EUREKA FACTS

INFORMATION COLLECTION REQUEST (ICR):

OMB supporting statement and privacy impact assessment for:

Survey on Usage and Functionality of Smoke Alarms and Carbon Monoxide Alarms (SCOA) in US Households.

Renewal

June 19, 2021

CIRO ISO 20252 CERTIFIED RESEARCH STANDARDS

Smart Research Solutions

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Prepared in compliance with ISO 20252 International Quality Standard for Market, Public Opinion and Social Research

OMB Supporting Statement Part A and Part B

A. JUSTIFICATION

A.1. *Circumstances Making the Collection of Information Necessary*

This is a request for the implementation of a national in-home survey to estimate usage, user hazard perception, and functionality of the smoke and carbon monoxide (CO) alarms in US households. This would be accomplished through the administration of the Survey on Usage and Functionality of Smoke Alarms and Carbon Monoxide Alarms in US Household, hereby referred as the SCOA survey. This data collection effort will provide an updated national estimate of operability of smoke alarms and carbon monoxide alarms based on direct observation. This data will allow for better targeting of policy, messaging, and interventions to improve the operability rate of smoke and CO alarms, as well as inform the Consumer Product Safety Commission (CPSC) of recommendations to state/local jurisdictions related to codes, standards, and/or regulations of smoke and CO alarms.

In 1992, the Consumer Product Safety Commission (CPSC) sponsored a national in-home survey to collect information on the number of residential smoke alarms in actual use in homes and to evaluate the operability of the sampled alarms. The results were published in the 1994 report, Consumer Product Safety Commission Smoke Detector Operability Survey Report On Findings[1], which turned 25 years old in 2017. Although the survey results were instrumental for many years in developing codes and standards related to smoke alarms, subsequent changes in technology, installation codes, and state/local ordinances have rendered the information outdated and less effective, and therefore less applicable. Given the changes in technology and state/local regulations, the increased use of CO alarms, and the value of the past study, CPSC seeks to collect new data related to smoke and CO alarm use and operability.

Two organizations, National Fire Protection Association (NFPA) and Vision 20/20, have expressed the need and benefits of repeating the CPSC 1992 survey. The NFPA publishes a periodical report, Smoke Alarms in U.S. Homes Fires[2], which provides the latest information about smoke alarms in home fires. The report recognizes the importance of the 1992 study. The report states, "This study is the gold standard for smoke alarm research. The most complete study of smoke alarm presence and operational status in the general population was done by the U.S. Consumer Product Safety Commission's (CPSC's) National Smoke Detector Project in 1992." The report points out the key aspect between the CPSC study and other recent studies - "This [CPSC] project surveyed the general population, not just high-risk groups or people who had fires." More recent studies by other groups have usually been combined with smoke alarm installation programs and typically target high-risk groups, rather than the general population. The NFPA still sees the importance of the survey even though the information may be outdated. The Institution of Fire Engineers US Branch has established a steering committee, Vision 20/20, comprised of noted fire service and related agency leaders to guide a national strategic planning process for the fire loss prevention that results in a national plan that will coordinate activities

[1] Charles L. Smith, *Smoke Detector Operability Survey – Report on Findings*, (Bethesda, MD: U.S. CPSC, November 1993).

[2] Marty Ahrens, *Smoke Alarms in U.S. Home Fires*, Quincy, (MA: NFPA, September 2015).

and fire prevention efforts. In March 2015, Vision 20/20 hosted a one-day Smoke Alarm Summit at Johns Hopkins Bloomberg School of Public Health that included representatives from different stakeholder groups such as the fire service, academia, government, non-profit, and private sector organizations convened on the summit to develop consensus recommendations on:

1. Evidence-based and evidence-informed policy and practice interventions that will increase the installation and maintenance of smoke alarms in all homes in the United States
2. High priority research gaps that need to be addressed
3. Next steps to ensure that the findings from this meeting inform policy and practice

The findings from the report, Evidence Informing Action: Consensus Priorities to Increase the use of Smoke Alarms in U.S. Homes,[3] identified the next steps and priorities for a national effort to increase the installation and maintenance of smoke alarms that were obtained from experts who presented at the Summit and respondents who provided feedback during and after the Summit. The number one priority was, "1. Conduct a national census (or representative sample in-home survey) on the prevalence and characteristics of smoke alarms." The experts at the summit all agreed that an updated national survey needs to be conducted to develop a national effort to increase the installation and maintenance of smoke alarms in the US.

A.2. *Purpose and Use of the Information Collection*

The purpose of the SCOA survey is to collect data that will assist CPSC with better estimation of the number and types of smoke and CO alarms installed in US households, the proportion of working smoke and CO alarms, the characteristics of residences and residents where the smoke and CO alarms are not operational, perceptions of residents related to the cause of "false" alarms or causes of faulty alarms, consumer hazard awareness, and consumer behavior related to alarm use and smoke and CO hazards.

The information collected from this survey will allow CPSC to provide an updated national estimate of operability of smoke alarms and CO alarms based on direct observation. It will also allow us to create a demographic profile of groups that do not have operable smoke alarms and/or CO alarms. This includes measures from the perspective of household members lacking operable alarms as to why they lack functional alarms. This will allow for better targeting of policy, messaging and interventions to improve the operability rate of these alarms. It will also provide insights as to the kinds of alarms that are present to determine whether one variety or another is more likely to be inoperable as well as provide some measure as to the age of alarms in households. Results of the survey will inform CPSC of recommendations to state/local jurisdictions related to codes, standards, and/or regulations of smoke and CO alarms. The information can help improve the voluntary standard for carbon monoxide alarm, UL 2034[4], and guide state and local jurisdictions for the use and installation of CO alarms. While the installation

[3] Johns Hopkins Center for Injury Research and Policy, *Evidence Informing Action: Consensus Priorities to Increase the use of Smoke Alarms in U.S. Homes* (Warrenton, VA: National Smoke Alarm Submit, 2015).
[4] Underwriter Laboratories, "Standard for Single and Multiple Station Carbon Monoxide Alarms," Standard 2034, Edition 4, March 31, 2017. https://www.shopulstandards.com/ProductDetail.aspx?UniqueKey=32610

codes for the two products, especially as required by states or local jurisdictions, are different, it was determined that the information collection regarding these two products could be combined in one survey as a means of optimizing resources and reducing burden.

A.2.1. *Description of Survey*

The SCOA survey seeks to collect information from 1,185 households* within the United States. The survey will be conducted only through face-to-face in-home interviews. Since previous research showed that self-reporting surveys on use and functionality of smoke alarms provided overestimated results of smoke alarms operability, CPSC identified the need to conduct in-home direct testing and examination of smoke alarms, in addition to conducting data collection through traditional survey questions.

