

Evaluating the Effectiveness of a Juvenile Firesetter Program

by

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ABSTRACT

Research was prompted to find data that measured the effectiveness of juvenile firesetter programs that was comparable to national statistics. The purpose was to identify a means for using data with an evaluation system to determine measurable results and long-term effectiveness regarding recidivism. This would provide justification for on-going continuance of the program and funding.

Descriptive research was used to answer three questions:

1. After a juvenile completes an intervention program, what follow-up is conducted to audit for any reoccurrence of fireplay or firesetting?
2. How long after completion of an intervention program is follow-up conducted and how many follow-ups are done and for how long of a period (i.e., months, years) does it continue?
3. What information is compiled to monitor and evaluate the program? Are there any national models for monitoring a program?

The procedure to determine the results involved searching for information that referenced setting up a Juvenile Firesetter Program (JFP) or summarized existing programs. Due to limited literature available, a survey was sent to organizations and fire departments that had a JFP. In order to locate programs, the Internet was used as well as JFP's referenced in literature.

The results of the literature search established that there was a national model for frequency and length of time to follow-up with juveniles to audit for recidivism.

Additionally, a national model was found on data collection that could be used for evaluation purposes related to recidivism. The national models were compared to survey results.

Recommendations included revising existing data collection and increasing follow-ups to pattern the national model. To compare results of the JFP to local, county, and state statistics, the recommendation was to support the State Fire Marshal to implement a statewide coalition. Comparing the JFP results nationally could be accomplished by networking methods.

INTRODUCTION

"A juvenile firesetter program should be working toward a specific outcome, through a well understood process. Without this, we will wander aimlessly about never knowing if we have arrived at our destination" (Porth, October, 1992, p. 12).

In 1997, the Fire Chief of the Maple Grove Fire Department asked if a report on the recidivism rate of the juveniles that had successfully completed our intervention program could be provided. If so, for what period of time was the recidivism rates based on? He also asked if the data the program tracked could be compared to national statistics.

A management information system (MIS) was in place that tracked case characteristics of the firesetter and the firesetting incident, the services that were provided, and date of occurrences. Other than the MIS at that time, the only follow-up that was conducted was a questionnaire that was mailed to the juvenile's parent's six months after completion of the program. Other than repeat fire incidents that the fire department responded to, there was no other real documentation to back up the success of the program.

The significant purpose of this research is to provide support and national based modeling for the Maple Grove Fire Intervention Commission. There is a need to implement a means for summarizing and analyzing data that is comparable to national statistics. This information, coupled with an evaluation system to determine measurable results and the long-term effectiveness of the program in regards to recidivism, would provide justification for on-going continuance of the program and funding.

This should be a concern for those in government service to continue to grow and survive in today's competitive economy. "In today's demanding fiscal climate, all programs are under intensive scrutiny to prove their worth. Gone are the days when we can say to the administration, 'just trust me'" (Porth, 1992, p. 13). This research may also be significant to other local and county fire departments that want to improve the evaluation and professional image of their fire intervention programs.

Descriptive research was conducted to answer three questions:

- After a juvenile completes an intervention program, what follow-up is conducted to audit for any reoccurrence of fireplay/firesetting?
- How long after completion of an intervention program is follow-up conducted and how many follow-ups are done and for how long of a period (i.e., months, years) does it continue?

- What information is compiled to monitor and evaluate the program? Are there any national models for monitoring a program?

BACKGROUND AND SIGNIFICANCE

"Early in the 1980's, FBI statistics on the percentages of incendiary fires started by children brought the problem of juvenile firesetting to the forefront" (Treatment..., 1989, p. 10). On October 4, 1997 the FBI National Press Office in Washington, DC released the Uniform Crime Report, 1996 Crime Statistics.

A total of 88,887 arson offenses was reported in 1996....Of the arson cleared by law enforcement during 1996, 45 percent involved only people under the age of 18, a higher percentage of juvenile involvement than for any other Index crime. (FBI, 1997, p. 4)

Programs that deal with juvenile firesetters have been around for many years. These programs varied in the information that was kept, and how this information was used.

