EVALUATION OF THE EFFECTIVENESS OF THE SMOKE ALARM INSTALLATION AND FIRE SAFETY EDUCATION (SAIFE) PROGRAM

Supporting Statement for OMB Review

Contract No: 200-2001-00123

Prepared by:

RTI International 3040 Cornwallis Road P.O. Box 12194 Research Triangle Park, NC 27709-2194 (919) 541-6000

Submitted by:

Michael (Mick) Ballesteros, Ph.D. Project Officer/Epidemiologist National Center for Injury Prevention and Control (NCIPC) Centers for Disease Control and Prevention (CDC) 4770 Buford Highway, NE, Mailstop K-63 Atlanta, GA 30341 770-488-1308 (work); 770-488-1317 (fax) <u>mballesteros@cdc.gov</u> (email)

August 24th, 2009

TABLE OF CONTENTS

| А. | JustificationA-1 |
|----|--|
| | A.1 Circumstances Making the Collection of Information NecessaryA-1 |
| | A.2 Purpose and Use of Information CollectionA-3 |
| | A.3 Use of Improved Information Technology and Burden Reduction |
| | A.4 Efforts to Identify Duplication and Use of Similar InformationA-6 |
| | A.5 Impact on Small Businesses or Other Small EntitiesA-6 |
| | A.6 Consequences of Collecting the Information Less FrequentlyA-6 |
| | A.7 Special Circumstances Relating to the Guidelines of 5 CFR 1320.5A-7 |
| | A.8 Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency |
| | A.9 Explanation of Any Payment or Gift to RespondentsA-7 |
| | A.10 Assurance of Confidentiality Provided to RespondentsA-8 |
| | A.11 Justification for Sensitive QuestionsA-9 |
| | A.12 Estimates of Annualized Burden Hours and CostsA-9 |
| | A.13 Estimates of Other Total Annual Cost Burden to Respondents or Record Keepers |
| | A.14 Annualized Cost to GovernmentA-12 |
| | A.15 Explanation for Program Changes or AdjustmentsA-13 |
| | A.16 Plans for Tabulation and Publication and Project Time ScheduleA-13 A.16.1 Plans for PublicationA-14 A.16.2 Project TimelineA-14 |
| | A.17 Reason(s) Display of OMB Expiration Date is InappropriateA-15 |
| | A.18 Exceptions to Certification for Paperwork Reduction Act SubmissionsA-15 |
| B. | Collections of Information Employing Statistical MethodsB- |
| | B.1 Respondent Universe and Sampling MethodsB-1 |

| B.3 | Methods to Maximize Response Rates and Deal with Non-Response | B-4 |
|-----------|--|------|
| B.4 | Tests of Procedures or Methods to Be Undertaken | .B-7 |
| B5. | Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data | .B-8 |
| Reference | S | R-1 |

APPENDICES

- A. Legislative Authority
- B. Federal Register Notice
- C. RTI IRB Approval
- D. Data Collection Instruments
- E. Consent Form
- F. Notification Letters
- G. Information Letter

TABLES

| Table A-1. | Estimated Response Burden | A-11 |
|------------|--------------------------------|------|
| Table A-2. | Annualized Cost to Respondents | A-12 |
| Table A-3. | Estimated Year 1 Survey Cost | A-13 |
| Table A-4. | Project Timeline | A-15 |
| | | |

A. JUSTIFICATION

This project seeks a one year extension of its OMB PRA clearance for data collection. Due to early project delays in obtaining clearances for data collection, the project was unable to start as planned and missed evaluating one program cycle, with a program cycle running for approximately one year. This extension is necessary in order to complete the projects original design of evaluating three program cycles of the SAIFE program as implemented in the State of North Carolina. An extension will allow completion of the evaluation of the third and final cycle of the program.

The project has completed an evaluation of one complete program cycle of the SAIFE program (started in January 2007) and is currently in the process of collecting post-evaluation surveys for a second program cycle (started in January 2008) and is collecting pre-evaluation surveys as part of the third program cycle (started in January 2009). To date, the project has used 340 of its 752 allotted burden hours in our original OMB application. At this time, we predict needing another 271 burden hours to finish up data collection for the second and third years of evaluation for a total of 611 burden hours. This number was reached by conservatively assuming that we would successfully complete all of the remaining 81 post-evaluation surveys in the evaluation of the second program cycle. In year three, our aim is to still collect 360 total pre and post evaluation surveys for a total of 251 burden hours.