Households will be recruited to participate at their front door. If the head-of-household is interested in participating they will be immediately screened. In accordance with CDC guidelines, the interviewer will ask a series of questions to ensure that no one in the household has COVID-19, symptoms of COVID-19, or are currently quarantining because of COVID-19. If respondents clear all questions, the rest of the screening questions would be asked. This ensures a safe environment for the research team and the members of the household.

During the screening process, if the respondent indicates they have a smoke alarm that is not connected to a central or security alarm, and thus allows a direct testing of the alarms, the respondents will be eligible for the full-length in-home interview. However, if the smoke alarm cannot be tested because the household does not have an alarm installed or if the alarms are connected to a central alarm system that will notify the police or fire department, then the respondent will only be eligible for a shortened version of the survey. This shortened version consists of a subset of survey questions about safety attitudes and demographics. CPSC's Contractor—EurekaFacts, a market and social sciences research company—will conduct all the tasks related to design, administration, fielding, analysis and reporting of the survey.

This survey will allow CPSC to better assess the next steps and priorities to increase installation and maintenance of smoke and CO alarms for the general population by understanding their level of awareness, perceptions, and demographics. The survey items will also help inform CPSC of recommendations to provide state/local jurisdictions related to codes and standards.

The SCOA survey will provide the only source of data available to answer the following research questions:

- What proportion and number of households have smoke and/or carbon monoxide (CO) alarms installed in their home? Of these households with alarms, what proportion and number have an operational alarm?
- What proportion and number of respondents perceive their home as safe? Does the availability of smoke or CO alarms influence their sense of safety? For what reasons do respondents not have alarms installed?

* 1,185 in-home surveys include 1,055 in the main survey and 130 in the pilot survey

- Does the characteristics of a respondent's residence affect the availability or operability of smoke or CO alarms? Does the characteristics of residency characteristics affect fire and CO risks?
- What proportion and number of respondents are aware of how to maintain and test their fire and/or CO alarms? Of these respondents, what methods, if any, do they use to maintain and test their alarms?
- Are there behaviors or activities, if any, that impact respondents either having alarms in their home and/or having functioning alarms in their home?
- What proportion of respondents seek out information about fire and CO safety? Of these respondents, what resources do they use to seek out information about fire and CO safety?
- What, if any, demographics demonstrate a relationship between respondents' possession of fire or CO alarms and their risk of fire and/or CO incidents?

The table below shows how survey items will aid in answering the research questions and what type of information it will provide.[5]

Table 1. Question Mapping of Survey Instrument to Research Purpose

Research Question	Corresponding Survey Item(s)	Purpose of Collected Information
What proportion and number of respondents have smoke and/or carbon monoxide (CO) alarms installed in their home? Of these respondents with alarms, what proportion and number have an operational alarm?	4a-4c, 5a-5c, 11a-11d, 14a-14d, 15a, 15b, 19a-19d, 20, 22a-22b, 25, 26-1a-26-1aa, 30, 32	The results will provide insight into the prevalence of alarms in respondents' homes, identify the types of alarms installed, and determine how many, if any, alarms are operational. Conversely, these items will also aid in revealing the proportion of the residents who do not have alarms in their home and help uncover the reasons why.
What proportion and number of respondents perceive their home as safe? Does the availability of smoke or CO alarms influence	4d, 5d, 20, 29, 30, 31, 32	This information will help understand how respondents personally define "safety" and how this perception influences

[5] The terminology "smoke alarms" and "CO alarms" is used in technical codes and standards to describe devices that incorporate a sensing component (detector) and an audible component (alarm). It was determined through cognitive testing that "smoke detector" and CO detector" has a higher consumer understandability for smoke alarms and CO alarms. The instrument incorporates the terminology "smoke detector" and CO detector" but in this document the terminology smoke alarm, CO alarm, or alarms (both units) will be used.

their sense of safety? For what reasons do respondents not have alarms installed?		whether or not they have alarms installed within their homes.
Do the characteristics of a respondent's residence affect the availability or operability of smoke or CO alarms? Do the characteristics of residency characteristics affect fire and CO risks?	1a, 4a – 4c, 5a – 5c, 6, 7, 8, 9a – 9c, 25, 27, 28	The results will provide insight into if the resident owns or rents the home, duration of residency, and the age of the household. These items will shed light on if there is a relationship between the characteristics of a respondent's home and their status of having alarms such as having an attached garage unit if they live in a single family detached house.
What proportion and number of respondents are aware of how to maintain and test their smoke and/or CO alarms? Of these respondents, what methods, if any, do they use to maintain and test their alarms?	10a – 10c, 11a – 11d, 12, 13, 18a – 18b, 19a – 19d, 21, 23	These questions help understand whether or not people have the knowledge and ability to test and maintain their smoke and/or CO alarms and the types of methods used. This can inform CPSC of the type of information that needs to be dispersed.
Are there behaviors or activities, if any, that impact respondents either having alarms in their home and/or having functioning alarms in their home?	33a – 33d, 35	This information is important as it will help understand the relationship between how respondents behave and what activities they engage in that may influence the likelihood of having alarms in their home such as their cooking behaviors of using a stove or oven.
What proportion of respondents seek out information about fire and CO safety? Of these respondents, what resources do they use to seek out information about fire and CO safety?	34a – 34c	This information will assist CPSC with addressing the best types of resources to disperse information about fire and CO safety.

What, if any, demographics demonstrate a relationship between respondents' possession of fire or CO alarms and their risk of fire and/or CO incidents?	36 - 44	This will help provide insight into the relationship between respondent demographics and their risk of fire or CO incidents. This will also shed light as to their status of whether or not they have a smoke or CO alarm(s).

A.2.2. *Survey Administration Procedures*

Originally, randomly selected households within the randomly selected tracts were contacted in advance via a mailed pre-notification letter. Households were then called to be screened to determine their eligibility for either an in-home or telephone interview and scheduled for a relevant type of administration mode. The initially approved OMB methodology yielded a response rate of less than one quarter of 1% (only 0.23%) during recruitment efforts in two metropolitan areas. OMB approved revisions were made to the screening instrument to raise the appeal, urgency and information on the public benefit of the study, along with streamlining of language for greater efficiency in screening potential participants. Following these revisions to the recruitment efforts and their implementation, the response rate results were unchanged and remained inadequate in meeting the schedule and the current contract with CPSC.

In the fall of 2019, EurekaFacts submitted and was approved by OMB to redesign the recruitment effort as a random walk door-to-door knocking sample methodology. To maintain the structure of the original recruitment procedure, field teams will first distribute door hangers as a pre-notification that researchers will be knocking on doors asking for participation in a survey. This provides households a distinctive piece of literature with vital information about the study and sources to seek out more information. A map of the tract will be marked where the door hangers were left, so field interviewers can follow the same path to recruit from those households a few days later.

