as a test of its administrative feasibility. In addition to taking the measure, servers were asked to comment upon the content and importance of the questions. Responses were analyzed, and the questions reworded where server comments or responses to questions indicated the need for it (e.g., an alternative response that was too extreme, and therefore seldom selected, was replaced by a less extreme alternative). A copy of the server practices questionnaire can be found in the Instructor Guide that makes up Volume II of this report.

Development of Management Policy Reports

From the objectives of the program, a list of issues that are presumably reflective of establishment policy was prepared. Many of these issues involved server practices, such as providing snacks without being asked, or having young patrons sign that their I.D.s have been checked. Other issues were solely matters of policy, such as disciplining employees who serve intoxicated patrons, closing the bar an hour before establishment closing, stocking non-alcoholic beers and wines, etc.

A list of 34 policies was prepared in the form of a checklist calling upon managers to indicate whether or not their establishment had adopted the activity as a policy. The questionnaires were then sent to managers and owners of 25 licensed establishments in the Washington, D.C. area. Like the servers, they were asked to both respond to the questionnaire and to comment upon the clarity with which the policies had been described. All of the policies were adopted by one or more of the establishments and were, therefore, retained on the questionnaire. However, several of them were reworded to overcome the ambiguities identified by the managers. A copy of the policy questionnaire may be found in the Instructor Guide in Volume II of this report.

Administration of Evaluation Measures

The knowledge, attitude and self-reports were administered to servers and managers prior to and following the program. Pre-program questionnaires were handed out to the participants as they arrived to participate in the program. However, those arriving up more than five minutes after the scheduled start of the workshop

were not asked to complete the pre-test forms since to do so would have delayed the beginning of the program. Since the number of participants greatly exceeded the sample size needed to establish the statistical significance of a practically significant effect, the loss of a few subjects did not seriously undermine the validity of the evaluation period.

Administration of follow-up questionnaires occurred approximately four months after completion of the workshops. The delay was to allow sufficient time for practices and policy change. Participants were asked to sign their names to the questionnaires in order that pre-post changes could be compared across subjects. Use of the same subject was necessary to assure that pre-post administrations revealed differences in practices rather than simply differences in the compositions of the samples participating in the two administrations. To encourage candor, participants were assured that their responses would be held in strictest confidence.

ADMINISTRATIVE PROCEDURES

Procedures for carrying out the evaluation involved solicitation of participants and administration of the program.

Solicitation

The solicitation process has been referred to earlier in the discussion of the evaluation design. At both evaluation sites, a letter was sent to the managers of those establishments selected for inclusion in the "Treatment" group. This letter pointed out the importance of training in responsible alcohol service, both as a responsibility to the public and as a means of protecting establishments against law suits. It introduced the program, the period of time in which it would be given, and the fact that it would be available without cost.

Arrangements were made to have the solicitation letters signed by some fairly influential official within the community. Signatures included a mayor, a sheriff, the head of a county council, and a director of a health department. Only in Texas, where participation was encouraged by a server training law, were letters sent simply by the local project coordinator. Having the letter signed by a fairly senior local official was intended both to lend credibility to the program and to apply some subtle pressure. Certainly, owners of restaurants and bars are not intimidated by local officialdom. However, the average citizen likes to stay on the good side of City Hall and/or the police, particularly if he can do so without appreciable expense to himself. Individual participants received wallet-sized certificates testifying to their successful program completion. Establishments sending 90% or more of their staff received certificates suitable for framing.

Sponsorship of the program by the U.S. Department of Transportation was acknowledged in order that prospective participants would not become suspicious of the fact that the program was to be given without charge. Invitees were informed that someone would contact them shortly to arrange their participation. A follow-up call was made approximately one week after the letter was sent and an appointment for a

visit was scheduled. During the visit, the project coordinator explained the program and the advantages of participating. Participants were surveyed to identify preferred days of the week and hours of the day.

Those establishments planning to participate were sent a second letter announcing the dates and locations of the workshops. They were invited to call the local coordinator in order to schedule participation by their staffs. Inducements to participation (as noted above) included certificates for servers and managers and recognition awards for participating establishments. A few days after the letters were mailed, a representative of the project staff called each of the establishments to attempt to schedule participation.

While the solicitation was designed to encourage the highest level of participation within establishments selected for the Treatment group, care was taken to see that it did not include any procedures or incentives that could not be employed by any community seeking to provide server intervention training. To do so might have provided results that could not be duplicated in other community-wide programs.

Instructors

The instruction given, like the method of solicitation, was intended to be representative of what might prevail in the community-wide program. Unfortunately, recent history did not provide enough information to determine who would most likely teach responsible alcohol service in community-wide programs. Most of the courses given up to that time had been administered by specialists in organizations created solely for the purpose of teaching server education. Through contacts with local officials during the earlier pilot tests, as well as the selection of evaluation sites, the following categories of individuals emerged as likely candidates to teach a server education program.

Server Education Specialists The rise of server education programs has bred a group of individuals seeking to administer server intervention courses, either as a full-time job or as a major job activity. Some work for organizations having the same type of specializations while others operate on an individual, freelance basis.

Academic Instructors Several institutions of higher learning provide courses in various aspects of hotel and restaurant management. In many communities server education programs are taught within these institutions. Individuals who teach the courses enjoy a high level of credibility among servers and managers of licensed establishments.

Industry Representatives In many communities, local restaurant or tavern owners have taken the initiative in sponsoring server education programs. The motivation for sponsorship appears to involve some mixture of genuine concern for responsible alcohol service, good public imagery, and attempts to forestall the introduction of undesired regulations. However, regardless of the motives, they represent a source of instruction for server education programs.

Alcohol Safety Proponents In many communities, programs of responsible alcohol service have been launched as an anti-drunk driving measure. Sponsors include a variety of agencies historically involved in alcohol safety efforts, including law enforcement agencies, health departments, safety councils, and advocacy groups. While they generally lack experience in server education, many have had extensive experience in teaching courses dealing with alcohol safety.

Instructors for the evaluations were selected on the basis of their individual qualifications including (1) general knowledge of alcohol and alcohol safety, (2) teaching ability and experience, and (3) interest in responsible alcohol service. The distribution of instructors by categories appears in Table 4.

TABLE 4
DISTRIBUTION OF INSTRUCTORS BY BACKGROUND

Site	Server Education Specialists	Academic Instructors	Industry Representatives	Alcohol Safety Proponents
Louisiana	1		2	
Michigan		1		1
Massachusetts	1	1		
Pennsylvania			2	
Texas				3
Iowa				1
Washington	1	1		
Delaware	1			1
Total	4	3	4	6

All instructors were required to (1) sit in on the administration of one class, (2) participate in a review of the program and its instructor guide, (3) administer at least one class observed and critiqued by an experienced instructor from the project staff.

Facilities used for instruction in operational programs would generally be provided by organizations carrying out the instruction. For this program evaluation, arrangements were made through the sponsoring organizations for access to facilities. Such facilities were provided by local government agencies (4), licensed establishments (2), a local university (1), and a beverage distributor (1).

Course Administration

The Program of Responsible Alcohol Service was administered in the sequence of modules described earlier in the report. Because servers greatly outnumbered managers, it took several classes of the server course to yield enough managers to support a class for managers.

One exception to the prescribed program for administration was Texas, where the program was administered in fulfillment of a server education requirement. To meet that requirement, it became necessary to restructure the course somewhat. Specifically, a single 4-hour course for both servers and managers was created from the combination of the server and manager programs. The major change was adding approximately 1 hour of role playing from the manager course to provide intervention experience to both managers and servers.

As noted previously, the pre-test knowledge, attitude, and self-report behavior measures were administered at the beginning of each server/manager class. The post-test knowledge and attitude measures were administered at the conclusion of Module 4. The sequence was followed for both servers and managers, even though the managers returned at a later time for the remaining modules making up the manager course. Since almost all of the knowledge- and attitude-shaping content occurred in the first 4 modules, administration of the corresponding evaluation measures at that time was appropriate. As previously mentioned, the self-report behavior measures – both server practices and management policies – were mailed to participants 4-6 weeks after the program had been concluded.

Class Schedules

In meetings with establishment owners and managers, it became apparent that obtaining a high level of participation demands flexibility. A program must be offered at a number of different times on a number of different days in order to accommodate the staff of any one establishment.

To provide necessary options, classes were scheduled for three different times over several days. The times were 9 a.m. - 12 p.m., 1 p.m. - 4 p.m., 7 p.m. - 10 p.m. Three out of every four classes were for servers and managers (the first three hours) while one out of four were for managers only (the last three hours). Participants could attend any session they wished, subject to the restriction that managers successfully complete the server/manager program before attending the manager program. This schedule was modified slightly for Texas, where a single 4-hour program was administered to both servers and managers. In Texas, the courses were offered at two times: 8 a.m. - 12 p.m., 1 p.m. - 5 p.m.