Recognizing the need for increased knowledge about how to reduce the problem of juvenile firesetting, the Office of Juvenile Justice and Delinquency Prevention (OJJDP) and the U.S. Fire Administration (USFA) funded an initiative from 1987 through 1993 known as the National Juvenile Firesetter/Arson Control and Prevention (NJF/ACP) Program. Through a nationwide assessment of juvenile firesetter programs, the NJF/ACP defined seven components common to effective juvenile firesetter programs. Of these, "a monitoring component to track the program's identification and treatment of juvenile firesetters was identified". (Garry, 1997, p. 3)

While many juvenile firesetter programs have developed some internal system to monitor their caseloads, others simply maintain individual case files with no systematic way to track cases, determine final dispositions, report to funding agencies, etc. Very few have systems capable of being used for evaluation purposes. (NJF/ACP, Fire Service Guide, 1994, p. 108)

Programs for juvenile firesetters usually begin in a community out of need and grow with that need. The first priority is to help the child and then as the program grows, usually out of necessity, the effectiveness of the program becomes a reality. In the NJF/ACP Assessment Report, Executive Summary (Sept 1989), program effectiveness was assessed of juvenile firesetter programs across the nation. The executive summary reports that,

Most of the programs are essentially "home grown", developed in trial-and-error fashion by one or two people committed to solving the problem of juvenile firesetting in their communities. In some instances, the results have been very impressive, in other cases, less so. (Cook, Gaynor, Hersch, Roehl, 1989, p. 13)

Many programs boast about low recidivism rates, but they do not follow-up on juveniles. In fact, many rely solely on whether a juvenile starts a fire that will require the services of

the fire department or if they are caught; therefore are then referred back to the program. "Most programs report recidivism rates, and they are invariably quite low, rarely exceeding 7%. The rates are subject to question, because so few programs maintain accurate follow-up statistics" (Cook, et al., 1989, p. 13).

The NJF/ACP, Fire Service Guide to a Juvenile Firesetter Early Intervention Program (1994) states, "Simple monitoring systems are recommended for all juvenile firesetting programs regardless of size..." (p. 40). This guide explains that,

Monitoring systems serve different purposes, depending on the information they contain and the uses to which they are put. At the most elemental level, a management information system (MIS) is needed for case tracking, caseload analysis, and reporting of program results.... Extending the MIS to include recidivism and other follow-up data provides the basic building blocks for an evaluation system. (p. 40)

Programs across the U.S. continue to strive for effectiveness and justification for juvenile firesetter programs. Don Porth, Juvenile Firesetter Program Manager of the Portland (OR) Fire Bureau, quoted Mark Twain in a 1992 article, "Mapping Out A Successful Juvenile Firesetter Program." "Supposing is good, finding out is better" (p. 14). Porth goes on to say,

"Having a program and reaping the rewards that a program has to offer can provide us with the following:

- Justification for program existence
- Justification for program expansion
- The ability to evaluate and judge program effectiveness
- Collection of useful information that can help us all better understand the juvenile firesetter problem. (p. 14)"

This research is relevant to the Executive Development Course because it relates directly to several units studied during the course including Organizational Change and Development and Service Quality. The results of this research will actively apply the course concepts in the real world.

LITERATURE REVIEW

The literature review encompassed reviewing manuals, handbooks and journal articles.

The literature review began by examining The Preadolescent Firesetter Handbook, Ages: 7–13, (1988). It is one of a three-volume sequence on juvenile firesetting intervention developed for assisting the fire service and other agencies. Although these handbooks were first available in 1988, they are still in use today and are currently available upon request from FEMA-USFA (FEMA-120, 1997). Appendix 2 of this handbook has one page of information on program monitoring and evaluation. The leading paragraph states, "There are methods of determining the effectiveness of your program. Monitoring (or

documentation) lets you know whether you followed or are following your program plan. Evaluation measures whether what you did had an effect on the problem" (p. 117).

Examples are given of less formal methods that fire departments can use to determine effectiveness of a program. One of the examples was to document the number of juvenile recidivists (repeaters) but does not indicate clearly how to go about this. The other two volumes did not have any information relating to follow-up or monitoring the status of a juvenile in relation to recidivism or elements of what a monitoring system should include.

In an attempt to find data that had information specifically targeting recidivism and nationally modeled information systems, the next step of the literature review was of the NJF/ACP, Assessment Report, Executive Summary. "The report summarizes the results of Stage I of a four stage program, the assessment of the incidence and dynamics of juvenile firesetting and juvenile firesetter programs" (Cook, et al., 1989, Preface).

In order to develop a prototype, a national search was conducted to locate existing programs. Then 70 programs were sent a two-stage mail survey. To fully examine the programs, two-day site visits conducted by the Institute for Social Analysis (ISA) were made to 13 of the programs (Cook, et al., 1989).

A monitoring system is one of seven elements identified to form a prototype program manual to be developed in Stage II. The building blocks to develop the monitoring system element include: "Building and maintaining systems for tracking the disposition of cases, recidivism rates, and rates of juvenile firesetting" (Cook, et al., 1989, p. 11).