The recruitment, screening, and in-home survey will be conducted by a qualified two-member team (this may consist of fire inspectors, fire educators, firefighter from a local fire department, survey research professionals, or other qualified individuals with either fire safety or research experience from the local area). The field teams will be made up of local partners who understand and can gain the trust of the local community. Both members will present their government-issued IDs and their official badges (either representing the company they work for or badges designed by EurekaFacts for the purpose of the study) to confirm their identity and legitimacy. The team will carry with them a letter printed on official letterhead with endorsements from the local fire department and CPSC, should they be needed. If the home is in an apartment building or condominium, prior permission will be obtained from the property manager to proceed with the in-home survey administration. A consent form will be provided to the participant to explain the purpose, the statement of confidentiality, and the benefits and potential risks of the study.

Following the entrance, the survey professional will begin to administer the questions based on the respondent's residence type, and smoke and CO alarms availability and functionality. Once

the survey professional finishes asking questions about the smoke and CO alarms, the survey team will move on to examine the smoke and CO alarms in the residence. The fire alarm inspector will then identify, test, and examine the alarms to determine different variables such as their operability, energy source, their type, and age. After examining each alarm, the survey team, and resident, will repeat the testing procedure on another alarm (if applicable). Due to the time constraint of the survey, not all alarms in a home can usually be inspected. The survey team will coordinate with the participant to test a reasonable number of alarms in as varied of locations as possible within the time constraint of the survey.

If the alarm or alarms are found to be faulty, the resident will have the option of either receiving a new alarm, receiving new batteries, or having no action taken at all if the respondent chooses not to have the alarm fixed or replaced. In all cases, respondents will sign a waiver indicating whether they refuse, or any other course of action taken during the in-home administration.

Once the administration is complete and the final set of demographic questions is administered, the survey professional will offer the participant the monetary incentive for their completion of the survey.

EurekaFacts will work with on-the-ground partners to take all necessary COVID-19 precautions and procedures in accordance with local and federal guidelines throughout the duration of the survey. This includes working with partners to be sure all guidelines are being implemented, including wearing masks, using hand sanitizer, maintaining social distancing and regularly checking the health and wellness of all those involved in the study. EurekaFacts will coordinate training of field workers to apply these principles in the field and provide the needed personal protective equipment (PPE).

EurekaFacts will provide masks for all field workers and extra masks to give to participants that do not have one on hand. Field teams will be instructed to maintain a 6-foot distance when screening heads of households at the door and when interviewing them in their house. Field teams will each be given hand sanitizer to use periodically throughout the day as well as disinfecting wipes for tablet surfaces.

A.2.3 *Audiences of Data and Results*

The designated CPSC Contracting Officer's Representative (COR) and assigned CPSC staff will be the primary audience of the data and results. A summary report of aggregated results will be presented that encompasses all phases and methods employed in the study and will present a comprehensive description to help inform the agency of the number and types of smoke alarms and CO alarms installed in households, the characteristics of residences and residents where the smoke and CO alarms are not working, perceptions related to the cause of "false" alarms or causes of faulty alarms, and resident alarm maintenance habits. In addition to the summary report, a PowerPoint presentation, raw data, a table of univariate results, and various data analysis documentation will also be delivered electronically to the primary audience identified above.

A.2.4 *Methods of Dissemination*

The contractor's final report will be made available to the public after the draft report has been reviewed and approved by the CPSC's COR and assigned CPSC staff.

The final report will be released by the Commission by disseminating the report on the agency's website and presentations at meetings and conferences related to the subject matter. The procedures to disseminate the information by the Commission, its staff, agents and representatives will be accordance with the law and Commission policy to ensure the information is accurate and not misleading.

In order to encourage dissemination of the findings, the report will be freely accessible on cpsc.gov. The work was prepared in the course of the author's official contracting duties with CPSC, thus Title 17 U.S.C. Section 105 provides that there can be no copyright in a United States government publication.

A.3. *Use of Improved Information Technology (IT) and Burden Reduction*

In order to minimize respondent burden, the respondents that do not have smoke alarms installed or have a central alarm system, and thus are not eligible for the full-length interview which includes alarm inspection and testing, will participate in the shorter version of the survey and answer only a portion of questions. All data from the in-home interviews, both full-length and short, will be collected using a tablet computer. Both versions of the survey instrument will be programmed into a singular programmed survey using Qualtrics software and will be administered via tablet, with the interviewer reading the questions to the participant. Qualtrics is programmed with the appropriate question skipping patterns to ensure that interviewers only ask each respondent survey items appropriate for the respondent's residence type, and smoke and CO alarms availability and functionality.

The instrument was first pre-tested through in-depth cognitive interviews with a sample of 18 respondents (OMB Control Number 3041-0136) to certify that the survey items are clear and easy to understand when the survey is administered on a wider scale, reducing any potential burden for respondents.

Aligned with the original approach, EurekaFacts sought to identify and adjust any recruitment or data collection procedures or aspects to the instruments during the initial launch of the study. In the original methodology, EurekaFacts found that the mailing and multiple attempts of calling participants yielded a very low response rate (less than one-quarter of 1%). EurekaFacts initially sought to correct this issue by purchasing more sample and focusing on calling households first, then mailing interested residents. When this did not change response rate, EurekaFacts changed methodology entirely to a door-to-door random walk recruitment. After the first round of recruitment and data collection, EurekaFacts found no major issues and continued with the data collection effort. After the first 50 completes were collected, a brief analysis of selected questions was conducted to ensure data quality and instrument functionality; no changes were needed. Additionally, an internal debrief was conducted and lessons learned from those initial interviews were incorporated into the rest of the data collection effort and highlighted in the pilot report.

EurekaFacts plans to continue fielding the study to collect 1,055 total completes. The information will be summarized into a final report, which will be electronically submitted to the CPSC Contracting Officer's Representative (COR).

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

The intent of this data collection is to obtain information that is not readily available elsewhere. The last time this type of data was collected occurred 25 years ago by CPSC. Other recent studies were focused on targeting high-risk groups or people who had fires; however, the estimates for a general population are not available, thus, CPSC specifically selected to focus this survey on the general population. This data collection will help CPSC develop a national effort to increase installation and maintenance of smoke alarms in the U.S.

The need for the proposed data collection and the design of this national survey was based on several consultative efforts with and feedback from experts, stakeholder groups such as the fire service agencies, academia, government, non-profit and private sector organizations[6] [7]. The collected input from experts and stakeholders ensured that the present survey does not duplicate the information available elsewhere.

A.5. *Impact on Small Businesses or Other Small Entities*

The information will not be collected from small businesses or other small entities.