Advance enrollment was required in order to limit attendance at sessions to a manageable number. Class size was held to no more than 25 in order to accommodate the highly interactive form of instruction that characterizes the program.

RESULTS

The results obtained from the evaluation will be discussed in terms of the three sets of measures employed:

- . Knowledge and attitude measures
- . Behavior self-reports
- . Behavior observations

Knowledge and Attitude Measures

The same measures of knowledge about and attitudes toward those interventions used in the pilot test were administered immediately prior to the course and upon completion of Module 4. The knowledge test consisted of two equivalent measures, administered in a counterbalanced order, while the attitude questionnaire consisted of the same set of opinion items.

Knowledge Measure

Of the 1,079 participants in the program, 899 (83%) completed both pre- and post-knowledge measures. The remainder either arrived too late or were forced to depart too early to complete both measures. Assessment of knowledge gains was confined to those participants taking both measures. The results obtained from administration of the knowledge measures appear in Table 5. The results represent mean number of items correct out of a total of 10 items.

TABLE 5

MEAN PRE- AND POST-PROGRAM KNOWLEDGE TEST SCORES

SITE (Number of Participants)	Pre		Post		diff	t	P
	mean	sd	mean	sd			
Michigan (104)	6.24	1.42	8.23	1.33	1.99	7.24	< .01
Louisiana (120)	6.35	1.53	7.65	1.50	1.30	3.71	< .01
Massachusetts (192)	6.41	1.35	7.93	1.56	1.52	11.30	< .01
Texas (153)	6.33	1.48	7.87	1.71	1.54	9.64	< .01
Pennsylvania (141)	6.29	1.50	7.76	1.63	1.47	9.04	< .01
Delaware (94)	6.96	1.34	8.41	1.36	1.46	7.63	< .01
Iowa (44)	6.75	1.43	7.66	1.48	.91	3.81	< .01
Washington (51)	6.08	1.23	7.47	1.78	1.39	5.49	< .01
TOTAL (899)	6.26	1.72	7.76	1.85	1.50	21.09	< .01

Significant overall knowledge gains were obtained at all sites. With the exception of the two extremes, Iowa and Michigan, the knowledge gains were highly similar across sites. Even with the more extreme States included, the differences in knowledge gain from one State to another were not statistically significant.

The correlation between pre- and post-tests across sites is $r = .29$. While this correlation is statistically significant ($p < .01$), it is rather low and indicates that the amount of information gained differed substantially from one participant to the next.

The fact that pre- and post-tests consisted of different items prevents any pre-post comparisons at the item level. Pre-test results revealed that participants did not know the number of traffic deaths attributable to alcohol each year, the proportion of intoxicated drivers coming from bars, the first driving ability affected by alcohol, or the BAC at which a driver's judgment is affected.

The only items answered incorrectly by more than 30% of the participants on the post-tests were another item dealing with the BAC at which judgment is affected and an item dealing with the protection that dram shop laws actually offer to servers.

Attitude Measure

Of the 1,079 participants, 844 (78%) completed both pre- and post-opinion questionnaires designed to assess attitudes toward intervention. The smaller numbers completing opinion measures (as opposed to the knowledge measures), is due to the exclusion of questionnaires for those participants who failed to answer one or more items, thus making the questionnaires unscorable. (Such unanswered items were simply scored as "incorrect" for knowledge measures.)

Results obtained from administration of the opinion measures appear in Table 6. The scores are based on 10 items in which 1 is the least favorable opinion and 4 is the most favorable.

TABLE 6
MEAN PRE- AND POST-TEST OPINION SCORES

SITE (Number of Participants)	Pre		Post		diff	t	P
	mean	sd	mean	sd			
Michigan (84)	27.1	3.94	29.8	3.70	2.7	7.88	<.01
Louisiana (100)	26.3	4.02	28.8	3.77	2.6	7.31	<.01
Massachusetts (182)	27.6	3.55	29.1	3.22	1.5	6.66	<.01
Texas (153)	27.9	4.21	28.9	3.81	1.0	3.72	<.01
Pennsylvania (139)	27.0	3.64	29.0	3.27	2.0	7.22	<.01
Delaware (89)	27.1	3.31	28.9	3.21	1.8	6.17	<.01
Iowa (43)	26.5	3.52	30.6	2.91	3.7	7.67	<.01
Washington (54)	28.5	4.17	30.5	3.58	2.0	4.72	<.01
TOTAL (844)	27.3	3.83	29.2	3.48	1.9	17.11	<.01

The results show significant shifts in the direction of more favorable attitudes toward responsible alcohol service. The changes were significant in all sites. The differences among sites are somewhat greater than was true in the case of knowledge, with over a three-fold difference between Texas (1.0) and Iowa (3.7). The differences across States are highly significant ($F = 5.4$; $p < .01$).

Since the same opinion items were given in both pre- and post-tests, it is possible to identify the individual issues showing the greatest positive opinion change. These were:

- The effectiveness of offering food as a means of preventing over-drinking;
- The effectiveness of getting patrons involved in activities as a means of slowing down alcohol consumption;

- The importance of servers bearing in mind the possibility that an impaired patron might be involved in an automobile accident;
- The joint responsibility of drinking establishment and patron for any accidents involving the public;
- The validity of suspending an establishment's license as a means of enforcing liquor control laws.

The correlation between pre- and post-measures of opinion across all sites was .61, meaning that shifts in opinion were more uniform across participants than were knowledge gains.

Behavior Self-Reports

Prior to each class, participants were given a questionnaire with which they reported upon their behavior. Servers were asked to report upon their serving practices by indicating the frequency with which they engaged in those practices, e.g., offering coffee, inquiring as to who is driving, terminating service, etc. Managers were given a checklist of alcoholic beverage service policies (e.g., closing hours, availability of snacks, etc.) and indicated whether their establishments employed those policies. Approximately four months later, followup questionnaires were sent to both servers and managers. Again, servers were asked to report on practices while managers reported on policy.

Across all sites, responses were obtained from 54% of the servers and 51% of the managers who had completed pre-tests and were sent follow-up questionnaires. Many of the non-respondents had ceased working at the participating establishments and could not be contacted. In a few cases, servers had been promoted to managers. To have them complete the follow-up form as a server would have given misleading results.

Service Practices

The results for practices reported by servers appear in Table 7. The numbers represent responses to 22 listed practices where 1 is the least responsible response and 4 is the most responsible.

Changes toward more responsible service practices were reported by servers in all sites. The changes were significant except in Iowa, where pre- and post-results were obtained from only 9 servers. The site-to-site differences were small and non-significant ($F = .858, p = .51$). One may reasonably conclude that the program was effective in modifying the self-reported practices of servers. The correlation between pre- and post-reports was .57, indicating that the improvement in serving practices was rather similar from one server to another.

With only a little over half of the participating servers furnishing post-program reports, the representativeness of the results can be questioned. It is possible that those responding to the follow-up survey were more responsive to the effects of the

TABLE 7
MEAN PRE- AND POST- SCORES ON SELF-REPORTS OF PRACTICES BY SERVERS

SITE (Number of Participants)	Pre		Post		diff	t	p
	mean	sd	mean	sd			
Michigan (24)	3.04	.59	3.62	.69	.58	4.09	< .01
Louisiana (66)	2.87	.75	3.31	.72	.44	5.76	< .01
Massachusetts (101)	3.14	.66	3.51	.64	.37	5.76	< .01
Texas (50)	3.06	.81	3.45	.80	.39	3.63	< .01
Pennsylvania (76)	3.28	.59	3.54	.70	.26	3.78	< .01
Delaware (56)	3.01	.54	3.38	.66	.36	5.06	< .01
Iowa (9)	3.39	.55	3.46	.63	.07	.35	.73
Washington (12)	3.63	.64	4.10	.55	.48	3.62	< .01
TOTAL (394)	3.13	.67	3.50	.68	.35	11.90	< .01

program than those who were not heard from. Some insight into the representativeness of the post-program respondents can be gained by comparing their pre-test scores with those of the non-respondents. A comparison showed small and statistically non-significant differences between the respondents and non-respondents ($t = 1.17$, $p = .24$). While this result doesn't prove the representativeness of the responding sample, it certainly supports it. So, too, does the fact that the failure to respond was most often the result of job conditions and not the characteristics of the servers themselves.

Management Policy

The results obtained from the checklist of beverage service policies completed by managers are shown in Table 8. The numbers in the table represent the mean proportion of the listed policies that were adopted by management.