1. Circumstances Making the Collection of Information Necessary

Each year, approximately 400,000 residential fires occur in the United States, 1 every 78 seconds National Center for Injury Prevention and Control (NCIPC, 2000). In 2004, an estimated 3,190 fire-related fatalities occurred (approximately 1 every 3 hours; not including firefighters), and an estimated 14,175 additional fire-related injuries were reported (approximately 1 every 37 minutes) (Karter, 2005). The United States has the fourth-highest fire death rate of all industrialized countries (International Association for the Study of Insurance Economics, 2001).

Residential fires account for nearly 80 percent of all fire-related mortalities in the United States (Karter, 2005), the cause is usually related to cooking. Negligent handling of smoking materials is the most common cause of fires that result in a death (Ahrens, 2003). The biologic cause of death in most fatalities is the inhalation of smoke or toxic gases (Hall, 2001). In 2004, residential fires also resulted in more than \$5.9 billion in property damage (Karter, 2005).

A number of population groups have been identified as being at an increased risk for firerelated injury or death: children aged 4 or under, adults 65 or older, African Americans and Native Americans (Centers for Disease Control and Prevention (CDC) /National Center for Health Statistics(NCHS), 1998), persons living in rural areas (Ahrens, 2001), the poorest Americans (Istre, McCoy, Osborn, Barnard, & Bolton, 2001), and those living in manufactured homes or substandard housing (Runyan et al., 1992; Parker, et al., 1993).

Smoke alarms have been proven to be effective in reducing the fire death and injury toll; only one-fifth of fire deaths in the home from 1989 to 1998 were caused by fires in which a <u>smoke alarm</u> was present and operating properly

(http://www.nfpa.org/Research/NFPAFactSheets/HomeFire/ HomeFire.asp). Research shows that functioning smoke alarms are more likely to be present in a home when a fire safety program provides and installs them, rather than simply providing vouchers and/or discounts to individuals to obtain alarms that require resident installation.

Smoke alarms have been shown to reduce fire-related injury and fatality. Because approximately 80 percent of residential fire deaths between 1989 and 1998 occurred in homes without functioning smoke alarms, fire-safety education and smoke detector installation represent a significant and distinct means for decreasing the annual public health toll resulting from home fires.

The CDC is currently supporting programs to promote smoke alarm installations in 16 states. Since 1998, CDC has funded the *Smoke Alarm Installation and Fire Safety Education (SAIFE)* program in high-risk communities (those with fire death rates higher than state and national averages and median household incomes below the poverty level). Program staff have canvassed more than 330,000 homes and installed almost 250,000 long-lasting smoke alarms in high-risk homes, targeting households with children ages 5 years or younger and adults aged 65 years or older. Fire safety messages have reached millions of people as a result of these programs.

CDC funded 14 states from 1998 to 2000 for this program. Based on the success of these programs, in 2001, CDC awarded 5-year cooperative agreements to 13 states—Alabama, Alaska, Georgia, Kansas, Kentucky, Minnesota, Mississippi, New York, North Carolina, Oklahoma, South Carolina, Virginia, and Washington. Each state that participated in the program was to install long-lasting, lithium-powered smoke alarms and to provide fire-safety education in homes in high-risk communities. In 2002, 3 additional states (Arkansas, Massachusetts, and Montana)

were awarded funding for these activities, bringing the total number of CDC-funded states to 16. The current 5-year SAIFE funding cycle, which ends after FY2006, funds 16 states, each for \$135,000 to \$160,000 a year, for a total of approximately \$2.3 million a year. CDC expects to begin another 5-year SAIFE funding cycle in FY2007, pending availability of funds.

To date these programs have not been studied scientifically to assess their impact on firerelated injury outcomes. The study proposed here represents the first formal effort to evaluate the effectiveness and cost implications of the SAIFE program. The data collection is authorized under Sec. 301 [Sec. 241] of the PHS Act (Appendix A). The findings from this study will have the potential to inform other smoke alarm installation and fire safety education programs, as well as to indicate future priorities in prevention and preparedness for residential household fires.