A.6. *Consequences to Federal program or policy activities if collection is not conducted or is conducted less frequently*

The 1992 national in-home survey, sponsored by CPSC, helped collect information on the number of residential smoke alarms in actual use in homes and evaluated the operability of the sampled alarms. The 1992 CPSC survey had the most impact to the installation code, NFPA 72[8], for smoke alarms. The 1992 CPSC survey set the foundation for many installation and give-away programs to target specific groups that do not have smoke alarms, thus increasing the presences of smoke alarms in US households. The presence of smoke alarm in the household considerably increases the chances of the occupants escaping a home fire.

However, this survey will be 25 years old as of 2017. In order to ensure that the collected information being referenced remains current and that changes in technology and installation codes are upheld, the collection of information must be conducted again. By implementing the new nation-wide SCOA survey, the codes and standards will be current so that fire prevention organizations and agencies will have all the up-to-date information needed to efficiently and effectively target the areas for improving life safety and saving lives.

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

6. Johns Hopkins Center for Injury Research and Policy, *Evidence Informing Action: Consensus Priorities to Increase the use of Smoke Alarms in U.S. Homes*.
7. Amanda Kimball, P.E., *Workshop for Survey on Usage and Functionality of Smoke Alarms and CO Alarms in Households,* (Quincy, MA: NFPA, 2017).
8. NFPA 72 – National Fire Alarm and Signaling Code, (Quincy, MA: NFPA, 2016).

There are no special circumstances. This information collection is consistent with the guidelines prescribed in 5 CFR 1320.5.

A.8. *Consultation and Public Comments*

Part A. PUBLIC NOTICE

A 60-Day Federal Register Notice for the collection published on July 23, 2021. The 60-Day FR citation is 86 FR 39006. The CPSC received one comment during the 60-Day Comment Period. The commenter stated that although survey email may produce some results, door-to-door solicitation should not be conducted because people do not want strangers coming to their front door.

Staff agrees that current public perceptions regarding an in-person survey are significantly different than when the smoke alarm survey was last conducted in 1992. However, the initial rollout of the survey in 2019, soliciting randomly selected households via a mailed pre-notification letter, which were subsequently screened for an in-home or telephone interview, resulted in an extremely low response rate. To increase the response rate, the SCOA survey recruitment effort was redesigned as a door-to-door walk-recruitment methodology. Field teams distribute door hangers on randomly selected households to provide prenotification that researchers will be knocking on doors asking for participation in a survey. A pilot survey conducted in the Washington metro area showed significant improvement in the response rate. Accordingly, to obtain the best information available, the SCOA survey data collection will continue to use this door-to-door recruitment methodology, recognizing that home visits by trained data collectors with inspection and testing provide much better-quality data compared to telephone or Internet surveys.

A 30-Day Federal Register Notice for the collection published on October 26, 2021. The 30-Day FR citation is 86 FR 59152.

Part B. CONSULTATION

CPSC consulted with various stakeholder groups in planning the survey. Stakeholders that participated included representatives from the fire service, enforcers/authority having jurisdictions (AHJs), public educators, researchers, equipment manufacturers, standards developers, and others.

To gauge interest in the need for this data, CPSC hosted or participated in the following industry events:

- SCOA survey planning workshop, hosted by CPSC on February 16, 2017.
- Vision 20/20 workshop on smoke alarms in March 2015. CPSC received input on a representative, in-home survey on the prevalence and characteristics of smoke alarms.
- International Conference & Workshop Current Practices in Emergency Response: Carbon Monoxide Poisoning on September 26, 2018. CPSC received input from representatives from the fire service, enforces/AHJs, public educators, researchers, equipment manufacturers, standards developers, and others on CO poisoning and CO alarms.

EurekaFacts, National Fire Protection Association (NFPA), Vision 20/20, and United States Fire Administration (USFA) were consulted in the availability of accurate smoke and CO alarm operability data for consumer homes. All four confirmed that information for in-home operability of smoke and CO alarms have not been available since the last time the survey was conducted by CPSC in 1992, and that current phone surveys of inoperable smoke alarms in the US are less reliable.

CPSC staff consulted with EurekaFacts in developing and executing the survey. EurekaFacts is compliant with the standards in quality for a research organization.[9] EurekaFacts was consulted on the frequency of collection and the total number of responses required to provide estimates on the operability of smoke and CO alarms in the US.

CPSC staff consulted with EurekaFacts in developing the survey questioner and to ensure the understandability and clarity of the question being asked.

A.9. *Explanation of any Payment or Gift*

Contractor will provide a monetary incentive to respondents through the form of a gift card from a major credit card company. Based on their eligibility, as determined through the screening process, respondents will receive one of two incentive amounts at the completion of the survey. If respondents qualify for the in-home survey administration, respondents will receive a $50 gift card from a major credit card company in appreciation for their completion of the survey. However, if respondents qualify for the shorter survey administration, at the completion of the survey, respondents will receive a $25 gift card from a major credit card company. The variation of monetary value is due to the amount of time and effort involved in the in-home full survey and alarm testing administration compared to the shorter survey administration.

A.10. *Assurance of Confidentiality Provided to Respondents*

Participation in the survey is voluntary and respondents will be so informed before the screening and at the beginning the survey. Subjects are informed of the measures taken to protect their confidentiality in the introductory language read to sampled persons. Information collected from respondents will be kept confidential and only used for research purposes.

Survey respondents will have assigned a Random ID number not linked to any personal identifying information. Respondents' contact information (name, address, phone number, e-mail address) along with the Random ID number will be maintained in one secure database ("Database 1"). The survey responses and respondents/household demographic information will be maintained in a second secure database ("Database 2") where potential survey participants are identified by Random ID Number only. Database 2 will not contain participants' names, addresses, phone numbers, e-mail addresses, or other personally identifying information (PII).

[9] EurekaFacts holds a certification for the ISO 20252: Market, Opinion, and Social Research International Quality Standard.

Analysis will be conducted on data sets that include only respondent ID numbers; they will not contain any identifying data. The software that EurekaFacts will use to collect survey data, Qualtrics, is a secure platform endorsed by the federal government. Qualtrics has FedRAMP authorization, ISO 27001 certification, and FISMA compliance, ensuring data security. All collected data will be secured by EurekaFacts and will be kept on the password protected computers and secure server and locked file cabinets (as applicable), accessible only to project staff.

Access to the facilities and server where data will be stored is restricted only to authorized individuals. Access restrictions are defined for each individual based on his/her role. Access to data requires the entry of a valid account username and password. Project staff receive data security training and sign an assurance of confidentiality of survey data. All project staff complete required annual privacy and security training and sign a document pledging confidentially and maintaining privacy according to Health Insurance Portability and Accountability Act (HIPAA). The training includes information and data security factors, using information sources responsibly, employee responsibilities, and how to report instances where violation of data security is suspected.

Any administrative and PII collected from respondents may be destroyed within 365 days after of the end of the study. However, to ensure the possibility for potential replication of the study in the future, any non-administrative data may be kept by CPSC indefinitely.