TABLE 8
MEAN PRE- AND POST-SCORES IN SELF-REPORTS OF POLICIES BY MANAGERS

SITE (Number of Managers)	Pre		Post		diff	t	p
	mean	sd	mean	sd			
Michigan (9)	.489	.09	.533	.09	.044	2.53	.04
Louisiana (21)	.538	.12	.576	.13	.038	1.32	.20
Massachusetts (32)	.571	.15	.672	.10	.101	4.09	.01
Texas (13)	.543	.11	.593	.08	.050	1.43	.18
Pennsylvania (21)	.612	.09	.678	.10	.065	3.23	.01
Delaware (6)	.626	.09	.650	.09	.024	1.12	.312
Iowa (4)	.563	.16	.625	.09	.062	.97	.405
Washington (8)	.629	.12	.726	.09	.096	3.55	< .01
TOTALS (114)	.58	.12	.65	.11	.070	6.65	< .01

While changes in a positive direction occurred in all sites and produced a significant overall change ($t=6.65$, $p<.01$), those reported in half of the individual States were not statistically significant. However, since the interaction of pre-post changes within sites was not significant ($F=6.31$; $p=.73$), it would be unwise to emphasize the differences among sites. It would be best to view individual sites as reflecting random fluctuations around a significant overall improvement.

While the sites didn't differ significantly with respect to pre-post changes, significant differences emerged among sites when pre- and post-program data were aggregated. Note that despite the significant improvement in Michigan, "post" scores are lower than the "pre" scores in any other site.

Those managers, completing both pre- and post-measures had significantly more favorable policies than those not responding on the post-test ($t=2.33$, $p<.01$). The implications of this aren't clear. Those who failed to return their post-program questionnaires might be the less responsive managers and would, if tested, have shown even less improvement. On the other hand with more room for improvement, they might have shown a greater change.

Observed Behavior

The single most important form of intervention is the one which is directed toward a patron who is already intoxicated. From a legal standpoint, it is one of two forms of intervention required by law (the other being refusing service to minors). From a traffic safety viewpoint it represents an important means by which the high blood alcohol level associated with fatal automobile crashes can be prevented. Patrons cannot reach high BAC levels if service is terminated once they reach the level legally defined as intoxicated.

Staff "observers" visiting licensed establishments manifested obvious signs of intoxication and recorded the responses of servers. Three to four observations were made in each of the Treatment and Comparison establishments before and after the training program took place. The types of server responses to the observers were, for analytic purposes, divided into the following categories:

No intervention—Servers make no attempt to intervene in the drinking of the observer.

Partial intervention—Servers provide the drink requested, but make some move toward intervention including asking how the observer feels, suggesting an alternative to drinking, or indicating that no further service will be provided after the drink being served.

Full Intervention—Servers refuse to serve an alcoholic beverage to the observer.

Overall Results

The behavior of servers in response to intoxication signs displayed by observers is shown in Table 9.

TABLE 9
PRE-POST CHANGES IN TYPE OF RESPONSE TO OBSERVERS

Intervention Level	Treatment			Comparison		
	Pre (320) ²	Post (331)	Diff	Pre (459)	Post (470)	Diff
None	85.6 %	73.1%	-12.5%	83.4%	82.6%	-0.8%
Partial	9.4 %	19.9%	+ 10.5%	11.3%	13.0%	+ 1.7%
Full	5.0 %	6.9 %	+ 1.9%	5.2%	4.5%	-0.7%

²The numbers in parentheses refer to the numbers of observed responses.

The table shows a clear Treatment effect. Within the establishments participating in the program, the instances in which no intervention occurred ("None") show a drop from 85.6% of the observations to 73.1%, a difference of 12.5%. Meanwhile in the Comparison groups, there was virtually no change.

The greatest change occurred at the level of "Partial" intervention, that is, forms of intervention which attempted to discourage drinking but nevertheless failed to terminate service. Within the Treatment group the instances of partial intervention increased from 9.4% to 19.9%, a change of 10.5%. Again there was virtually no change in the Comparison group. Unfortunately, the instances in which servers actually terminated service showed very little change, only 1.9%. This amounts to six additional terminations of service in over 300 visits. Change within the Comparison group, if any, was downward.

A chi-square test applied to the Treatment group shows the Pre vs. Post results to be significantly different ($X^2 = 16.56$, $p < .01$). The differences were far from significant in the case of the Comparison group ($X^2 = .82$, $p = .66$).

Of the forms of partial intervention the most common was inquiring as to the observer's condition, which accounted for slightly over half of the instances. Offering a non-alcoholic beverage and stating that the drink served was to be the last one each accounted for about a quarter of the partial interventions. Of the three, the one showing the greatest improvement following the program was notifying the observer that the drink being served was the last one.

Individual Site Results

The fact that differences favoring the group receiving the program of responsible alcohol service appeared across the sample in general does not mean that they prevailed at each site. To analyze results for each individual site using the same

breakdowns as shown in Table 9 would produce a table almost impossible to comprehend. An effort to assess statistical significance would require the use of log-linear models and would be extremely complicated.

To simplify both the presentation and analysis, the data were transformed from categorical to parametric form by assigning numerical values to each of the intervention levels as follows:

- No intervention = 0
- Partial intervention = 1
- Full intervention = 2

Analysis of this "Intervention Level" by individual sites appears in Table 10.

TABLE 10
PRE-POST CHANGES IN LEVEL OF RESPONSE TO OBSERVERS

SITE (Number of Establishments)	Pre		Post		diff	F	p
	mean	sd	mean	sd			
Michigan							
Treatment (16)	.14	.35	.30	.54	.16	4.16	.05
Comparison (34)	.15	.38	.13	.34	-.02	.40	.53
Louisiana							
Treatment (16)	.09	.29	.10	.31	.01	.04	.84
Comparison (31)	.08	.27	.15	.36	.07	2.76	.10
Massachusetts							
Treatment (14)	.10	.30	.07	.35	-.03	.12	.37
Comparison (14)	.12	.45	.08	.35	-.04	.12	.73
Texas							
Treatment (14)	.35	.60	.70	.64	.35	6.18	.02
Comparison (13)	.49	.68	.48	.64	-.01	.02	.88
Pennsylvania							
Treatment (15)	.13	.51	.04	.21	-.09	2.33	.13
Comparison (15)	.12	.39	.07	.33	-.05	.47	.50
Delaware							
Treatment (10)	.45	.77	.74	.86	.29	1.89	.18
Comparison (15)	.73	.92	.79	.94	.06	.05	.83
Iowa							
Treatment (8)	.43	.81	.56	.64	.13	1.27	.27
Comparison (6)	.38	.77	.44	.62	.06	.00	.99
Washington							
Treatment (7)	.13	.49	.55	.81	.32	7.11	.01
Comparison (10)	.17	.38	.03	.17	-.14	5.13	.03
TOTAL							
Treatment (100)	.19	.51	.34	.60	.15	10.42	.01
Comparison (138)	.22	.53	.22	.51	.00	.01	.97

Changes in Intervention

We can see a significant increase in intervention within the Treatment group, from .19 to .34 for a total increase of .15. The difference is highly significant, as tested by an analysis of variance ($F = 10.42$; $p < .01$). Meanwhile, no difference materialized within the Comparison group ($F = .01$; $p = .97$). The significance of the difference between effects in Treatment sites and those in the Comparison sites is established by a significant GROUP (Treatment vs. Comparison) by TIME (Pre vs. Post) interaction ($F = 6.70$; $p = .01$).

Underlying the overall differences in favor of the Treatment group are rather sizeable differences among the individual sites. Rather substantial gains in intervention were found in Michigan, Texas, Delaware, Iowa, and Washington. No increases were found in Louisiana, Massachusetts, and Pennsylvania. That these site-to-site differences in program effects are real is demonstrated by a significant TIME by SITE interaction within the Treatment group ($F = 2.41$; $p = .02$).

While the pre-post differences in Delaware and Iowa were not themselves statistically significant, the numbers of establishments and therefore numbers of observations in each of these two sites was rather small. The differences would have had to have been inordinantly large to achieve statistical significance. The fact that the site-to-site differences in program effects are themselves significant, allows confidence to be placed in the collective findings observed at the five sites showing improvement even though some of the changes are not significant when the sites are taken individually.

Turning from the Treatment to Comparison group, Table 10 shows the latter to have experienced absolutely no change in observed intervention. Nor did the Comparison group show improvement in any of the five sites where the Treatment group improved. The only significant change occurring within the Comparison population was a significant decline in intervention at the Comparison sites in Washington. This was the one site where conditions made it necessary for observations at Comparison sites to lag somewhat behind those at Treatment sites. The apparent decline in intervention could be a function of this occurrence or could be a chance fluctuation. In any case, it would appear that the gains in intervention observed at Treatment sites were not the result of factors extraneous to the program being evaluated, such as some general, community-wide trend.