In conducting an evaluation of smoke alarm installation programs, the SAIFE program, run under the title of *Get Alarmed* by the North Carolina Department of Health and Human Services (NCDHHS), has been in operation in North Carolina for more than 2 years and provides an established program that has the appropriate infrastructure in place to conduct a coordinated evaluation. North Carolina also offers a wide range of settings in which fire prevention interventions can be tested, from densely populated urban regions to agrarian rural communities, all containing heterogeneous populations with respect to age, ethnicity, education, and income.

North Carolina is also located in what has been called the "burn belt," an area of the southeast in which people are at higher risk of fire death than in many other areas of the United States. Between 1999 and 2001, North Carolina experienced 356 residential fire-related fatalities, an age-adjusted rate of 1.49 per 100,000 (CDC, 2004). North Carolina's residential fire mortality rates consistently exceed those for the rest of the United States (CDC, 2001). Another study of North Carolina residential fire deaths in 1985 found that among the 200 people who died in 159 house fires, mortality was disproportionately high for preschool children, older adults, and racial minorities (Patetta and Cole, 1990).

A.2 Purpose and Use of Information Collection

The purpose of this evaluation is to identify and characterize the effectiveness of the SAIFE program in improving knowledge about and adherence to fire safety principles. This will be done through both process and outcome evaluations geared toward characterizing the means of delivery of the intervention and any effects it may have on outcomes.

This data collection addresses two priorities in the CDC's Injury Research Agenda for Prevention Injuries at Home and in the Community:

1. Evaluate strategies for widespread dissemination and implementation of effective interventions to reduce injuries at home and in the community. (Priority A)

2. Identify modifiable behavioral responses to residential fires and evaluate interventions to prevent fire-related injuries in mass trauma events. (Priority B)

Under contract with the CDC, Research Triangle Institute (RTI) International and The University of North Carolina (UNC) Injury Prevention Research Center (IPRC) will conduct evaluation research to assess the effectiveness of the Smoke Alarm Installation and Fire Safety Education (SAIFE) program, as implemented by the North Carolina Department of Health and Human Services (NCDHHS).

The purpose of this 3-year data collection is to determine the degree to which the SAIFE program improves knowledge, attitudes, and practices about fire and burn safety. We also hope to determine, to the extent possible, the incidence of fires and injuries associated with fires, among those particularly at risk for fire-related injuries (e.g., children under 5, adults aged 65 or older, persons with low socioeconomic status).

Over a data collection period of 3 years, approximately 1,275 households participating in the SAIFE/Get Alarmed program in North Carolina will be asked to participate in the evaluation. Because respondents will be receiving up to \$75 in free safety equipment (i.e., one to three smoke alarms) from participation in the SAIFE program, and because the self-administered survey will be delivered to respondents' by their local fire department, we expect a very high cooperation rate for the pre-intervention survey. Additionally, based on our experience in the pilot/cognitive testing and with similar evaluations, we expect the response rate to the SAIFE evaluation surveys to be approximately 85 percent, which will result in approximately 1,080 households providing pre- and 6-month post-intervention responses. During each of the data collection years, 360 adults over the age of 18 will participate in the evaluation.

All homes that are visited for smoke alarm installation, as part of the normal conduct of the SAIFE program, are eligible to be included in this evaluation. The firefighter/fire safety educator will give a self-administered paper and pencil survey to the household member participating in the smoke alarm installation and fire safety education program. The survey, which should take approximately 15 minutes of the participant's time, is to be completed while the smoke alarm is being installed. The same participants will then be re-contacted in 6 months for a follow-up interview to be conducted by telephone; this process will also take approximately 15 minutes.

In addition, each year 10 percent of households involved in the smoke alarm installation program and evaluation will be visited for a one hour in-person follow-up survey approximately 6 months after installation in order to validate the post-intervention telephone survey answers and to allow a physical assessment of smoke alarm functionality.

Information garnered through this evaluation of the SAIFE program can be used to improve the implementation and administration of similar current and future programs. Specifically, the information will help CDC to improve the implementation and support of community-based public health interventions aimed at reducing the risk of fire-related injury, death, and property damage in vulnerable societal groups such as children, the elderly, and disabled.

Absence of these data would prevent an evaluation of the effectiveness of the program, therefore hindering future decision making and program planning regarding the SAIFE program. Continued data collection is needed to provide sufficient numbers of participants to identify any possible statistical relationships.