A.11. *Justification for Sensitive Questions*

A majority of questions asked in the survey are not typically considered sensitive in nature. Potentially sensitive questions include the demographic questions that ask about the respondent's ethnicity/race, ages of those living in the household, disabilities, and combined annual household income. Both the trained interviewer and the communication materials will reassure that participation is voluntary, that they may choose not to answer some questions, and that responses are confidential. The instructions presented in the survey is designed to make respondents feel as comfortable as possible in answering these questions.

In addition, each respondent will be informed that a unique ID will be assigned to them that does not link to any personal identifying information. Data analysis will be conducted on data sets that include only respondent ID numbers; they will not contain any identifying data.

A.12. *Estimate of hour burden to respondents*

Upon launch of the survey phase in 2019 fielding in two metro areas, response rate and cooperation were very low as outline above, impeding the success of the study within contract timeline, budget and respondent burden level. Revised sampling methods and corresponding response rates were submitted and approved by OMB in the interim from the initial approval and the renewal of the project. To complete 1185 interviews (the total burden for the study including the Washington Metro Area pilot and 24 metro areas that constitute the random sample of primary sampling units), will require 1,552 burden hours on the public. Several factors may lead to lower respondent burden. The revised methodology requires a fewer number of interactions per household which may ultimately reduce the total respondent burden when compared against

the original address-based sampling (mail to phone to household) methodology. (Please see section A.15, for further explanation of methodology and response rate change).

The time for screening an individual and starting the interview is also reduced. Multiple phone calls for screening, scheduling, and confirmation are replaced with interviewers at the door immediately ready to do screen and conduct interviews upon contact with potential participants. The original methodology experienced high attrition between scheduling a session and interviewers arriving at the door, but the revised methodology is expected to receive hardly any barriers to completing a confirmed interview (baring some extreme circumstance) since the interview immediately proceeds after screening.

Below is a discussion of the burden hours.

Table 2. Total Burden Hours by Recruitment and Data Collection Task

Recruitment activity/ Survey instrument	Hours per respondent	Total number of contacted participants	Response rate	Number of respondents	Total hours
Invitation					
Recruitment appeal at door	0.05 (3 minutes)	22,931	30%	6,879	344
Screener					
Agree to screening and are screened and found eligible to participate	0.075 (4.5 minutes)	6,879	17.4%	1,197	90
Survey					
Full-length survey (one hour)	1	1,096	99%	1085	1085
Shortened survey for no-alarm and security alarm households (20-minutes)	0.33	101	99%	100	33
				1185	**1,552**

Total Burden Hours: **1552** hours

According to the U.S. Bureau of Labor Statistics, the total compensation for civilian workers in March 2021 was $39.01 per hour (Employer Cost for Employee Compensation, Table 2, https://www.bls.gov/news.release/ecec.t02.htm). Therefore, CPSC estimates the cost burden for respondents to be $60,544 ($39.01 per hour × 1,552 hours = $60,543.52).

A.13. *Estimate of total annual cost burden to respondents*

There are no costs to respondents to complete this collection other than the labor burden costs addressed in Section 12 of this document, and there are no respondent recordkeeping requirements associated with the SCOA survey. There are no operating, maintenance, or capital costs for respondents associated with the collection.

A.14. *Estimate of annualized costs to the Federal government*

The contracts to design and conduct the Survey on Usage and Functionality of Smoke Alarms and Carbon Monoxide Alarms in Households were issued to Eureka Facts LLC under contract numbers F-16-0091 and F-17-0088 for $562,725 (this figure does not include the cognitive testing phase that was approved through OMB Control Number 3041-0136).

Salary and benefits costs for government personnel assigned to this study are estimated using the January 2021 pay scale for a GS-13, Step 5 employee in the Washington, D.C. area, of $117,516,

and the March 2021 Employer Costs for Employee Compensation (ECEC), published by the U.S. Bureau of Labor Statistics (https://www.bls.gov/news.release/ecec.t02.htm). According to table 2 of the ECEC, 68.8 percent of total compensation is paid in wages and the remaining 31.2 percent is benefits. Therefore, in 2021 the staff cost is $142,340, based on 10 staff months (($117,516/.688) × 10 staff months). In 2022, the staff cost is $106,755, based on 7.5 staff months (($117,516/.688) × 7.5 staff months). And, the total estimated cost to the federal government is $249,095 ($142,340 + $106,755), in government labor.

A.15. *Program changes or adjustments*

Since the initial OMB application and approval in October 2018, EurekaFacts has submitted and been approved to make several changes to the sampling and data collection process.

Changes that have been incorporated into the current process (from most to least significant) include:

1. Modifying the third stage of the sampling approach (selection of occupied housing units in tracts). Originally, houses were randomly selected through ABS (address-based sampling) with follow-up phone call appointments to conduct the interviews, but the extremely low response rate and logistical challenges on part of both participants and field teams results in only a few completed in-home interviews. To streamline the process, the recruitment method was changed to a random walk door-to-door knocking methodology. This allowed for direct recruitment and completion of the in-home interview at one time.
2. Altering the pre-notification document from a mailed letter to a streamlined and eye-catching door hanger to compliment the modified sampling approach. This maintains the process of pre-notifying residents about the study with a cost-efficient alternative that raises both individual and community awareness. Distributing the door hangers provides the field teams flexibility to pre-notify residents of a tract a few days before the intended recruitment effort, thus maximizing the impact of the literature.
3. Increasing the incentive amount from $25 to $50 for completion of the full-length (60 minute) survey interview. This is an important recruitment tool to increase the cooperation rate of contacted households and more closely parallels the monetary incentive offered in 1992, once adjusted for inflation.
4. Implementation of COVID-19 screening questions and protocols. Because of the coronavirus (COVID-19) pandemic, the project was paused in March 2020, pending evaluation of the public health environment to determine when best to relaunch the study in each chosen metro area. EurekaFacts is following the CDC recommendations to ensure both interviewer and participant safety, including masking and social distancing. If heads of households are interested in participating after hearing the introduction and purpose of the study, the interviewer will ask a series of questions to ensure that no one in the household has COVID-19, symptoms of COVID-19, or are currently quarantining because of COVID-19. If respondents clear all questions, the rest of the screening questions would be asked.
5. Inclusion of refusal aversion language to persuade residents to participate. This additional approved language provides field teams with additional information to recruit participants.