In October of 1993, an inaugural meeting took place consisting of a 25-member National Fire Protection Association Task Force. The mission of this task force was to define the needs in the area of juvenile firesetting. The group defined specific, prioritized strategies for reducing the problem of juvenile firesetting. The group came up with areas that posed the greatest barriers that communities faced on a local level. One of these mega-themes (as it was titled by the task force), was the need to use data more effectively. (Report of the NFPA Task Force on Juvenile Firesetting, Inaugural Meeting, 1993, pp. 2-4)

Specific recommended actions included:

- Develop common sense guidelines for the fire service and the mental health and education communities on where to find and how to use available data appropriately. Identify the limitations of various sources of data so that users can make good choices.
- Present data in summary form, using easy-to-understand graphics (perhaps in 'one-pager' format).
- Use data to raise public and professional awareness of the juvenile firesetter issue. (Report of the NFPA Task Force on Juvenile Firesetting, Inaugural Meeting, 1993, p. 13)

In September of 1995, a continuum of the inaugural meeting was held. This group had some of the original participants but included new participants with a focus on experience and skill. These participants came from across the U.S. and Canada and included a range of disciplines that worked with juvenile firesetters. Twenty-two specific action items were identified. Improved data collection was one of these. The participants agreed with the necessity to "develop a minimum set of data elements needed for consistent national data collection" (Report of the NFPA Juvenile Firesetter Practitioners' Forum, 1995, pp. 9-10).

A recommendation was made to NFPA, "To provide assistance in designing a uniform data collection tool to be used by local fire departments and juvenile firesetter screening/intervention programs" (p. 14).

As a result of the NJF/ACP Assessment, ISA developed three program manuals that have components that describe how to develop, implement and operate a juvenile firesetter program (NJF/ACP, Fire Service Guide..., 1994). These manuals are: Guidelines for Implementation, FEMA/USFA, FA-147/June 1994, The User's Guide, FEMA/USFA, FA-145/ June 1994, and the Trainer's Guide, FEMA/USFA, FA-149/ June 1994. In addition, Fire Service Guide to a Juvenile Firesetter Early Intervention Program, FEMA/USFA, FA-146 /June 1994, was also developed which integrates part of the information in the Implementation Guide and explains how to implement one type of the advocated programs. These manuals are currently available upon request from the FEMA-US Fire Administration, FEMA Publications Catalog, FEMA-20/July 1997.

The literature review of these manuals focused specifically on follow-up to audit for any reoccurrence of fireplay or firesetting and what information is necessary to monitor and evaluate a program.

The Trainer's Guide provided curriculum content summary of the three major types of monitoring systems: " The first is a Management Information System (MIS). An MIS provides timely information on the number and types of cases handled by the program" (NJF/ACP, Trainer's Guide, 1994, p. 19).

The second type of monitoring system is an evaluation system. A program evaluation system is an extension of a MIS in that it uses the data generated by the MIS to analyze program operations and outcome. In addition to caseload information, an effective evaluation system will include data on firesetting recidivism and follow-up information on caseload disposition. (NJF/ACP, Trainer's Guide, 1994, p. 19)

An incident reporting system is the third type of monitoring system. Its purpose is to record basic information on all known juvenile firesetting incidents, regardless if the firesetter is known or handled by the juvenile firesetter program (JFP). The basic data needed to monitor jurisdiction-wide rates of juvenile arson, firesetting, and gauge the effectiveness of education and outreach efforts of the program are provided by the data of an incident reporting system (NJF/ACP, Trainer's Guide, 1994 and NJF/ACP, Guidelines for Implementation, 1994).

The User's Guide "is a cookbook format that guides the reader from the planning to the execution of an effective community program" (NJF/ACP, User's Guide, 1994, p. 3). This volume is designed to be a companion document to be used with the other volumes. It highlights key information and then outlines decision elements. The guide is set up in the same format as the other manuals so information can be easily and quickly found in the other volumes (NJF/ACP, User's Guide, 1994).

Having current and accurate data on program operation provides management with information on the relative impact and effectiveness of the program. This information can be invaluable when it comes time for sustaining or increasing the funding, staffing, and general life of the program. (NJF/ACP, User's Guide, 1994, p. 35)

Guidelines for Implementation, (NJF/ACP, Guidelines for Implementation, 1994) is based on the seven different components which highlight the aspects of a program. The information presented is detailed and comprehensive. The sixth component is comprised of monitoring systems. "A Management Information System (MIS) should include case characteristics of the firesetter and the firesetting incident, services rendered, dates of key events, and the final disposition of the case" (NJF/ACP, Guidelines for Implementation, 1994, p. 108).