A.3 Use of Improved Information Technology and Burden Reduction

The project team, which consists of staff from RTI and the UNC IPRC, will work closely with CDC and the NCDHHS to develop the most rigorous and effective evaluation design possible during the first year of the study. The study design is a longitudinal, mixed-mode evaluation that will compare changes across time among community members who have participated in the SAIFE intervention program.

In ongoing and substantive discussions with NCDHHS, the project team has developed a plan for a collaborative approach to the evaluation. The project will provide support for liaisons at NCDHHS and the project team to enable them to work together in identifying and recruiting intervention sites, managing the complex schedule of pre- and 6-month post-intervention data collection processes, along with the training of, and coordination with, fire department personnel who will conduct the interventions.

The evaluation design assesses both process and outcome measures. The design will feature a process evaluation, using onsite structured observation of intervention activities, to examine program implementation and assess fidelity to the planned intervention. Outcome measures to be assessed include changes in knowledge, attitudes, beliefs, and behaviors (KABB) regarding various aspects of fire safety and prevention; presence of functioning smoke alarms; and costs associated with the SAIFE intervention program. Assessment of the outcome measures

will be conducted with 360 individuals a year for 3 years in the form of a self administered survey conducted at the time of receipt of the SAIFE intervention, a telephone follow-up survey using computer assisted telephone interviewing (CATI) 6 months later, and home visits to 10% of participating households. Both the self-administered survey and the CATI survey have been designed with respondent burden in mind and have been thoroughly pilot tested to ensure ease of understanding and to minimize the amount of time spent answering items. Based on pilot/cognitive testing of the survey instruments, the response burden on survey respondents is estimated to be an average of 30 minutes total per respondent (15 minutes each for the pre- and 6-month post-intervention CATI surveys). For additional information on respondent burden, (see *Section A.12.*)

A.4 Efforts to Identify Duplication and Use of Similar Information

Although some studies have been performed to identify strategies to increase smoke alarm use in high-risk households, few have examined and evaluated such programs in the context of community-based implementation. No study has been implemented to examine the SAIFE program, in the detail that this one will. A Pub-Med literature search yielded no research studies offering comparable information. Further, no relevant research could be identified on sites representing locations implementing the SAIFE program.

CDC has not conducted an independent, formal, or systematic evaluation of the SAIFE Program. CDC program staff have no knowledge of existing data that would meet the needs of this evaluation.

A.5 Impact on Small Businesses or Other Small Entities

No small businesses will be involved in the collection of data for this study. We foresee no impact on small businesses or other small entities from this research.

A.6 Consequences of Collecting the Information Less Frequently

The evaluation of the SAIFE program consists of three points of data collection: two surveys (administered to 360 households per year) that address participant household characteristics as well as knowledge, attitudes, beliefs, and behaviors related to fire safety in the home, and for 10% of participating households one home visit that consists of a survey and testing of smoke alarms. Upon Office of Management and Budget (OMB) approval, the survey will be conducted with an adult (aged 18 or older) member of households participating in the SAIFE program. The information obtained from this project will help CDC, state health officials, other federal agencies, and other stakeholders to improve community-based public health interventions to reduce the risk of fire-related injury, death, and property damage. Failure to collect these data would severely limit CDC's ability to assess the impact of the SAIFE program, currently in its second 5-year funding period. Annual data collection of preand 6-month post-intervention is critical to demonstrate the program's effectiveness. The 6month post-intervention data collection is necessary to gauge whether immediate effects lasted. The home visit data collection is necessary to valid responses from the 6-month post-intervention telephone survey and to understand if installed smoke alarms are functional. The absence of such data collection would impact the acquisition of a knowledge base for future decision making and program planning related to residential fire prevention and the goals of the SAIFE program.

There are no legal obstacles to reduce the burden.

A.7 Special Circumstances Relating to the Guidelines of 5 CFR 1320.5

There are no circumstances under which data collection will be inconsistent with guidelines in 5 *Code of Federal Regulations* 1320.5.

A.8 Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency

The notice in the *Federal Register* (Vol. 74, No. 109, Tuesday, June 9, 2009, p. 27323) soliciting comments is shown in Appendix B. No public comments were received in response to this notice.