6. Revising the expected response rate of the study. The original sampling design resulted in a response rate of 0.23% (or less than one-quarter of 1%). Upon revision to the door-to-door methodology, EurekaFacts garnered a response rate of 3.5% in the Washington D.C. metro area during the pilot of the methodology (15x that of the original response rate). Additionally, field teams during the pilot had face-to-face interaction with 20% of households contacted. Once an interviewer initiated the recruitment process, there was a 17% chance of participant cooperation that resulted in a completed interview. EurekaFacts is factoring in the recorded response rate and cooperation data of the pilot location into calculating the efforts for other metro areas and the study overall. Because of the overall lower response rate, more households need to be contacted for the initial pitch of the study; however, the revised methodology reduces the number of contacts made per residence, which reduces the overall burden per respondent.
7. The original sample selection of metro areas (AKA, primary sampling units) included each of the following 24 metro locations proportionally drawn (based on concentration of occupied households) from each of four U.S. Census regions. The Washington DC Metro area was not randomly selected for this effort but was instead a purposively selected metro area to test revisions to the sampling method mid-field for proof of concept. As others may remember, following great challenges experienced with the original 2018 sampling design using an address-based sampling approach, a new door-to-door (D2D) sampling method was proposed and approved by CPSC and OMB. To test feasibility of D2D methods for the SCOA survey, the Washington DC Metro was proposed and endorsed. The advantages of the Washington area included close and convenient data collection for successful monitoring, the ability to judge and react quickly to challenges, and cost containment measures, among other benefits.

   The research design and budget contracts for this survey effort did not include a pilot location for the testing of methods. A redesign was not anticipated. Only the 24 metro locations identified above were selected for sampling to constitute the N=1,185 nationwide proportionally representative interviews as approved under the study design and budget.

   Ultimately, the decision was made by CPSC and EurekaFacts to not consider the Washington metro as eligible for the SCOA survey (within the N=1,185 total completes) and instead treat this location as a pilot study only.[10] In turn, the survey is being completed in each of the originally selected 24 metro locations, while reducing the total nationwide sample size to N=1,055 (i.e., N=1,185 completes minus the N=130 interviews completed in the Washington Metro area). The number of expected completes has been redistributed in proportion to occupied housing unit counts for each of the 24 metro locations. These changes were made, in part, to complete the study in full within the contracted periods established by CPSC and National Fire Protection Association (NFPA), no later than fall 2022 and accounting for time lost for data collection

[10] CPSC SCOA Survey – Washington, DC Door-to-Door Pilot (April 3, 2020), EurekaFacts, Rockville, MD CPSC-Survey-Revised-DiagnosticReport_11_18_20206b6.pdf

attributable to a work stoppage for face-to-face interviewing during the COVID-19 pandemic.

To adjust the total sample selection nationwide, among the 24 metros, each metro area's expected sample size was reduced in proportion to its share of occupied housing units in the overall sample frame. For example, Los Angeles, CA (the largest metro area in the sample) had an original sample size expectation of N=205 based on 1,185 interviews. After recalibration, using a total nationwide sample size equal to 1,055 the new sample size expectation for Los Angeles, CA metro area equals N=183 completes. Providence, RI (one of the smallest metro areas) had an original sample size expectation of N=34 completes based on 1,185 total interviews. After recalibration, the new sample size expectation for the Providence, RI metro area equals N=30 completes.

Table 3. Calculation for adjustment in metro area sample sizes.

Formula for metro area sample sizes: (Solve for SampleN)	OHUs^ for each metro / Total OHUs all metros	=	SampleN / Total sample (N=1,055)
Los Angeles, CA Metro Area	62,942 / 363,111	=	**183** / 1,055
Providence, RI Metro Area	10,350 / 363,111	=	**30** / 1,055

^Occupied housing units (OHU).

Note that the changes listed here, and the details of the resulting administrative, technological, and sampling revisions, are incorporated throughout the text of the revised supporting statements A and B.

A.16. *Plans for tabulation and publication*

A.16.1 *Analysis Plan*

Prior to data analysis, EurekaFacts will complete data cleaning and a non-response analysis. The data cleaning process will include: identification and removal or re-coding of inconsistent responses and subsequent inclusion in the final data file and elimination of or recoding of respondents' choices when outside the ranges specified in the response categories. A non-response analysis will follow the data cleaning. The objective is to identify differences between respondents and non-respondents based on their demographics and other measurable characteristics to assess the representativeness of our sample necessary to allow statistical

inferences of the survey results. Weights will be applied to correct an over or under-representativeness of categories of the target audience in the final survey data.

The analysis will provide estimates of operability of smoke alarms and CO alarms, estimates of percentages of households as well as subgroups with installed of smoke alarms and CO alarms, estimates of the proportions of respondents demonstrating hazard awareness, and relevant behavior related to alarm use and smoke and CO hazards. Analysis will include evaluation of factors leading to inoperable alarms, types of housing relative to alarm operability conditions. Analysis will identify demographic groups that do not have operable smoke alarms and/or CO alarms, as well as demographic characteristics affecting alarms operability conditions.

The data analysis will include a tabulation of all survey questions, graphs, frequency distributions, and two-or-three way cross-tabulations of meaningful parameters to show similarities or differences among respondents. Analysis will be conducted using case-appropriate statistical, data-mining, and database modeling procedures. Analysis deliverables will include a final technical report describing the SCOA methodology and summarizing the results, findings, and conclusions. The report will include American Association for Public Opinion Research (AAPOR) indices for survey response rates, descriptive statistics on the demographic data, summary lists of open responses, and frequency distributions. A table of survey interviews and non-responses, in accordance with nationally recognized guidelines from AAPOR, will also be delivered.

A.16.2 *Publication Plan*

The Contractor will develop a technical report that will present a description of study design, research methods, summary of results, finding and conclusions.

The final technical report will be released by the Commission by disseminating the report on the agency's website and presentations at meetings and conferences related to the subject matter. The procedures to disseminate the information by the Commission, its staff, agents and representatives will be accordance with the law and Commission policy to ensure the information is accurate and not misleading. The agency will disseminate the findings when appropriate, strictly following the agency's "Guidelines for Ensuring the Quality of Information Disseminated to the Public".

In order to encourage dissemination of the findings, the report will be freely accessible on cpsc.gov. The work was prepared in the course of the author's official contracting duties with CPSC, thus Title 17 U.S.C. Section 105 provides that there can be no copyright in a United States government publication.

A.17. *Rationale for not displaying the expiration date for OMB approval*

No such exception is sought. The OMB survey number and expiration date will be displayed on the initial screener and informed consent forms to be used as a reference if needed.

A.18. *Exception to the certification statement*

No such exception is sought. These activities comply with the requirements in *5 CFR 1320.9*.

B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

B.1. *Respondent Universe and Sampling Methods*

The proposed survey will include a nationally representative survey of households within the United States. Eligible respondents must be 18 years of age or older, and be considered one of the heads of the household. The questions asked in the survey require knowledge regarding duration of residency, the age of the house and the equipment installed within the house. This necessitates that the respondent be a person who makes major decisions within household. A head of household will be considered a person living or staying in the home in whose name the house or apartment is owned, being bought, or rented. A probabilistic multistage sampling approach will be utilized to select sample units for this survey. A probabilistic sampling method will allow a random selection of units with a calculable probability of selection of each unit in the target population.