An MIS provides the means for summarizing the program's caseload (the number of cases handled, case type, firesetter characteristics, number and type of services rendered, etc.), and providing data for annual reports, evaluations, and funding agencies. (NJF/ACP, Guidelines for Implementation, 1994, p. 108)

An evaluation system would contain all of the information above plus follow-up data on firesetting recidivism and other problems such as delinquency, school or family problems, etc. The evaluation is an extension of the MIS, rather than a separate system. Much of the data in such an evaluation system may come from the program's routine follow-up contacts with families of firesetters and the referral agencies to which they are referred. (NJF/ACP, Guidelines for Implementation, 1994, p. 108)

The management information and evaluation system may be kept manually, but since personal computers have become increasingly prevalent in the workplace, computerization is advised....When a program reaches somewhere between 75 and 100 cases per year, computerization is probably warranted. (NJF/ACP, Guidelines for Implementation, 1994, p. 112)

The Implementation Guide, (NJF/ACP, Guidelines for Implementation, 1994) includes specific case information and other data to be kept in each of the proposed three monitoring systems. This information can be found in the results of this research.

To extend the MIS to become an evaluation system, follow-up activities must take place with a number of key agencies to determine the long-term effectiveness of the intervention strategies in terms of recidivism. For evaluation purposes, a program needs to know about juvenile delinquency, continued problems at school or home, etc.

Quarterly contacts should be made with the family and key agencies for a year or two after the precipitating incident to inquire about recidivism and related problems. (NJF/ACP, Guidelines for Implementation, 1994, p.114)

Parents are probably the best single source of follow-up information, if sufficient rapport has been built to enable the parents to report any additional delinquent behaviors or other problems. Telephone contact should be made with the parents rather than sending an impersonal form. (NJF/ACP, Guidelines for Implementation, 1994, p.114)

A review of the Fireproof Children Handbook (Bills, Cole, Crandall, Schwartzman, 1990) found that there was some reference to collecting data. This data collection was targeted more to starting a new program to justify the need. Sample forms are included in the handbook and some of these could be used for ongoing data collection. There was no specific information or instruction in the handbook regarding follow-up after intervention activities to audit for recidivism.

A review of Playing with Fire: A Deadly Game, A Companion Manual (Pinsonneault, 1991) found that this manual was primary for setting an interagency juvenile firesetter intervention program. There was no specific information or instruction in the manual on data collection or follow-up after intervention activities to audit for recidivism. The sample forms that were included were not related to a MIS or evaluation.

PROCEDURES

Initial research began at the Learning Resource Center (LRC), Emmitsburg, MD, to look for articles in journals, reports, and periodicals that related to juvenile firesetting. Using the words juvenile firesetter as a starting point, sources were searched looking for information. The information that was found was narrowed down to those articles or reports that had reference to setting up an intervention program, what other fire departments with juvenile firesetter programs (JFP) reported, and those that reported or summarized existing programs.

Accessing the World Wide Web and using the LRC's online card catalog continued the literature search. A local library was used to borrow materials through interlibrary loan. The limitations found in searching for information through the LRC was that the information obtained was not recent. There were limited recent articles in journals and periodicals. The local library had very little information.

To find out current information that fire intervention programs across the U.S. are compiling to monitor and evaluate their programs, as well as how the program is tracking recidivism rates, a survey was conducted. The findings of the survey showed how JFP's are evaluating recidivism and what statistics they are reporting. This is covered in detail in the Results section of this research.

The World Wide Web was used to search for fire departments and organizations throughout the U.S. to send out the survey. When a fire department or organization was

located, information was collected such as the address, phone number and fax number, if available. Not all web sites provided this information, so e-mail was used to send surveys. Reference lists included in handbooks and manuals were also a source of fire departments and organizations with programs. Because many of these were not recently published, most of the contact persons were no longer in that particular department or at times employed with the organization.

The surveys were sent out to the random fire departments and organizations, as they were located. The only criterion that was used was that the fire department or organization had a JFP. The surveys were sent out over a span of several months. Follow-up phone calls were made to those departments and organizations that did not return the surveys. The surveys were sent out by several different methods including mail, facsimile, or electronic mail. Forty-one surveys were sent. Twenty-six or approximately 63.4% of these were completed and returned. A sample of the survey letter can be found in Appendix A, followed by the answers from the individual JFP surveys. These can be found in Appendix B.

DEFINITIONS

Fireplay: "Child 'fireplay' incidents typically involve children who are too young to understand the danger of their actions" (Reardon, 1990, p.68).