The only individuals outside of CDC who have been consulted about the availability of data, clarification of instructions, and on data elements to be collected include staff of the evaluation contractor, Research Triangle Institute (RTI) and the subcontractor (the University of North Carolina Injury Prevention Research Center). In addition, in 2005 staff of the North Carolina Department of Health and Human Services were consulted regarding issues of cooperation with local fire departments. These individuals included Ms. Sherri Troop (Project Director, 919-715-6450) and Ms. Jeanne Givens (Interim Head of the Injury and Violence Prevention Branch, 919-715-6448), both employees of the NCDHHS Department of Injury and Violence Prevention.

A.9 Explanation of Any Payment or Gift to Respondents

Generally, gifts or incentives for respondents are used to increase response rates and reduce refusals while conducting surveys of various modes. Because respondents will be receiving up to \$75 in free safety equipment (i.e., one to three smoke alarms) for participating in the SAIFE program, and the self-administered survey will be delivered to respondents' by their

local fire department, we expect a very high cooperation rate for the pre-intervention survey. Therefore, no payment or gift will be offered for completion of the pre-intervention survey.

However, upon completion of the 6-month post-intervention telephone survey, respondents will be mailed a check for \$10 as an incentive. The incentive is to acknowledge the time they spent completing the surveys and to thank them for completing both surveys. Prenotification letters (Appendix F1) sent to respondents prior to the 6-month post-intervention survey will specifically inform them that they will receive a \$10 gift from the research team for their time and opinions. Past research has shown that pre-notification of incentives or payments to respondents will increase the level of cooperation (Dillman, 2000; Keeter, Miller, Kohut, Groves, and Presser, 2000; Fowler, 1993; Dillman, 1978). As with the pre-intervention survey, we expect high cooperation rates for the 6-month post-intervention survey.

A.10 Assurance of Confidentiality Provided to Respondents

The CDC Privacy Act Officer has reviewed this project and has determined that the Privacy Act is applicable. Full names will be collected because individuals will be re-contacted for pre- and post- intervention evaluations. The applicable Privacy Act system of records in 09-20-0136, "Epidemiologic Studies and Surveillance of Disease Problems. While personally identifiable data will be permanently deleted from study files and paper materials including this information will also be destroyed at the completion of the period of performance, the contractor, RTI International, will have access to study information for a period of time, and some of the information in the survey can be considered sensitive. The various parts of question 11 request information as to whether the respondent had a fire in the home and questions dealing with the cause of the fire, injuries sustained, etc. could be considered sensitive by at least a segment of the population, and hence, require the protection afforded by the Privacy Act. This is in line with past OGC determinations that the Privacy Act is applicable when a contractor has access to sensitive information collected in identifiable form even if the information will be identifiable for even a short time."

Survey data will be accessible only to project personnel. All participant files will be kept in locked cabinets to ensure data security. Only project staff will have access to these locked cabinets. Confidentiality assurances will be consistent with the Office for Human Research Protections and the standards of RTI's Institutional Review Board (IRB). The RTI's IRB has reviewed and approved (Appendix C) all related materials such as informed consent forms, data collection instruments, data collection procedures, and safeguards for protection of information prior to any contact with human subjects (Federal-wide Assurance #3331, effective until 4/11/2007) issued by the Office for Human Research Protections (OHRP). All respondents will be informed that there will be no effect upon their household receiving the SAIFE program intervention for not participating.

All personal identifying information for study participants will be permanently deleted from study data files at the completion of the period of performance. Any paper materials including this information will also be destroyed. Responses in any reports or other materials will be reported in aggregate.

A.11 Justification for Sensitive Questions

The proposed pre- and 6-month post-intervention surveys are voluntary, and no one is required to participate. In addition, respondents may decline to answer any question in the survey. This voluntary aspect of the survey is clearly stated in the informed consent and will be stressed in fire department and interviewer training. The various parts of question 11 request information as to whether the respondent had a fire in the home and questions dealing with the cause of the fire, injuries sustained, etc. could be considered sensitive by at least a segment of the population.