Considering the three-stage sampling approach, the primary sampling units are metropolitan areas, the second sampling units are US Census Tracts, and the elementary sampling units are US Households. At the first stage, we considered US metropolitan areas as primary sampling units (PSU), and select a random sample of 24 metropolitan areas among the 389 at the first stage (https://www2.census.gov/programs-surveys/metro-micro/geographies/reference-files/2015/delineation-files/list1.xls, accessed on 12/04/2017 at 3:04PM). Then, we considered US Census Tracts as secondary sampling units (SSU). More precisely, we selected a random sample of Census tracts in each of the 24 metro areas selected at the first stage, as well as a random sample of Census tracts in non-metropolitan areas in the proximity of metro areas. Lastly, we selected a random sample of occupied households through a random walk methodology in each Census tract selected at the second stage for survey fielding.

The end-objective is to ensure that the ultimate survey sample includes a majority of completes from housing units within metropolitan areas and a quantifiable minority from non-metro areas. The respondents' universe is, therefore, a random sample of US households selected from a random sample of Xensus tracts selected from a random sample of US metropolitan areas.

B.1.1 Sampling Frame

The sampling frame will consist of occupied housing units within metropolitan and non-metropolitan areas. Records from the latest housing surveys from the US Census Bureau will be used to identify Metropolitan Areas and Census Tracts.

Table 3. Summary of Sampling Stages and Respective Sampling Frames

Sampling Stage	Sampling Unit	Population Size	Sample
# 1	US Metropolitan Areas	388	24
# 2	US Census Tracts	74,002	192
# 3	US Housing Units	118,860,065	1,055

The original sampling methodology utilized an address-based sample (ABS) list of residential addresses to determine its sample frame. The revised methodology employs a random walk door-to-door knocking strategy to pre-notify and recruit households in each Census tract. As such, any occupied household within a chosen tract is eligible to participate in the study. Research teams

will select different parts of a tract to focus their recruitment efforts ensuring a mix of areas/neighborhoods, household types and demographic characteristics of respondents recruited to participate.

B.1.2 *Sampling Approach*

EurekaFacts team will adopt a proportional multistage sampling approach to select housing units for the SCOA survey. To ensure that housing units in metropolitan areas as well as those not in metropolitan areas are included in the survey, we consider the following steps:

1. At the first stage, a random sample of 24 metropolitan areas were selected among the 388 Census tracts as primary sampling units. The sample was stratified by Census Region and then stratified by metro area population size (those with a population of 1 million or more and those with less than 1 million), ensuring the number of Primary Sampling Units (PSUs) selected for each region is proportionate to the number of occupied housing units (OHUs).
2. At the second stage, a random sample of residential census tracts was selected in proportion to the number of OHUs within each of the 24 metropolitan areas selected at the first stage. Furthermore, a random sample of additional census tracts within non-metropolitan areas located within the same state of each PSU were selected at this stage.
3. At the third stage, a random walk door-to-door methodology is instituted in each Census tract so field interviewers can recruit residents of occupied housing units for the in-home survey (full length and shortened versions). Each tract has a target quota in relation to the OHUs of other tracts randomly selected.

The end-objective is to ensure that our survey sample has a majority of completes from housing units within metropolitan areas and a quantifiable minority from non-metro areas. Each tract has a target quota in relation to the other tracts randomly selected. The fourth stage of sampling would require selection of additional tracts to either replace or supplement tracts where recruitment is far below the threshold of the tract's quota. For example, if a tract has too many empty units or residents with a language barrier, a new tract would be randomly selected from tracts of a similar size.

In total, this approach makes it possible to calculate the probability of selection of every sample units at every stage, as well as to reliably calculate design effect, sampling error, etc. and infer the findings to the housing units in the US with a calculable level of precision.

B.1.3 *Sample Size*

CPSC has available funding for a sample size of 1,185 households. This sample size is large enough to provide accurate estimates representing the diversity of housing and household types, attitudes and state laws on smoke alarms and CO alarms across the country. This sample size is large enough to yield a margin of error of +/-2.83% at 95% level of confidence for estimates of the survey results in a simple random sample.

The margins of error provided below are only indicative and based on assumptions of a statistical power of 80% (usual default value), a confidence interval of 95% and a target population size of

116,900,000 units[11]. The actual margin of error that will be provided with survey results may slightly differ from the ones shown here, as the actual multistage sampling design will provide a slightly different margin of error overall. The specific margin of error for multistage sampling will be calculated when the actual sample is drawn.

Table 4. Margin of Error by Sample Size

Sample Size (N)	1,055
Statistical Power	80%
Confidence Interval	95%
Total Occupied Housing Units	116,900,000
Margin of Error (SRS*)	**3.0%**

*SRS: Simple Random Sample

For a total sample size of 1,055 households the sample distribution will be:

- Metropolitan Areas: 24
- Census Tracts per Metropolitan Area: Proportion to the number of OHUs within each of the 24 metropolitan areas for a total of 192 tracts
- Housing Units per Census Tracts in Metropolitan Areas: Minimum of 2; quota per tract will be proportionate to the combined OHUs of the other tracts to reach target completes
- Housing Units in non-Metropolitan Area: Minimum of 2; quota will be proportionate to the combined OHUs of the other non-metro areas to reach target completes
- Total Housing Units in Metropolitan Areas: 995
- Total Additional Housing Units in non-Metropolitan Areas: 190

B.2. *Procedures for the Collection of Information*

The original survey methodology employed a mixed-mode, multi-stage approach to data collection. The combination of mailed pre-notification letters, multiple calls to gauge interest and screen for eligibility, additional calls to coordinate and confirm the interview date, and finally the arrival of the survey team at a designated time proved to be too complex of a recruitment procedure. The drop off in interested participants increased with each step, which hurt overall response and cooperation rates.

The revised process condenses the timeline between initial contact and potential participation in the study. Once a Census tract is randomly chosen, random areas of the tract are selected for field teams to then randomly walk and place door hangers on residences. These door hangers act as a pre-notification to the household that mentions the study's purpose, incentive, and website/phone number to learn more. Additional details from the original pre-notification letter are also now available online on a publicly available EurekaFacts website. The posting contains a detailed explanation of the study and its objectives, who are the sponsors, details on how their responses and PII will be kept secure, FAQ, and links to the posting of the Federal Register.

11. U.S. Census, *Quick Facts: Population Estimates*. (2016), https://www.census.gov/quickfacts/table/PST045216/00

In the following one to three days after respondents have received their pre-notification door hanger notifying them of the study, field teams will follow the same walking route and knock on doors to recruit for immediate participation in the study. Field teams will have the pre-notification letter, copy of the door hanger, and their official badges visible to provide credibility to our survey effort and encourage respondents' cooperation. Overall, this reduces the number of total contacts made with the public and diminishes burden. This also allows field teams to have more meaningful, efficient, and prompt interactions with the community.