Firesetting: "Juvenile firesetting...is a deliberate act typically committed by children old enough to understand the dangers of their behavior" (Reardon, 1990, p. 70).

RESULTS

The results of the research project come from the comprehensive examination of all of the data from manuals, handbooks, and journal articles and the completed survey. From the 26 or 63% of the surveys that were returned, in few instances was the information returned from different JFP's worded in the same way. Because of this, the process required dissecting the information in the returned surveys to correlate the results. This information is then compared to the results of the research from the manuals, handbooks, and journal articles. The results of this project have been grouped and summarized in text and table form.

Research Question One

After a juvenile completes an intervention program, what follow-up is conducted to audit for any reoccurrence of fireplay or firesetting?

Nineteen or 73% of the JFP's surveyed answered yes to question one. One of these JFP's answered no to question one, but reported some follow-up based on time allowing in question two. Seven or 27% answered no. To clarify this, one of the programs said that although they did not conduct follow-up, they do monitor fire calls and reports for cases that involve youth.

Research Question Two

How long after completion of an intervention program is follow-up conducted and how many follow-ups are done and for how long of a period (i.e., months, years) does it continue?

Of the 26 surveys that were returned, 18 JFP's report that they conduct follow-up with juveniles after they complete the program. One other JFP reports that follow-up is based on time allowing. Of the JFP's that conducted follow-up, only a set of two programs follow the same time frequency and regularity. Of these four programs, two conduct follow-up at one month after the juvenile completes the program and then again at six and 12 months. The method of follow-up was not reported. The other three conduct only one follow-up at six months. One program uses an evaluation card and the other conducts a progress report on the client's written goals.

Two other programs report three follow-up frequencies. The first program reported follow-ups at three months, six to nine months and at 12 months, using the phone contact as the follow-up method. If a phone was not available, then mail is used. The other program reports follow-up at three months, six months and 12 months. The method of follow-up is not reported.

Four JFP's reported follow-ups that are structured according to the risk factors of the individual juvenile. The first program conducts one follow-up at one month after completion of the program. If the juvenile is referred for counseling or therapy, then follow-up is done at three-month intervals for at least two years on average. A phone call or visit is the method used to follow-up. The second program conducts two follow-ups at three months and again at six months after completion of the program for higher risk juveniles, but conducts one follow-up at six months for lower risk juveniles. Method of follow-up is not reported. The third program has somewhat less formalized follow-up procedures. An initial follow-up is conducted at one week after completion of the program. Depending on each individual juvenile and their circumstances including such things as age and risk level, the follow-ups are continued on a weekly basis for four to six months. The method of follow-up is not reported. The last program conducts follow-up at two and six weeks, but depending on the incident, may continue to follow-up more or less.

Four JFP's conduct two scheduled follow-ups. The first program at six and 12 months with a mailed questionnaire. The second program at one and five months, with a phone call at one month and a program evaluation mailed at five months, and the third program at one and 12 months with a phone call or by mail. The fourth program conducts follow-ups at two and six weeks. The method of follow-up is not reported.

Four programs report one follow-up. The first at three months with a letter mailed, another program at four months with a phone call or by mail, the third program conducts

follow-up three months after appearance in court. The follow-up is conducted by Children's Hospital. If any are missed, follow-up is then conducted one to two months later. The last JFP reports one follow-up conducted at six months, but this was based on time allowing.

Including the JFP that does follow-up as time permits, 37% of the programs does one follow-up after completion of the program. Twenty-one percent of the programs conduct follow-ups that are structured according to the risk factors of the individual juvenile. Twenty-one percent of the programs conduct two follow-ups and 21% conduct three follow-ups. A table outlining these results can be found in Appendix C.

The results of the literature review show that there is a national model for frequency of follow-up with juveniles to audit for recidivism. The national model, Guidelines for Implementation, indicates that,

Quarterly contacts should be made with the family and key agencies for a year or two after the precipitating incident to inquire about recidivism and related problems....Telephone contact should be made with the parents rather than sending an impersonal form. (NJF/ACP, Guidelines for Implementation, 1994, p. 114)

The survey results were compared to the national model. Of the JFP's surveyed, one program conducts quarterly follow-ups for one to two years. The JFP continues follow-up at three month intervals for at least two years on the average when the individual is referred for counseling or therapy. Six or approximately 2.3% of the JFP's continued follow-ups for one year.

Research Question Three

What information is compiled to monitor and evaluate the program? Are there any national models for monitoring a program?