A.12 Estimates of Annualized Burden Hours and Costs

Based on pilot/cognitive testing of the survey instruments, the response burden on survey respondents is estimated to be an average of 30 minutes total per respondent (15 minutes each for the pre- and 6-month post-intervention surveys). In addition, approximately 36 of the households involved in the smoke alarm installation program and evaluation also will be visited for a 1 hour to validate the answers from the 6-month post-intervention telephone survey and to conduct a physical assessment of smoke alarm functionality. It is anticipated that approximately 425 individuals will need to be approached to get 360 annual participants. There will be no additional screening document. All households that participated in the program are eligible for evaluation. Those who refuse to participate in the evaluation, will be captured by the failure to sign the consent form. The explanation of the survey and request for consent for each of these 425 individuals will take approximately 5 minutes, for a total of 235 burden hours for those who fully participate. For details regarding the total burden to respondents, see *Table A-1*. The SAIFE evaluation survey instruments include a pre-intervention paper and pencil survey that will be completed by respondents during the home visit and a 6-month post-intervention follow-up survey that will be administered by telephone 6 months later. The estimated time to complete each survey is approximately 15 minutes. The pre- and 6-month post-intervention surveys are necessary as they will provide an assessment of changes in respondent knowledge, attitudes,

beliefs, and behaviors (KABBs) as a result of the SAIFE intervention. The home visit to 36 households is necessary to insure thas the answers given in the 6-month post telephone survey would have been the same if this survey was conducted in-person. Respondents to the survey instruments will be an individual adult participant (aged 18 or older) in each household in which the SAIFE program is being implemented.

Number of **Average Burden Estimated Total** Number of **Responses** Per **Per Response Annual Burden Type of Respondents** Respondents Respondent (in hours) (in hours) Adult male and female 1 35 (age 18+ years) 425 5/60 screened Adult male and female (age 18+ years) 360 15/60180 2 Pre/Post Evaluation survey Adult male and female (age 18+ years) 36 1 1 36 household visit Total (Pre and Post) 251

Table A-1. Estimated Response Burden

An easy-to-use paper and pencil survey booklet (Appendix D1) will be used to collect data during the home visit for pre-intervention data. This form has been designed to be easy to read and respond to based on pilot/cognitive testing conducted in test households in North Carolina. The post-intervention survey (Appendix D2) will be administered by telephone 6 months after the home visit to assess any change in KABBs over time. The 6-month postintervention survey will utilize computer-assisted telephone interview (CATI) instruments, which have been designed to maximize ease of response, e.g., through skip patterns and automated data entry, to decrease respondent burden. In addition to this telephone survey, 10 percent or 36 households will be visited by project staff to verify the accuracy of responses to the 6-month post-intervention telephone survey. The questions asked during this visit will be the same as the question contained in Appendix D2.

Based on second quarter 2004 reports from the U.S. Bureau of Labor Statistics, of fulltime and salaried workers, the median weekly wage was \$639. This wage divided by 40 hours is equal to \$15.98 per hour. The total respondent cost for the participants in the screening interview is \$559.30. The total respondent cost for both survey instruments is \$2,876.40. The total respondent cost for household visits is \$575.28. Therefore, the total respondent cost for this study is \$4,010.98 (see *Table A-2*).

Table A-2. Annualized Cost to Respondents

| Type of Respondents | Total Burden Hours | Hourly Wage Rate | Respondent Cost |
|---|--------------------------|------------------------|--------------------|
| Adult male and female (age 18+ years) screened | 35 | \$15.98 | \$559.30 |
| Adult male and female (age 18+ years) surveys | 180 | \$15.98 | \$2,876.40 |
| Adult male and female (age 18+ years) household visit | 36 | \$15.98 | \$575.28 |
| Total | | | \$4,010.98 |

There are no other costs to respondents. There are also no respondent recordkeeping requirements associated with the surveys.

A.13 Estimates of Other Total Annual Cost Burden to Respondents or Record Keepers

Collection of information for this study will occur on an annual basis for 3 consecutive years (2006-2009). Respondents will represent households in selected communities for a given year of data collection. Data will be collected in the form of a pre-intervention paper and pencil survey at the point of the initial home visit, a post-intervention at 6 months via a CATI telephone interview, and paper and pencil survey at the point of the follow-up home visit to 10% of participating households. Because different communities will be the focus of the SAIFE intervention program evaluation each year, it is very unlikely that any one individual will be asked to complete the same survey more than once. The potential for duplication is also monitored by NCDHHS as part of the SAIFE program's implementation in North Carolina. Thus, the burden to respondents will be kept to a minimum.