Prevailing Intervention Levels

The site-to-site differences in program effects were superimposed on fairly large and statistically significant site differences in prevailing level of intervention, differences found when data obtained prior to and following the program were aggregated ($F = 35.61$, $p < .01$). That these differences remained quite stable over time despite the program intervention, is evidenced in a negligible interaction between SITE and TIME ($F = 1.27$, $p = .26$). There appears to be some relationship between prevailing level of intervention and degree of improvement in that the five sites responsible for the significant rise in intervention also had the highest pre-program

intervention levels. This example of the "rich get richer" phenomenon is not unusual in safety programs, where those who appear safest to begin with seem to gain the most from any program. The correlations were run between the level of intervention within an establishment and the average scores on knowledge, attitude, practices, and policy measures. The correlations were all less than .10 and none were statistically significant. Also non-significant were correlations between pre-post changes in intervention level and pre-post changes in knowledge, attitude, practices, and policy. Day-of-week also proved to be unrelated to level of intervention ($F = 1.94, p = .07$).

Clientele

It is reasonable to think that different types of establishments will exhibit different levels of responsibility in their service of alcohol. The various individual establishments visited by the observers, both Treatment and Comparison, were classified by the type of clientele they served as follows:

Upscale – Expensive, catering to an affluent clientele.

Yuppie – Somewhat less expensive and serving a younger, prosperous crowd.

General – Serving everyone, but primarily a middle class clientele.

College – A hangout for college students and under-25 youth in general.

Blue Collar – Inexpensive neighborhood tavern, serving primarily a lower and middle class crowd.

Clientele and Level of Intervention

Table 11 provides a breakdown of interventions by type of clientele.

TABLE 11
TYPE OF RESPONSE TO OBSERVERS BY NATURE OF CLIENTELE

Clientele	Pre-program Intervention				Post-program Intervention			
	Observations	No (%)	Partial (%)	Full (%)	Observations	No (%)	Partial (%)	Full (%)
General	151	82.1%	10.6%	7.3%	153	68.0%	22.9%	9.2%
Blue Collar	189	81.0%	10.1%	9.0%	187	84.5%	8.0%	7.5%
College	115	89.6%	3.5%	7.0%	119	87.4%	6.7%	5.9%
Upscale	166	88.0%	12.0%	0.0%	179	85.5%	13.4%	1.1%
Yuppie	150	82.7%	14.7%	2.7%	152	70.4%	26.3%	3.3%

The two biggest pre-post changes that occurred involved partial intervention in the General establishments, which rose from 10.6% to 22.9% of the observations, and in the Yuppie establishments which rose from 14.7% to 26.3%. As was noted earlier, it was partial intervention that accounted for almost all of the change in intervention

produced by the program being evaluated. It is now evident that most of this change occurred in establishments serving clientele representing the middle of the socioeconomic scale. While the "Upscale" establishments also evidenced a relatively high level of partial intervention, they were not apparently affected by participation in the program.

The differences in prevailing intervention levels among the five categories of establishments are significant for the Pre-period ($F = 6.34, p < .01$) and the Post-period ($F = 2.52, p < .04$). The only consistent differences are between the Upscale and College establishments, on the one hand, and General, Blue Collar and Yuppie on the other hand, with the former group consistently having the lowest levels of intervention. Other consistent findings were the following:

- Yuppie establishments evidenced the highest degree of partial intervention and very few instances of full intervention (i.e. termination of service).
- Upscale establishments showed relatively high levels of partial intervention and almost no instances of full intervention (2 terminations of service in 345 observations).
- College hangouts were third highest in terminations of service, but lowest of all in partial intervention.
- The General and Blue Collar establishments had a relatively high incidence of both partial and full intervention.
- While the various sites differed significantly from another with respect to type of establishments ($\chi^2 = 432.0, p < .01$), these differences were not such as to account for site differences in either the prevailing of intervention or pre-post intervention changes.

Clientele and Pre-Post Changes

The mean pre-program and post-program intervention levels for the five categories of establishments are shown in Table 12.

TABLE 12
PRE-POST CHANGES IN LEVEL OF RESPONSE TO OBSERVERS BY TYPE OF CLIENTELE

Clientele	Pre-program		Post-program		Diff
	Mean	SD	Mean	SD	
General	.25	.58	.41	.65	.16
Blue Collar	.28	.62	.23	.57	-.05
College	.17	.53	.18	.52	.01
Upscale	.12	.33	.16	.39	.04
Yuppie	.20	.46	.33	.54	.13

While the various types of establishments differed from one another somewhat in the degree of change between pre- and post-observations, interaction of change with clientele was small and statistically non-significant ($F = 1.91, p = .31$). For that reason, no significance tests for individual types of clientele were run.

Clientele and Site Differences

To what extent does the relationship between intervention and clientele help explain the site-to-site differences in both prevailing level of pre-post intervention and pre-post changes? To answer this question the breakdown of establishments by clientele was examined across sites. To study the relationship between clientele and level of intervention, sites were rank ordered in terms of (1) the percent of establishments serving a moderately affluent clientele (Yuppie and General) and (2) the mean level of pre-program intervention. The rank order correlation was .77, indicating a strong positive relationship between the two. The more Yuppie/General establishments at the site, the more intervention occurred. With only eight sites being ranked, chance correlations are relatively high. However, the correlation of .77 is significant at a .05 level of confidence.

A similar correlation was run between clientele and the mean pre-post gain across the eight sites. While a moderate correlation was found ($r = .55$), it was not statistically significant ($p > .05$). However, it is worth noting that two of the three states showing no gain in intervention, Massachusetts and Louisiana, had the smallest number of establishments falling into the "moderately affluent" category—14% and 19% respectively against a mean of 60% for the remaining sites.

While clientele did not appear to influence overall pre-post changes, it might have contributed to some extent to site differences in program effects.

Level of Participation

The percent of an establishment's employees participating in the program varied considerably from one establishment to another. What determined the level of response in any one establishment cannot be ascertained from the data available. Attempts to recruit participants were made through the establishments rather than being directed towards the prospective participants themselves. As noted earlier, establishments sending 80% or more of their servers and managers to the program were eligible for a certificate signed by a local official. In some instances, employers let servers attend on company time. In others, employees were strongly encouraged to attend but did so on their own time.

One might expect some relationship between an establishment's level of participation and increases in intervention occurring within the establishment. For any establishment, the greater the percent of employees participating, the more likely it is that the server responding to the observer will have been a participant. However the correlation between the percent of an establishment's employees participating and change in its level of intervention was essentially zero ($r = -.05$).

While there is no relationship between participation and change within individual establishments, it is still possible that the sites showing the largest program effects would have the highest level of participation. The level of participation by site is shown in Table 13.

**TABLE 13
PERCENT PARTICIPATION BY SITE**

Site	Number Of Establishments	Mean Percent	SD%
Michigan	16	51.6	33.4
Louisiana	16	68.5	40.2
Massachusetts	14	58.2	27.6
Texas	14	68.9	30.6
Pennsylvania	14	58.0	19.1
Delaware	10	67.5	11.2
Iowa	8	86.1	19.6
Washington	7	47.6	14.4

Rather large site-to-site differences appear in the average percent of participation by establishments. The highest level of participation was found in Iowa, with an average of 86.1% and the lowest was Washington with 47.6%. However, the five sites that showed an increase in level of intervention do not show consistently higher participation percentages than the three States showing no increase in intervention. Overall, the States in which the program appeared to have an effect averaged 64.3% participation while those in which it did not have an effect averaged 61.6% participation.

For curiosity sake, participation level was also studied in relation to clientele. The differences between types of establishments with respect to participation level were small and statistically non-significant.

In short, the extent of an establishment's participation in the Treatment program does not appear to relate to the level of intervention occurring within the establishment and therefore cannot explain differences in site or type of clientele with respect to changes in intervention.

Patron Intoxication

The responses of servers to actual patrons was rejected as the primary criterion of program effectiveness owing to the large investment in time required to observe relatively small numbers of intoxicated patrons and difficulty in recognizing all but the most obvious instances of intoxicated behavior. However, during the approximately 20 minutes that observers spent in an establishment, they had an opportunity to witness the presence of intoxicated patrons and to observe the servers' responses to those patrons.

During the 1,580 visits to establishments by staff observers, 334 intoxicated patrons were observed. Responses of servers to the patrons was categorized in the same manner as was their responses to the observers who feigned intoxication. Analysis of server intervention in the drinking of actual patrons is shown in Table 14.

TABLE 14
PRE-POST CHANGES IN TYPE OF RESPONSE TO INTOXICATED PATRON

Intervention Level	Treatment			Comparison		
	Pre (77)	Post (65)	Diff	Pre (110)	Post (82)	Diff
None	97.4%	90.8%	-6.6%	94.5%	95.1%	.6%
Partial	2.6%	6.1%	3.5%	5.5%	4.9%	-.6%
Full	0.0%	3.1%	3.1%	0.0%	0.0%	0.0%

The table appears to show a slight increase in intervention by servers in the Treatment group but not by those in the Comparison group. However, with the relatively small numbers involved, percentages can be misleading. The number of interventions within the Treatment group rose from two to six, while within the Comparison group they dropped from six to four. Chi-square tests showed the changes in intervention to be non-significant both within the Treatment group ($X^2 = 5.94$, $p = .120$) and within the Comparison ($X^2 = .14$, $p = .94$).