The answers to Question 3 found in the 26 surveys, is consolidated into an alphabetical list to determine the frequency of identical statistics. Two hundred and forty different statistical items are recorded. These items are located in Table D1, All Statistical Information From All Surveys in Appendix D. Only 11 statistical items or approximately 4.5% of the total items were found in the 26 surveys that are stated identically. To clarify the results, the three JFP's that used the Massachusetts State-Wide Juvenile Firesetter Program Coalition form are not included unless another program also uses the same statistic. These statistics and the number of times they were found are as follows:

Table 1

Frequency of Identical Statistics

Statistical Information	F ^a
Address	2
Age	5*
Grade	4*
Marital Status	2
Number of injuries	2
Race	3
Referral source	3
School name	2
Sex	5*
Total dollar loss	2
Zip Code	2

Note. F^a represents the number of times a statistic is found in more than one survey with identical wording. The three JFP's that used the Massachusetts State-Wide Juvenile Firesetter Program Coalition form are not included unless another program also used the same statistic found in the surveys.

*= Three of these are used in the JFP's who use the Massachusetts State-Wide Juvenile Firesetter Program Coalition form.

Although there are only 11 identical statistics found in the 240 statistical items, many of the items have the same intent or are related. The statistical items are then arranged into nine different categories. This allows the information to be grouped that has the same intent or that is related. The first category, Table E1, Information Relating to the Juvenile, found in the appendix, has 35 different statistical items. Five or approximately 14.3% of the statistical items have the same intent or are related with a frequency in at least four other cases. These statistical items and the frequency to others are shown as follows:

Table 2

Frequency of Related Information for Juvenile

Statistics Relating to Juvenile	F ^a	F ^c
Age	5	10
Sex	5	6
Grade	4	5
ADHD? (Yes or No)	3	4
History of fireplay (Yes or No)	1	14

Note. F^a represents the number of times a statistic is found in more than one survey with identical wording. The three JFP's that used the Massachusetts State-Wide Juvenile Firesetter Program Coalition form are not included unless another program also used the same statistic found in the surveys. F^c represents the statistical items that have the same intent or were related to other statistics with a frequency in at least 4 other instances.

The second category, found in Table E2, Information Relating to Parent or Guardian and Residence or Environment, included in the appendix, has 30 different statistical items. Two or approximately 6.7% of the statistical items have the same intent or are related with a frequency in at least four other cases. These statistical items and the frequency to others are shown as follows:

Table 3

Frequency of Related Information to Parent or Guardian and Residence or Environment

Statistics Relating to Parent or Guardian and Residence or Environment	F ^a	F ^c
Marital status	2	8
Number of smokers in home	1	4

Note. F^a represents the number of times a statistic is found in more than one survey with identical wording. The three JFP's that used the Massachusetts State-Wide Juvenile

Firesetter Program Coalition form are not included unless another program also used the same statistic found in the surveys. F^c represents the statistical items that have the same intent or were related to other statistics with a frequency in at least 4 other instances.

In the third category, Table E3, Information Relating to Fire Incident, located in the appendix, has 33 different statistical items. Three or approximately 9.4% of the statistical items have the same intent or are related with a frequency in at least four other cases. These statistical items and the frequency to others are shown as follows:

Table 4

Frequency of Statistics Relating to Fire Incident

Statistics Relating to Fire Incident	F ^a	F ^c
Ignition source	1	7
Incident date and time	1	7
Most common place for firesetting	1	7

Note. F^a represents the number of times a statistic is found in more than 1 survey with identical wording. The 3 JFP's that used the Massachusetts State-Wide Juvenile Firesetter Program Coalition form are not included unless another program also used the same statistic found in the surveys. F^c represents the statistical items that have the same intent or were related to other statistics with a frequency in at least 4 other instances.

The fourth category, Table E4, Information Relating to Program, Services, and Education, located in the appendix, has 60 different statistical items. Six or 10% of the statistical items have the same intent or are related with a frequency in at least four other cases. These statistical items and the frequency to others are shown as follows:

Table 5

Frequency of Statistics Relating to Program, Services, and Education

Statistics Relating to Program, Services, and Education	F ^a	F ^c
Assessment determination	1	4
Most common age	1	8
Sex, Number of males, females	1	9

Number of students in program	1	9
Number of hours involved in each case	1	4
Program evaluation	1	4

Note. F^a represents the number of times a statistic is found in more than 1 survey with identical wording. The 3 JFP's that used the Massachusetts State-Wide Juvenile Firesetter Program Coalition form are not included unless another program also used the same statistic found in the surveys. F^c represents the statistical items that have the same intent or were related to other statistics with a frequency in at least 4 other instances.