A.14 Annualized Cost to Government

The external (contractor) costs to the federal government for conducting the research for which OMB clearance is required will be approximately \$248,797 in year 1. The project will cost approximately the same amount each year to achieve all of the planning, evaluation, and reporting goals. For budgeting purposes, we assume an annual cost increase of 3 percent. This yields a total data collection cost of \$998,846. This cost is associated with the contractor's

reimbursement for developing the survey protocols, selecting the samples, conducting data collection, processing data, producing a weighted data set and frequency distributions, and writing an annual report on the study's methods and findings. Contractor's cost items for year 1 are shown in *Table A-3*.

| Task | Cost (\$) | |
|-------------------------------------|-----------|--|
| Labor Costs* | | |
| Redesign evaluation plan | 31,777 | |
| Develop surveys | 21,000 | |
| OMB/IRB preparation | 19,515 | |
| Conduct survey | 0 | |
| Screen and prepare data file | 0 | |
| Analyze data | 0 | |
| Task monitoring and monthly reports | 2,500 | |
| Write yearly summary report | 8,000 | |
| Other Direct Costs | | |
| Computer expense | 530 | |
| Travel | 4,320 | |
| Printing/copying | 129 | |
| Shipping and postage | 50 | |
| Supplies | 100 | |
| Telephone | 65 | |
| Incentives | 240 | |
| Subcontractors | 98,853 | |
| Overhead (ITE, Fee, G&A, and MSE) | 61,718 | |
| Total | \$248,797 | |

Table A-3. Estimated Year 1 Study Cost

*Labor costs include fringe and benefits.

Additionally, CDC estimates **\$8,500** in annual federal staff labor costs and travel associated with contractor management and supervision of the data collection activities. Combined with contractor costs, this yields a total cost of **\$257,297** in year 1, and **\$771,891** over the full 3-year data collection period.

A.15 Explanation for Program Changes or Adjustments

This is an extension of a previously approved data collection of information. As such, no program changes or adjustments are being made.

A.16 Plans for Tabulation and Publication and Project Time Schedule

Two stages of analysis are anticipated: (1) preliminary analysis of pre-intervention data, and (2) final analysis using both pre- and 6-month post-intervention data to examine the full set of research questions, which include changes in the outcome measures (knowledge, attitudes, beliefs, and behaviors). Preliminary analyses will begin immediately after collection of pre-intervention data. Analyses will be conducted using SAS or similar statistical software.

Preliminary analyses will begin with descriptive statistics—frequencies and crosstabulations—to examine the respondents' characteristics, explore the potential for inferential analyses, and test for between-group (e.g., gender, race/ethnicity) differences. Once 6-month post-intervention data are available, we anticipate developing preliminary inferential statistical models (as appropriate).

- Frequencies for all measured variables
- Sample characteristics (primarily cross-tabulations)
- Regression/predictive models (as appropriate)

Using these methods, we will conduct the following:

- Pre- vs. 6-month post-intervention comparisons among participants each year
- Pooled analyses
 - Year-to-year comparisons of sample populations (comparing demographics to show any variation in respondents)
 - Comparisons of major strata variables such as location (urban, rural, suburban), income, and the presence of high-risk household members (children, elderly, disabled)

A.16.1 Plans for Publication

We anticipate publishing results of the data collection in the form of reports, presentations at professional meetings such as the American Evaluation Association and American Public Health Association, and manuscripts submitted to peer-reviewed journals. All publications will be reviewed and approved through standard CDC clearance procedures prior to submission.

A.16.2 Project Timeline

The key events and reports to be prepared by the evaluation contractor are listed in the following schedule (*Table A-4*).

Table A-4. Project Timeline

| Activity | Schedule |
|--|-----------------------------------|
| Selection of fire departments | 0 - 1 month after OMB approval |
| Year 1: | |
| Training of fire department personnel | 0 - 1 month after OMB approval |
| Pre-intervention survey | 1 - 4 months after OMB approval |
| 6-month post-intervention survey | 6 - 10 months after OMB approval |
| Data processing | 8 - 11 months after OMB approval |
| Year 2: | |
| Training of fire department personnel1 | 12 - 13 months after OMB approval |
| Pre-intervention survey | 13 - 16 months after OMB approval |
| 6-month post-intervention survey | 18 - 22 months after OMB approval |
| Data processing | 20 - 23 months after OMB approval |
| Year 3: | |
| Training of fire department personnel1 | 24 - 25 months after OMB approval |
| Pre-intervention survey | 25 - 28 months after OMB approval |
| 6-month post-intervention survey | 30 - 34 months after OMB approval |
| Data processing | 32 - 35 months after OMB approval |
| Writing and delivering reports | 34 - 36 months after OMB approval |

Data collection will occur on an annual basis, and clearance is requested for the next 3 years (through 2009).