The categorical data shown in Table 14 were transformed to the parametric *intervention level* in the manner described earlier, assigning "zero", "one", and "two" to the three levels of intervention, thus allowing both the frequency and magnitude of intervention to be considered. Within the Treatment group, the mean intervention level rose from .03 before the program to .22 after the program, while within the Comparison group it remained at .07 during both periods of time. An analysis of variance within the Treatment group showed improvement to be statistically significant ($F = 4.27$, $p = .04$). Changes within the Comparison group over the same time were non-significant ($F = .87$, $p = .35$).

The individual sites differed with respect to program effects, as shown by a significant interaction between program effects and site within the Treatment group ($F = 2.35$, $p = .04$). However, those must also be viewed skeptically given the extremely small numbers involved in individual sites. At three of the sites—Michigan, Louisiana, and Delaware—no intervention occurred at all. However, each of the sites at which there was an increase in intervention level—Iowa, Washington, and Texas—was also among those showing significant increases in intervention with the observers.

As was true in responses to feigned observer intoxication, partial intervention largely involved inquiries as to the patron's condition, which accounted for 12 of the 16 instances of partial observation. Announcing that the drink being served was the last

one; accounted for three of the interventions and offering a non-alcoholic beverage one intervention.

Volume of Business

It is reasonable to think that the volume of business at the time of an observation might have an effect upon the ability and willingness of servers to intervene with intoxicated patrons. Observers recorded the level of business during each visit, using the following categories:

Light – very few people in the place, lots of empty tables and/or stools.

Moderate – place is fairly full, few empty tables or stools.

Heavy – place is full, standing room only.

Response to Observers

The average level of intervention by servers with observers, broken down by business volume is shown in Table 15.

TABLE 15
LEVEL OF RESPONSE TO OBSERVERS BY VOLUME OF BUSINESS

Business Volume (Number Of Observations)	Mean	SD
Light (707)	.218	.519
Moderate (592)	.287	.581
Heavy (281)	.189	.474

The differences in intervention level across the three business volumes are statistically significant ($F = 4.19, p = .02$). The relationship is a curvilinear one, with the highest level of intervention occurring at medium business volumes. There's no ready explanation for this finding. Frankly, we anticipated a linear inverse relationship between the two variables, with the highest level of intervention occurring when business was light and the lowest occurring when establishments were crowded. Why such a low rate of intervention should have occurred when there was no business and servers presumably had ample time to deal with the observer is hard to understand.

While intervention varied with business level, there was no relationship between business volume and the effects of the program. The third order interaction of BUSINESS with the GROUP by TIME interaction was extremely small ($F = .26, p = .77$).

Response to Patrons

An analysis similar to that shown in Table 15 was performed on server responses to intoxicated patrons. With the smaller number of cases involved, the relationship between business volume and intervention with intoxicated patrons did not even approach statistical significance ($F = .51, p = .60$). While business volume was not shown to be related to the level of intervention with intoxicated patrons, it was strongly related to the number of intoxicated patrons found, as may be seen in Table 16.

TABLE 16
NUMBER OF INTOXICATED PATRONS OBSERVED, BY VOLUME OF BUSINESS

Business Volume (Number Of Observations)	Mean	SD
Light (588)	.44	1.56
Moderate (487)	1.17	2.82
Heavy (219)	3.13	5.56

A strong linear relationship between the volume of business and the number of intoxicated patrons observed is evident and is highly significant ($F = 62.42, p < .01$). Such a relationship is to be expected; the more patrons there are, the greater the likelihood that one or more of them is intoxicated.

The sevenfold difference between light and heavy business volumes with respect to the number of intoxicated patrons observed may exceed what can be accounted for by differences in the sheer numbers of patrons. There's no way of knowing since it was not feasible to ask the observers to "count the house" while waiting to see if they were going to be served. However, it is not implausible that the times and conditions characterizing heavy business volumes might also be associated with higher levels of *per capita* drinking, with the result that increases in intoxication exceed increases in numbers of patrons.

Site Difference

There were fairly substantial site-to-site differences in level of business. To determine the extent to which these differences could account for differences in prevailing intervention level and pre-post intervention changes, an analysis was performed similar to that carried out with respect to clientele. In each site, the percent of observations taking place at "moderate" business levels as opposed to "light" and "heavy", was ascertained, and the sites rank ordered on the basis of this percentage. Sites were also rank ordered in terms of prevailing intervention level. The correlation between two variables was .79, indicating a significant positive relationship ($p < .05$). Those sites characterized by moderate business volumes had the highest levels of intervention.

A rank order correlation was also calculated between business level and pre-post changes in intervention and found to be .74 ($p < .05$). The sites having the largest number of observations during moderate business volumes also had the greatest gains in intervention. It is noteworthy that the three sites with the smallest percent of observation taking place at moderate business volumes were the three showing no significant pre-post change in intervention (Louisiana, Massachusetts, and Pennsylvania).

The results show that both clientele and business volume are related to intervention level and are a probable contributor to the differences among sites with respect to prevailing level of intervention. While neither of these two variables was found to be related to overall pre-post intervention changes, it is still possible that they are related to differences among sites with respect to pre-post changes. These variables themselves may not be responsible for the site differences but may be a reflection of other variables that directly influence the effects of the server education program and which differ from one site to another.

All that can be said is that volume of business and type of clientele are contributors to intervention and may possible contribute to the differences among sites with respect to the effects of the server education program.

All that can be said is that volume of business and type of clientele are contributors to intervention and responsiveness to the server education program and, therefore, contributors to the differences among sites with respect to these two variables.

Type of Service

Two types of service were provided: table service and bar service. On half of their visits observers were assigned to seek table service and on the other half bar service. However, when the assigned form of service was not available, they were to accept the other. As it turned out, table service was much less available than bar service with the result that almost three quarters of the observations (74.4%) were made at the bar.

The two types of service produced different mean levels of intervention, .30 for table service and .22 for bar service. The differences were statistically significant ($F = 3.48$; $p = .03$). The differences are not surprising. Table service generally involves a somewhat more server-patron interaction and somewhat better opportunity for servers to study the patron than does service at the bar. While differences between the two types of service are of interest, they do not help explain the pre-post changes in intervention since the type of service provided remain relatively constant over time.

The thought arose that the differences in intervention from one type of clientele to another discussed earlier might be a function of type of service. Analysis of type of service by clientele did show the two to be significantly related ($\text{chi-square} = 50.76$, $p < .01$). As might be expected, table service was most frequent at Yuppie and Upscale establishments and least frequent at College and Blue Collar establishments.

However, type of service can't account for differences among clientele in either prevailing level of intervention or pre-post intervention changes since Upscale and Yuppie establishments were very similar with respect to type of service and yet very different with respect to intervention.

DISCUSSION

The Program of Responsible Alcohol Service, as tested in eight rather diverse locales, led to significant overall changes in knowledge of, attitude toward, and practices and policies involving responsible alcohol service. Changes were also observed in the responses of servers to feigned intoxication by staff observers as well as true intoxication of patrons.

Of the various measures used to evaluate the program, intervention in the drinking of intoxicated patrons is the most important to the safety to the public. While any amount of alcohol in the bloodstream impairs driving, it is at the level legally defined as intoxication that the chances of crash involvement begin a steep rise.

One of the more disquieting aspects of the result is the significant differences occurring among sites in the apparent effects of the program upon intervention with intoxicated patrons. In three of the sites—Louisiana, Massachusetts, and Pennsylvania—the program failed to have any discernible effect upon the responses of servers to the signs of intoxication as displayed by observers. Equally disappointing is the low frequency of intervention even where the program appeared to be effective. Action was taken only about a quarter of the time, and service was terminated less than 10% of the time.

Program Effects

Aspects of intervention that may help account for the differences among sites include the legal climate, the instruction provided, and server characteristics.

Legal Climate

During the initial phases of the study, after data were collected from Louisiana and Michigan, the legal climate was thought to be an influencing factor. Michigan, where the program seemed to work had a strong statutory dram shop law while Louisiana, where it didn't seem to work, had only common law precedent. However, the final results are not consistent with the initial explanation. Pennsylvania, which evidenced a low prevailing level of intervention and no changes as a result of the program, has a dram shop law not unlike that in Michigan. Delaware, which evidenced a high level of intervention and an increase following administration of the program, has no dram shop law at all.

The lack of any relationship between the effects of the program and the strength of dram shop laws doesn't necessarily mean the laws are unimportant. For laws to have an influence on intervention, servers and managers must be aware of them and

their implications. Unfortunately, as will be noted in the next section, instructors did not always use the law to best advantage in encouraging intervention. Nevertheless, if the results in each site are not totally in contradiction with the legal climate, neither are they explained by it. While the laws covering the sale of alcohol probably have great potential in influencing the behavior of servers and managers, that potential was not evident in the present study.