In the fifth category, Table E5, Information Relating to Referral or Other Agencies, located in the appendix, has 29 different statistical items. All of these statistical items have the same intent or are related in some way. These items related to the agencies that referred or were referred to.

In the sixth category, Table E6, Information Relating to Fire Department Information, located in the appendix, has five different statistical items. All of these statistical items have different intent or relation. These items each specifically relate to information that is specific to fire departments such as name and address, reporting, etc.

In the seventh category, Table E7, Information Relating to Injuries, Deaths, and Damages, located in the appendix, has 30 different statistical items. Three or 10% of the statistical items have the same intent or are related with a frequency in at least four other cases. These statistical items and the frequency to others are shown as follows:

Table 6

Frequency of Statistics Relating to Injuries, Deaths, and Damages

Statistics Relating to Injuries, Deaths, and Damages	F ^a	F ^c
Number of injuries	4	12
Number of deaths	1	7
Total dollar loss	2	13

Note. F^a represents the number of times a statistic is found in more than 1 survey with identical wording. The 3 JFP's that used the Massachusetts State-Wide Juvenile Firesetter Program Coalition form are not included unless another program also used the same

statistic found in the surveys. F^c represents the statistical items that have the same intent or were related to other statistics with a frequency in at least 4 other instances.

Category 8, Table E8, Miscellaneous Information, located in the appendix, has 18 different statistical items. One or approximately 5.6% of the statistical items have the same intent or are related with a frequency in at least four other cases. This statistical item and its frequency to other is shown as follows:

Table 7

Frequency of Miscellaneous Information

Miscellaneous Statistics	F ^a	F ^c
Number of fires involving children playing with fire	1	6

Note. F^a represents the number of times a statistic is found in more than one survey with identical wording. The 3 JFP's that used the Massachusetts State-Wide Juvenile Firesetter Program Coalition form are not included unless another program also used the same statistic found in the surveys. F^c represents the statistical items that have the same intent or were related to other statistics with a frequency in at least 4 other instances.

The last category, Table E9, Information Relating to Recidivism, located in the appendix, has four different statistical items. All of the statistical items have the same intent or are related with a frequency in at least four other cases. The items are all related to recidivism in some way.

The results of the literature review show one national model for evaluation purposes to determine effectiveness as it relates to recidivism rates. The national model is located in the Guidelines for Implementation and Fire Service Guide to a Juvenile Firesetter Early Intervention Program. These manuals and two others were supported by a grant awarded to the ISA by OJJDP and USFA. (FA-147, 1994). This initiative took place from 1987 through 1993 and is known as the NFP/ACP (Garry, 1997, pp. 3-4). The national model, Central Elements of the Monitoring Systems, MIS includes the following:

Management Information System (MIS). There are four categories of data included in an MIS:

I. Case characteristics

- Source of referral
- Age, sex, race, family status of firesetter
- Details of the firesetting incident—motive, presence of others, location of fire, materials used, damage estimate, injuries, deaths

- Past firesetting incidents
- Initial assessment after screening (e.g., little, definite, or extreme risk)

II. Services rendered

- Dates, content, and length of educational sessions; dates, purposes, and agencies of referral(s); number and type of counseling sessions; details of other services (mentor pairing, restitution, community service, visits to burn units, etc.)

III. Case disposition

- Dates and outcomes of all services rendered, gathered through routine reporting by all cooperating agencies or direct follow-up
- Status of case in criminal justice system

IV. Program Activities

- Education/prevention activities, school-based or community or other – type, number, attendance, content
- Training for others in the field – type, curriculum, number trained
- Resource/materials development
- Other – media coverage, Task Force participation, etc.
- (NJF/ACP, User's Guide, 1994, pp. 109-110; NJF/ACP, Fire Service Guide, 1994, pp. 41-42)

The survey results were compared to the national MIS model. Seven out of 11 or approximately 64% of the statistical items located in the results of the Frequency of Identical Statistics are also located in the national MIS model.

The case characteristics of the national MIS model are compared to the following tables noted elsewhere in this research report: Frequency of Related Information for Juvenile, Frequency of Related Information to Parent or Guardian and Residence or Environment, Frequency of Statistics Relating to Fire Incident, Frequency of Statistics Relating to Program, Services, and Education, Information Relating to Referral or Other Agencies, and Information Relating to Injuries, Deaths and Damages. These tables consist of 20 statistical items. Of the 20 items, 14 or 70% of the items are located in the national MIS model.