A.17 Reason(s) Display of OMB Expiration Date is Inappropriate

This evaluation plans to display the expiration date for OMB approval of the information collection on the paper and pencil pre-intervention survey. We do not seek a waiver for this survey instrument. However, the 6-month post-intervention will be conducted by telephone using CATI survey system, which will not display any information to respondents. We request a waiver from displaying the expiration date for the OMB approval with this second survey, which will be conducted by telephone.

A.18 Exceptions to Certification for Paperwork Reduction Act Submissions

No exceptions to certification for paperwork reduction act submissions are requested.

REFERENCES

- Ahrens, M. (2003). The U.S. Fire Problem Overview Report: Leading Causes and Other Patterns and Trends. Quincy, MA: National Fire Protection Association.
- Centers for Disease Control and Prevention (CDC) (2004). Web-Based Injury Statistics Query and Reporting System (WISQARS) [Online]. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). Available from: URL: www.cdc.gov/ncipc/wisqars. [2004, June 23].
- Centers for Disease Control and Prevention (CDC) (2001). Web-Based Injury Statistics Query and Reporting System (WISQARS) [Online]. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). Available from: URL: www.cdc.gov/ncipc/wisqars. [2002].
- Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS) (1998). National Vital Statistics System. Hyattsville, MD: U.S. Department of Health and Human Services, CDC, National Center for Health Statistics.
- Dillman, D.A. (1978), *Mail and Telephone Surveys: The Total Design Method*. New York: Wiley and Sons.
- Dillman, D.A. (2000). Mail and Internet Surveys. New York: Wiley and Sons.
- Fowler, F.J. (1993). Survey Research Methods (2nd ed.). Thousand Oaks, CA: Sage.
- Groves, R.M., and M.P. Couper (1998). *Nonresponse in Household Interview Surveys*. New York: Wiley and Sons.
- Hall, J.R. (2001). "Burns, Toxic Gases, and Other Hazards Associated with Fires: Deaths and Injuries in Fire and Non-Fire Situations." Quincy, MA: National Fire Protection Association, Fire Analysis and Research Division.
- International Association for the Study of Insurance Economics. (2001). *The World Fire Statistics: Annual Report to the UN Committee on Human Settlements*. Geneva (Switzerland): The International Association. (http://www.nfpa.org/Research/ NFPAFactSheets/HomeFire/HomeFire.asp). Accessed on 9 June 2004.
- Istre, G.R., M.A. McCoy, L. Osborn, J.J. Barnard, and A. Bolton. (2001). Deaths and Injuries from House Fires. *New England Journal of Medicine* 344:1911–16.
- Karter, M.J. (2005). Fire Loss in the United States during 2004. Quincy, MA: National Fire Protection Association, Fire Analysis and Research Division.
- Keeter, S., C. Miller, K. Kohut, R.M. Groves, and S. Presser. (2000). "Consequences of Reducing Nonresponse in a National Telephone Survey." *Public Opinion Quarterly* 64:413–28.

- National Center for Injury Prevention and Control (NCIPC). (2000). *Fact book: Working to Prevent and Control Injury in the United States*. Atlanta, GA: Centers for Disease Control and Prevention.
- North Carolina Fire and Rescue Commission, Office of the State Fire Marshal. (1999). *Fire in North Carolina*. Raleigh: North Carolina Fire and Rescue Commission.
- Parker, D.J., D.P. Sklar, D. Tandberg, M. Hauswald, and R.E. Zumwalt. (1993). Fire Fatalities among New Mexico Children. *Annals of Emergency Medicine* 22(3):517–22.
- Patetta, M.J., and T.B. Cole. (1990). A Population-Based Descriptive Study of Housefire Deaths in North Carolina. *American Journal of Public Health* 80 (9): 1116–1117.
- Runyan, C.W., S.I. Bangdiwala, M.A. Linzer, J.J. Sacks, and J. Butts. (1992). Risk Factors for Fatal Residential Fires. *New England Journal of Medicine* 327(12):859–63.