Instruction

Steps taken to help assure the quality of instruction included (1) making extensive use of systematically designed and pre-tested videos to present course content, (2) requiring all instructors to participate in an instructor-preparation program and monitoring their teaching of the first class, and (3) seeing that instructors were appropriately compensated for their services. The differences in degree of observed server intervention cannot be easily attributed to differences in the quality of instruction. It was clear from monitored classes that all of the instructors had prepared well, knew their subject matter, and were able to carry out the interactive form of instruction called for in the program.

While the instructors taught well, there were differences in the way they taught that could have affected the outcome. Specifically, instructors recruited from within the hospitality industry tended to be somewhat less zealous in exploiting the idea of third party liability to encourage intervention than did other instructors. One of the barriers to be overcome in fostering intervention is the feeling of many owners, managers, and servers that they are "victims" of an effort to hold them financially liable for damages caused by intoxicated patrons. Their resentment over this issue often prevents acceptance of a legal and moral obligation to intervene.

Those instructors who were owners or managers of establishments often reflected the same "victim" viewpoint themselves. It was difficult for them to get their students to accept the idea of shared liability with intoxicated patrons if they didn't accept it themselves. This may help to explain why the two sites in which the program was given by industry representatives—Louisiana and Pennsylvania—were among the three failing to show a significant change in intervention. To attribute the lack of change totally to instruction would be risky. However, it is a possible contributor to the outcome.

The lack of any change in intervention in Massachusetts cannot be attributed to the instruction since the same instructor taught most of the courses in Washington, where a substantial change in intervention took place.

Establishment Characteristics

It is possible that the source of the site-to-site differences lies not so much in the characteristics of the sites themselves but rather in the characteristics of the establishments making up the sample in each site. Two variables showing a strong relationship to the prevailing level of intervention were the type of establishment, as

represented by the clientele it serves, and the level of business at the time visits were made. While neither of these variables was directly related to pre-post changes in intervention, they appear to be related to site-to-site differences in such changes.

What is unknown is whether these variables have a direct effect upon intervention or whether they are simply correlates of other variables that are actually affecting level of intervention and program effects. Could it be, for example, that the types of establishments that attract a moderately affluent clientele and are characterized by moderate levels of business tend to employ servers and/or managers who are unusually responsive to intoxicated patrons? To answer this question, one would have had to gather a great deal more information about the characteristics of servers, managers, the establishments in which they work, and the environment in which the establishments are located. It is an appropriate subject for another study.

All that can be said at the present time is that there are significant differences among groups of servers and managers in their willingness to intervene in the drinking of intoxicated patrons and in their responsiveness to a course that seeks their intervention. Some evidence to this effect may be found in the fact that the five sites showing a significant increase in intervention were the ones having the highest levels of intervention to begin with. These differences appear to relate in part to characteristics of the establishments in which they work—the type of clientele served and the level of business.

Incentives and Disincentives

Perhaps of greater concern than the question of why three sites failed to evidence a significant change in intervention following instruction would be the question of why so little intervention occurred at all. Even among the establishments whose servers and managers received instruction, observers were served without question almost three quarters of the time (73.1%). Only 6.9% of the time were they refused a drink. Any concern that lack of intervention might be due to the observers not looking "intoxicated" would be allayed by one glimpse of the video tapes taken during training. The cues of intoxication manifested by observers were blatant and obvious. If any of the servers suspected that intoxication signs were feigned, no mention of it was made during training (at which point half of the observations had been made).

Incentives, Disincentives and Intervention

If one examines the incentives and disincentives in the service of alcohol, one has to be impressed by the imbalance. The disincentives include a confrontation with a patron, possible loss of a gratuity, and having a problem brought to management's attention. The only incentive to intervene is reducing what is already an extremely small chance of injury or loss to some innocent person. It is easy to see why the dilemma is so often resolved in favor of continued service.

The results should not be a surprise to anyone who has worked in the field of safety and health, where programs are typically required to play a host of immediate

disincentives off against some remote incentive. Very few education programs have brought about substantial gains in safety and health without modification of incentives.

Management Incentives

Management is in the best position to manipulate incentives for servers. A policy of rewarding servers who report intoxicated patrons through individual recognition, guaranteed gratuities, and so on would provide immediate incentives to intervene, as would a policy of immediately terminating the employment of those who serve alcohol to an intoxicated patron. It is likely that one of the principal reasons for the success of the intervention program described by Saltz is that change took place primarily at the level of policy. Unfortunately, changes in policy are a bit more difficult to achieve among competitive businesses than within the military structure with which Saltz dealt.

The trick is to find incentives to encourage management to put the necessary policies into effect. Up to the present time, the incentives have been primarily legal: liquor control laws providing financial penalties and loss of license for serving intoxicated patrons and dram shop laws which allow third parties to recover damages caused by illegally served patrons.

The law can certainly be an effective motivator, as evidenced by the marked increase in safety belt use following passage of belt use laws. Unfortunately, while the law within almost every jurisdiction prohibits service of alcohol to visibly intoxicated patrons, there is almost no enforcement of the law. Visible intoxication is difficult to prove. About the only time the issue arises in court is in a suit for damages caused by an intoxicated patron. The prospect of a lawsuit is perhaps too remote to provide a disincentive to illegal alcohol service, a speculation supported by the failure to observe any relationship between dram shop law and intervention among the eight states in which the evaluation was carried out.

Insurance

Insurance is an important part of the incentive picture. It can actually lessen the role of dram shop litigation as a disincentive to irresponsible service by protecting establishments from any loss resulting from a law suit. However, a number of the companies carrying liability policies for licensed establishments have begun including the responsibility of an establishment's alcohol service among the considerations that figure in the issuance of a policy and the setting of premiums.

Insurance can be handled in such a way as to provide a strong incentive for responsible alcohol service. However, to function in this manner, it must be tied to steps that truly reduce an establishment's exposure to liability. Such steps would include written policies governing various aspects of alcohol sales and the procedures taken to assure their compliance, along with proof that the policies and procedures are being enforced. Simply encouraging or requiring employee participation in server education programs will not benefit the employer, the insurance carrier, or the public.

Preventing Intoxication

The discussion of intervention has thus far focused almost exclusively upon preventing further service to intoxicated patrons. This form of intervention is most critical to the welfare of the public and has produced the most equivocal, discussable outcome in the present study. The forms of intervention that attempt to prevent intoxication are also important. Generally speaking, there is no way of dealing with a problem that is quite as good as preventing the problem from arising in the first place.

The program's encouragement to offer alternatives to alcohol, to slow down service to patrons nearing intoxication, to discourage service of high-alcohol drinks, to provide snacks, and the various other attempts to control the consumption of alcohol all seem to borne fruit. While our only evidence of change comes from the reports of servers and managers, the manner in which behavior was reported made it very difficult to report change where it did not occur.

What effect these preventive steps ultimately had upon behavior of patrons cannot be ascertained. The measures of alcohol consumption and patron BAC employed in the Saltz (1987) and Russ and Geller (1986) studies could not be employed in this study, where the patrons came from the drinking public at large. All that can be said is that, when it comes to preventing intoxication, the program appears to have fulfilled the behavioral objectives it set for its participants. What long term impact this has upon patron drinking, intoxication and injury accidents will have to be addressed by another study.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The following conclusions can be offered concerning the Program of Responsible Alcohol Service.

1. The program is capable of being effectively administered by individuals having a wide range of backgrounds and who are not necessarily highly experienced in teaching server education programs.
2. The program is capable of bringing about significant improvement in knowledge of, attitudes toward and self-reported behavior involving responsible alcohol service.
3. The program is also capable of bring about significant increases in intervention with intoxicated patrons, as revealed in the responses of servers and managers to signs of intoxication as displayed by both staff observers and actual patrons.
4. The effects of the program upon observed intervention differ significantly from one site to another, producing significant increases in intervention at some sites and not at others.
5. The principal form of intervention observed, and the primary source of the observed increases in intervention, involves inquiries as to the intoxicated patron's condition, offers of alternative beverages, and declarations that no more drinks will be served. Terminating service to an intoxicated patron occurs infrequently and shows little change as a result of the program.
6. Significant differences in intervention are found among establishments serving various types of clientele, with those serving a clientele representing mid-range socioeconomic levels showing both high prevailing intervention and the greatest change in intervention following the program.
7. The level of intervention is significantly related to volume of business, with the highest levels of intervention occurring at moderate business volumes. The effects of the program do not differ significantly as a function of business volume.
8. While the level of employee participation varies widely from one establishment to another, level of participation is not related to the effects of the program.
9. Significantly more instances of intervention occur when service was provided at tables than when it was provided at the bar. This variable is not, however, in any way related to the effects of the program.
10. Differences in clientele and business volume appear to contribute to site differences in prevailing level of intervention.