DISCUSSION

The research results showed that there is little information on specific instruction or national modeling for conducting follow-up to audit for any reoccurrence of fireplay or firesetting or what information should be used to monitor and evaluate a program. Several sources indicate the need for this. Among these are the NFPA Task Force on Juvenile Firesetting, and NFPA Juvenile Practitioners' Forum. Both of these recognize the need to have consistent national data collection, but no specific publications or

software can be found as a result of this endeavor. Don Porth of the Portland Fire Bureau (Porth, 1992), offered considerable insight on developing an effective program. In fact, as an individual who is not selling his product, he offers this information based on knowledge and experience. As one of the organizations surveyed for this research paper, the answers to the three questions in the survey, is contained in a two part annual report. This report was impressive to say the least. This JFP most closely resembles the national model found in NFJ/ACP series (FA-146, 1994, FA-147, 1994, FA-145, 1994, and FA-149, 1994). The limitations of this JFP for many jurisdictions might be the time and staff needed to dedicate to this type of extensive data collection, analysis, and reporting. The Fireproof Children Handbook (Bills, et al., 1990), and Playing with Fire: A Deadly Game, A Companion Manual (Pinsonneault, 1991) are excellent resources for setting up a JFP and working with juvenile firesetters. But like the FEMA/USFA companion handbook series (FEMA/USFA, FA 83, 1988, FEMA/USFA, FA 82, 1988, FEMA/USFA, FA 80, 1988), these manuals and handbooks do not give specific instruction or modeling for follow-up or data collection for evaluation purposes. These FEMA/USFA handbooks would not be considered recent publications, but are still available today, and have not been revised. Many organizations and fire departments rely on these handbooks as the foundation of the programs in their communities. This author's JFP is an example of a program that used the handbooks as a foundation.

The Massachusetts State-Wide Juvenile Firesetter Program Coalition and the State of Illinois Youthful Firesetter Program are included in the survey of JFP's, and show a state-wide effort for consistent data collection. Through the analysis of the surveys returned, it becomes apparent that many programs base follow-up and data collection according to individual needs and budgetary constraints.

The challenge to a jurisdiction or organization is to strive to develop a program within the constraints of a limited budget and resources and at the same time strive to emulate national modeling. One can understand quickly the implications of an adequate JFP that covers the spectrum of necessary parts of an entire program. Thus, the results of programs that begin small, are homegrown, and grow as the program necessitates (Cook, et al., 1989).

RECOMMENDATIONS

To justify the worth and effectiveness of a JFP within budgetary constraints, the following recommendations are suggested:

The existing data collection system or MIS should be compared to the national model found in the NFJ/ACP series (FA-146, 1994, FA-147, 1994, FA-145, 1994, FA-149, 1994), and revised to include the necessary elements that are not currently included. This would involve improving the current computer database and forms. To implement these changes it is important to make it as user friendly as possible to ensure that information retrieval is accomplished. This retrieval also needs to be efficient to make the most of staff time.

Follow-up frequency with juvenile firesetters and their families should be increased to parallel the national model found in the NFJ/ACP series (FA-146, 1994, FA-147, 1994, FA-145, 1994, FA-149, 1994). To accomplish this, the MIS should be formatted to provide on-going information relevant to the juvenile firesetter. A method should be provided to easily receive or acquire reminders or ticklers to follow-up on the numerous different cases that are current. And as a result of this follow-up plan, a procedure should be drafted to deal with juveniles when follow-up indicates reoccurrence of fireplay or firesetting.

To compare the results of the JFP first to local state statistics and recidivism rates, the need arises for improved reporting and evaluation from the other local fire department, county-based task force organizations, and on a state level. The challenge in this recommendation is the ability of a small volunteer fire department to provide a JFP with budget constraints, staff and time limitations, as well as recognizing the need. Unless the need is recognized, the probability of a county level task force is not as attainable. The recommendation is to encourage and support the State Fire Marshal to implement the education, training, and structure to implement a statewide coalition.

Comparing local JFP results nationally requires locating the individuals throughout the U.S. who have statistics and results for JFP's on a statewide scale. Networking is a valuable tool to accomplish this. Using the World Wide Web can serve as an invaluable tool. This has been shown by the survey results conducted for this research project, in which most of the JFP's were found using the World Wide Web. Contacting resources found in handbooks and manuals is also a good resource, but one must recognize that the contact person, address, and phone number may not be up-to-date. These resources may also be limited in number.

A recommendation on a national level is for the FEMA/USFA to develop a generic computer program that is flexible and can be tailored to a JFP as needed. This would provide the initiative to encourage data collection and evaluation based on a national model.

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