RECOMMENDATIONS

On the basis of the stated conclusions, it is recommended that:

1. Communities be encouraged to implement server education programs as a means of fostering responsible service of alcohol.
2. The Program of Responsible Alcohol Service be made available to organizations seeking to institute server education programs.
3. Prospective users of server education programs be advised that such programs will have little effect in curtailing the service of alcohol to intoxicated patrons without some means of inducing management to institute the policies needed to assure that servers will employ the practice taught.
4. Research be instituted to study the antecedents of effective intervention in order to identify suitable incentives including both financial incentives (e.g., insurance premium reductions) and regulatory or legislative incentives.

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INSTRUCTIONAL OBJECTIVES

PERFORMANCE OBJECTIVES

Servers and managers will:

1. Participate actively in server education.
2. Apply the results of server education to achieving responsible alcohol service in their establishments.
3. Prevent patrons from becoming intoxicated by regulating service of alcohol and encouraging alternatives to drinking.
4. Terminate service to intoxicated patrons.
5. Prevent intoxicated patrons from driving.
6. Prevent intoxicated patrons from injuring themselves or others.

Managers will:

1. Support programs of responsible alcohol service.
2. Develop effective strategies for intervening in their patrons' drinking and driving.
3. Provide transportation to intoxicated patrons.
4. Institute practices for responsible serving of alcohol, including checking I.D.s establishing hours of service and intervening in drinking and driving.
5. Establish responsible marketing practices, including promoting food and non-alcoholic beverages, activities that discourage excessive drinking, and not promoting those that encourage excessive drinking.
6. Institute personnel management practices to foster responsible alcohol service, including supervision of servers and supporting server intervention.

KNOWLEDGE OBJECTIVES

Servers and managers will know the following in addition to knowing procedures for meeting performance objectives:

1. The importance of responsible alcohol service to the welfare of the public as well as to servers, managers and owners in establishments serving alcohol.
2. What constitutes a program of responsible alcohol service.
3. The nature and magnitude of highway accidents and injuries resulting from drinking and driving.
4. State and local laws relating to the service of alcohol.
5. Employer policy concerning the service of alcohol.
6. The liability of drinking establishments for injuries and property damage resulting from risks to intoxicated patrons.
7. The importance of early server intervention in preventing patrons from overdrinking.
8. Methods for slowing alcohol service to customers who are showing signs of overdrinking.
9. Methods of getting patrons to accept alternatives to alcohol, including non-alcoholic beverages, food, and participation in activities.
10. The importance of leaving the initiative in the purchase of alcoholic beverages entirely to patrons (i.e., not pushing drinks).
11. Techniques for terminating service to patrons.
12. Techniques for deterring intoxicated patrons from driving.
13. The legal and moral responsibilities to prevent patrons from becoming intoxicated, and to prevent intoxicated patrons from driving.
14. Transportation and accommodations available to intoxicated patrons.

ATTITUDE OBJECTIVES

Servers and managers will believe that:

1. Servers, managers and owners have an obligation to provide responsible alcohol service.
2. Active participation in a training program is an important step in achieving responsible alcohol service.
3. Drinking and driving accidents are serious but preventable.
4. Intoxication can seriously degrade the ability to drive a vehicle safely.
5. Server/Managers and drinking establishments have a moral and professional responsibility to keep patrons from becoming intoxicated and prevent intoxicated patrons from attempting to drive.
6. Drinking establishments face severe financial loss, possible ruin, from serving intoxicated patrons.
7. Responsible alcohol service is not deleterious to good customer relations, and can actually enhance it.
8. Servers are responsible for seeing to it that patrons do not become intoxicated through their service of alcohol.
9. It is possible to intervene in drinking to prevent intoxication without antagonizing patrons or risking the loss of tips.
10. The earlier the servers intervene, the more successful will be the intervention.
11. They have the moral and legal obligation to terminate service to intoxicated patrons and to prevent intoxicated patrons from attempting to drive.
12. Their efforts to intervene in the drinking and driving of patrons will be successful.
13. Intoxicated patrons will resist attempts to terminate service and to prevent them from driving.
14. Intervention in the drinking and driving of intoxicated patrons is a sign of "professionalism" in management of alcohol services.

SKILL OBJECTIVES

Managers and servers will possess the decision making skills needed to select intervention techniques appropriate to any drinking situation.

Managers will possess the social skills needed to terminate service to intoxicated patrons and to prevent intoxicated patrons from driving.

PARTICIPANT COMMENTS

GENERAL COMMENTS

A number of general comments concerned characteristics of the audiovisual presentation that related to the slide-cassette form used in the pilot test (e.g., the inability to show signs of intoxication that involved motion). Despite explanations that the slide-cassette version would be replaced by a video, many participants directed their comments at the slides.

The one general comment that revealed a true deficiency in the program concerned the manner in which information was presented. The initial audiovisual presentations were confined to sets of scenes in which various aspects of responsible alcohol service were portrayed. This was to be followed by an instructor-led discussion about what was observed and the implications for responsible alcohol service. The discussion was intended both to, (1) communicate, through a process of discovery, information about responsible alcohol service and (2) help participants to work out strategies achieving responsible alcohol service. The approach fell short in several ways:

1. Separating the presentation of information from the illustrative scenes was awkward and made the information presentation unnecessarily dull.
2. Leading participants to the "discovery" of responsible alcohol service strategies through discussion required too much time, causing participants to become impatient and limiting the amount of material that could be handled within the amount of time available.
3. Having the information presentation handled by instructors demanded alcohol knowledge and teaching skills that might not always be available, thus inhibiting wide-scale implementation of the program.

After the first pilot test, the program was revised to incorporate the communication of information into the audiovisual presentation. As an interim step, a presentation consisting of text slides and a narrative audiotape were merely added after the scenes for each module. The second workshop was conducted using this format. By the third workshop, the information presentation had been integrated into the scenes, with text information being superimposed upon slides of the scenes. This integration of information and illustration was well received by participants.

The remaining comments will deal with individual modules.

Module I: Awareness

The first module appeared to fulfill its primary objective: introducing the program to its participants. The secondary objective—getting owners interested in sponsoring the program—could not be tested due to the absence of any conclave of owners at which the presentation could be shown.

The biggest problem with the module lay in the discussion that followed the AV presentation. In its original form, the discussion allowed participants to air their views on the various issues raised during the presentation. Discussion evoked during the first pilot consumed approximately two hours, and could have taken even longer. In order to avoid lengthy discussion, most of which was more appropriate to other modules, the format was changed to encourage participants to voice their concerns but not to engage in a discussion of them.

At first glance, a discussion in which issues are raised and not resolved might seem less than fulfilling. However, it succeeded very well in (1) "breaking the ice" for discussions, (2) helping to generate interest in the program, and (3) raising points that could be used by the instructor to initiate discussion in later modules. The revised module ended with assurance that each of the issues raised would be discussed and an invitation to participants to raise the issue again at the end of the meeting if the issue had not been fully discussed.

Module II: Need

The second module, "The Need for Responsible Alcohol Service," benefited more from the pilot test than did any other module. The objective of the module was to lead servers and managers to an acceptance of responsibility for preventing patrons from becoming intoxicated. The objective itself proved to be one of the most controversial aspects of the program. There was a very strong and obvious concern on the part of servers and managers that they were being held accountable for the consequences of irresponsibility on the part of drunk drivers. Prevailing sentiment was "Why don't they go after the drunks instead of us?" On many occasions, the fear was voiced that some patron who appeared perfectly sober would leave their establishment, be involved in an accident, show evidence of intoxication, and blame the establishment.

The various comments revealed a number of misconceptions concerning server liability and other aspects of responsible alcohol service. Through discussion, the instructors attempted to establish the following points:

- Server liability is not intended to protect drunks but rather to compensate innocent third parties for damages suffered.
- Serving establishments are not held liable for the actions of drunks but rather their own actions in illegally serving minors or intoxicated patrons.
- Most state and local laws governing alcohol service only prohibit service to adults who are *visibly* intoxicated. In almost all damage awards, it was apparent that servers were aware of the patrons' intoxicated state and served them anyway.
- Because alcohol is a potentially dangerous drug, establishments must be licensed in order to sell it. The license carries with it a requirement to behave responsibly in dispensing alcohol. The parallel to a gun dealer was useful in getting this point across.

It was necessary to gain acceptance of these points in order to make participants receptive to the remainder of the program. Attempting to steer the discussion toward acceptance of the ideas enumerated proved to be an extremely formidable task—one that demanded extensive effort and did not always succeed.

A number of participants in the first two workshops pointed out the potential value of an AV presentation that would show a true case of injury resulting from irresponsible alcohol service. Approaches suggested included: (1) a server, manager, or owner whose establishment had been successfully sued for irresponsible alcohol service, or (2) someone who had been severely injured by a drunken driver illegally served.

The first alternative proved totally unfeasible. Servers who had been successfully sued were reluctant to admit culpability; most claimed not to remember the incident leading to the suit. On the other hand, the idea of interviewing a victim of an instance of irresponsible alcohol service proved quite feasible and led to a very effective presentation. The victim who volunteered to participate in the study was Ms. Kit Pardee, a 29-year-old quadriplegic whose injuries resulted from a collision with a drunk driver who had been overserved at a tavern moments before the accident. Several aspects of her case helped make for a very effective interview:

- The fact that she was a very attractive and athletic 25-year-old with a bright future at the time she was injured.
- The articulate straightforward manner in which she describes the accident and its aftermath without bitterness or other emotional reactions that might alienate the audience.
- The courage that is evident in her resolve to lead an active, fulfilling life despite a severe handicap.

The testimonial did not in itself overcome all of the concerns of servers or lead to universal acceptance of responsibility for preventing driving by drunken patrons. However, participants claimed that it was very effective in altering the way they thought about server responsibility in general, and server liability laws in particular. Together with the narrative, it helped them to clear up many of the misconceptions of the server points *enumerated* a moment ago.

In order to accommodate the testimonial, some of the content dealing with alcohol and its effects were eliminated from the presentation. When several of the participants in later workshops commented upon the paucity of basic alcohol and drinking/driving information, the content was restored.

Module III: Prevention

Initially, the content of this module was divided into two modules: Module 3: Signs of Intoxication, and Module 4: Server Intervention. Revisions resulting from the pilot test included changes in (1) signs of intoxication, (2) the distinction between server and manager intervention, and (3) prevention activities.

Signs of Intoxication

During the first two workshops, a full hour was devoted to signs of intoxication, including a 20-minute AV presentation and a 40-minute discussion. This much time could not be justified. Laws in most states and localities only require serving establishments to take action with respect to patrons who are visibly intoxicated (the language may vary from one jurisdiction to another, but that is the essence of it). One does not presumably require an hour's training for identifying signs that are "visible." It is, of course, quite possible for patrons to be intoxicated and not show it. However, servers were generally unwilling to terminate service unless the patron appeared to them to be clearly intoxicated.

While unwilling to terminate service on other than obvious signs of intoxication, most servers felt they should be cognizant of more subtle signs of impairment and take account of them in their dealings with patrons. While they might not be willing to terminate service on the basis of such signs, they would try to slow down service, encourage alternative low-/non-alcohol beverages, push food, and so on.

Unfortunately, there is no body of scientific data associating various aspects of behavior and physical appearance with corresponding alcohol levels. The best that could be done was to compile such anecdotal information as could be gleaned from the literature and that which was compiled during the workshops themselves. A number of the pilot test participants voiced the opinion that the information presented warranted neither an hour of time nor the implied importance of having a module devoted to the subject. Since recognizing signs of impairment was simply a step in preventing intoxication, it seemed logical to integrate it into other aspects of prevention.

Server vs. Manager Intervention

The original program structure distinguished two forms of intervention:

Server Intervention—Intervention in drinking behavior to prevent patrons from becoming intoxicated.

Manager Intervention—Intervention in the further drinking and in the driving of patrons who are intoxicated.

While participants accepted the distinction in levels of intervention, most considered it unnecessary and unwise to tie them specifically to servers and managers. Many managers are involved in intervention to prevent intoxication, while many servers are involved in intervention to prevent further drinking. It seemed better to distinguish the levels of intervention in terms of what they are rather than who does them. Accordingly, the title of the module was changed from "Server Intervention" to "Prevention", and "Manager Intervention" was made simply "Intervention".

Prevention Activity

Most of the prevention activities described in the audiovisual presentation, and discussed following the presentation, were well accepted by most of the servers and

managers. Several objected, however, to the activities that required a lot of time, such as watching patrons closely, engaging in a conversation, or keeping track of drinks served. A common complaint was, "On a busy night, I have all I can do to keep up with orders!" It was obvious that many servers did not truly recognize that a license to serve alcohol carries with it a legal obligation to do so responsibly. This obligation is not something that can be set aside when an establishment is busy. In discussion, most could see the paradox involved in allowing the establishments that sold the most alcohol to be the least responsible. The audiovisual presentation was revised to give greater emphasis to the idea that preventing intoxication is no less important to the success of an establishment than alcohol sales.

There were a few situations depicted in the AV presentation that a substantial number of servers and managers viewed as unrealistic. An example was an instance in which a waitress encouraged two somewhat impaired patrons to dance as an alternative to continued drinking. The prevailing feeling was that, while such an approach might work with regulars, it would not be very realistic for most patrons. The scenes in question were deleted from the AV presentation and alternative approaches were added.

Module IV: Intervention

This module was intended to assist managers in developing strategies for intervening in the drinking and driving of intoxicated patrons. Originally, it was intended only for the instruction of managers. However, as noted in the discussion of Module III, "Prevention," the participants felt that it was unwise to let the distinction in server and manager roles dictate the content of instruction. In particular, they felt it was valuable for servers to at least become acquainted with, and discuss techniques for, intervention even if they did not participate in the more time-consuming role play activities that were originally a part of this module.

A number of suggestions were made as to techniques for dealing with an intoxicated patron. The content of the module was modified after each of the first three workshops, and again after the final workshop, to incorporate such suggestions.

There was only one issue that could not be resolved to the satisfaction of all participants. That issue was whether intoxicated patrons to whom service was to be terminated should be approached where they are or taken aside. Where only one or two patrons were involved, most agreed it was desirable to find some pretext to take the patrons aside where they would not be embarrassed, and where they would not disturb others should they become unruly. However, when groups were involved, opinions varied. The majority believed that it was more natural and more expeditious simply to approach the group and explain in a calm, friendly, but firm manner that service of alcohol could not be continued. On the other hand, a few felt that the chances of embarrassment and disturbance would be reduced if one person was taken aside first. The procedure recommended in the program left the decision up to the individual who is terminating service. If they felt confident dealing with a group, they

should do so. If they felt more comfortable taking one person aside, then that is what they should do.

Module V: Practice

This module is designed to give managers practice in applying the intervention procedures presented in the previous module. Practice was believed important in developing both skill and confidence in dealing with intoxicated patrons. However, it quickly became clear in the pilot test that very few managers perceived the need to develop further skill or confidence. Those who appeared to be unskilled or lacking in confidence, claimed that their problem lay in role playing rather than intervention.

Despite their lack of a self-perceived need for skill development, the participants engaged actively and enthusiastically in the exercises. However, it became apparent that they were getting as much out of the discussion which followed the role playing exercises as they did from the exercises themselves. Procedures were therefore revised to give considerably more time for discussion. This increase in discussion time reduced the number of cases that could be dealt with in the 90 minutes allocated.

In its original form, the Instructor Guide called for dividing the class into small groups of four or five participants each, in order to allow each participant to take part in at least two exercises. With the shift in focus from the development of skill to the development of strategy, it became more important to keep the group together in order to manage the discussion and in order for all participants to benefit from each other's contributions. It also became apparent that, if the entire group of servers and managers participating in the first four modules did not exceed the recommended class size of 25 participants, the group participating in the manager portion of the program should not, except under unusual circumstances, exceed 6-8 participants and therefore would not need to be subdivided.

Managers participating in the earlier pilot tests introduced several situations that were not covered by the original scenarios but which introduced novel strategy problems. These included:

- "Open bar," in which patrons pay a fixed price which they generally believe entitles them to consume all they want.
- A group that includes only one intoxicated patron and which could continue to be served so long as no one supplies drinks to that person.
- An unruly group which includes one sober patron whose cooperation might be enlisted in transporting the others home, (including getting them to agree to leave).

Additional scenarios were created to deal with the situations.

While the written scenarios were well received and reviewed as a valuable part of the program, several participants felt that making the course totally dependent upon them had at least two drawbacks:

- The necessity of printing and distributing copies of all scenarios to all participants could discourage their use in some instances.
- The need to deal with novel situations that were not adequately handled by the printed scenarios.

To overcome these potential drawbacks, the Instructor Guide was revised to allow the scenarios to be presented orally *as well as* in written form. Instructors were encouraged to generate additional scenarios to deal with unique situations in their areas.

Module VI: Policy

The purpose of this module was to encourage and assist managers in formulating policy that would put into effect the various aspects of responsible alcohol service discussed in the preceding modules. In its initial form, this module was to consist of an information presentation on the subject of responsible alcohol policy. However, it quickly became apparent that there was little new information to present. The various policies dealt with procedures that had already been discussed in the Prevention Intervention modules. What remained was to encourage and help managers to make the procedures matters of policy.

After the first two workshops, the Instructor Guide was revised to call simply for a discussion of key policy changes necessitated by the modules discussed in earlier modules. The change in approach had the further advantage of maintaining the highly interactive instructional method that characterized the previous module (Practice), rather than returning to a lecture. It was very evident in the first two workshops that, having participated in the program for the entire day, and having been actively involved in the discussion of intervention strategies, participants were not receptive to a lecture as a means of ending the program.