If someone is interested in participating in the survey, the field team can immediately screen them at their door. Depending on the status of smoke alarm installation or its type, eligible respondents will be engaged to participate in either the full-length survey interview or shortened survey version.

Residents who have a smoke alarm, that is not connected to a central or security alarm that will notify the police or fire department, will be eligible for full-length interviews. If, however, they do not have a smoke alarm, or, if they do, but it is connected to a central or security alarm, the respondent will be eligible to participate in the shortened survey version. The survey instrument will be programmed on Qualtrics and will be administered via in-home interviews using a Computer Assisted Personal Interview (CAPI) format.

During the in-home interviews, a qualified two-member survey team will ask household residents questions related to smoke and CO alarms. The full-length interview will include testing of some (potentially all depending on the number) of their smoke and CO alarms. If any of the alarms do not work, we will offer to provide a new one to them free of charge. If, however, residents do not have a smoke alarm, they will receive a shorter version of the questionnaire. The survey interview will take between 20 - 60 minutes, depending on if the shortened version of the survey is administered (about 20 minutes) or the full-length survey and alarm testing interview in conducted (no more than 60 minutes). The individual data will not be identified to a specific person. Any data provided to the client or included in the report will be delivered in the aggregate form.

B.2.1 Statistical Methodology for Stratification and Sample Selection

The survey's sample selection, and sampling methodology is discussed earlier in Question 1. A probabilistic multistage sampling approach will be utilized to select sample units for this survey. A probabilistic sampling method will allow a random selection of units and an equal chance for inclusion in the survey. Considering that there are more than 134 million housing units in the nation, a simple random sampling, a systematic sampling, a stratified sampling, or a cluster sampling will be too costly and less likely to capture the diversity of the smoke alarms and CO alarms adoption, operationality, and local jurisdictions laws and regulations. The proposed proportional multistage sampling approach will consider metropolitan areas as primary sampling units, residential census tracts within metropolitan areas as secondary sampling units, and housing units within those residential census tracts as the final sample units. At the first two stages, a simple random sampling will be applied to select units. The third stage utilizes a random walk methodology as a more practical strategy for gaining completes, yet all households in a tract are eligible to participate. This approach makes it possible to calculate the probability of selection of every sample units at every stage. As such, we will be able to reliably calculate

estimates and sampling error and infer the findings to the housings in the US with a calculable level of precision.

The American Community Surveys data from the U.S. Census Bureau was used to identify and quantify the number of U.S. Metropolitan Areas, the number of US Census Tracts overall and within each metropolitan area, and finally, the number of housing units overall and within each census tract. Those entities—Metropolitan Areas, Census Tracts and Housing Units—are considered as defined by "U.S. Census Bureau, Population Division, based on Office of Management and Budget, July 2015 delineations."

B.2.2 *Estimation Procedure*

Estimates will be produced using standard survey estimation procedures. Survey estimates include estimates of operability of smoke alarms and CO alarms, estimates of percentages of households as well as subgroups with installed of smoke alarms and CO alarms, estimates of the proportions of respondents demonstrating hazard awareness. EurekaFacts will consider and compare different methods of variance estimation such as Taylor series approximation or various replication (Jackknife, Balanced Repeated Replication) methods.

B.2.3 *Unusual Problems Requiring Specialized Sampling Procedures*

We adopted an on-the-ground door-knocking sampling approach over the multi-stage mixed-mode approach originally designed. As previously described, the extremely low response rate made the methodology impractical for completing the study in a timely and efficient manner. The new design is ultimately more streamlined and provides a cost-effective, time-efficient, and flexible strategy for field teams to recruit for in-person research that requires researchers to be in the participant's home. The differences in efficiency are demonstrated in the contrast between the fielding attempts using the original methodology vs. the revised methodology.

Table 5. Comparison or Original and Revised Sampling Designs

Methodology	Fielding dates	Total weeks	Response rate	Cooperation rate	Completes to quota ratio
ORIGINAL: Address-based sampling multi-mode recruitment approach	Jan. 1 - May 30, 2019	23 weeks	.09%	3.0%	15% (9 completes/ 59 quota)
REVISED: Door-to-Door household random walk method sampling approach	Dec. 21, 2019 - March 1, 2020	11 weeks	3.5%	17.4%	101% (130 completes/ 128 quota)
Change		***-12 weeks***	***+3.41%***	***+14.4%***	***+86% pts.***

Additionally, vacant households are excluded from this survey. The U.S. Census Bureau estimates that 12% of housing units in the US are vacant. Field teams will skip leaving door

hangers and knocking on residences that are clearly abandoned/vacant to maintain efficiency during recruitment.

B.3. Methods to Maximize Response Rates and Deal with Non-response

To maximize response rates, EurekaFacts' approach includes multiple compounding efforts. First, a pre-notification door hanger will be left on the door of a sample of households in a randomly selected area of a tract. The door hanger will briefly provide the purpose of the research, sponsors of the research, a telephone number and a website providing more detailed information and an FAQ. The door hanger is in public view of all the neighbors, so residents can see that it is a neighborhood-wide canvas and not just their home that was selected. This allows time for neighbors to discuss the legitimacy of the study, which builds confidence in residents when field teams approach their household to recruit them. Dropping a unique piece of literature followed by researchers at their doors just a few days later is designed to enhance response and cooperation rates, and thus data quality. EurekaFacts will also create social media posts advertising the study and target their appearance by ZIP code based on dates field teams will be in that area.

The two-member survey team will take additional steps to persuade residents to participate in the study. Both members will present their government-issued IDs and their official badges to confirm their identity and legitimacy. They will also be wearing high-visibility safety vests, so their presence is well announced to everyone in the neighborhood. The survey team interviewers will be trained in refusal conversion techniques to reassure the respondents of the legitimacy of the team's presence and gain cooperation. The team will also carry with them a letter printed on official letterhead with endorsements from the local fire department and/or CPSC, should they be needed.

In the SCOA survey, two types of non-response may occur. The first type is unit non-response, which occurs when data is not obtained for the sample unit (*i.e.,* a respondent chooses not to participate in the survey). The second type is item non-response, which occurs when a respondent fails to answer one or more of the survey questions. For unit non-responses, EurekaFacts anticipate a response rate below 80% and will therefore conduct a non-response bias analysis. We will use households' characteristics selected from the American Community Surveys data of the US Census Bureau to assess whether there exists a significant difference between households who responded to the survey and those who did not. If the non-response analysis reveals the necessity to weight the survey data, we plan to use a weighting scheme that makes respondents representative of their respective metropolitan area, as oppose to an overall weighting scheme. Information about households that do not participate in the study (time of day, tract, reason for not participating, demographic information about person who answered door – if applicable) will be captured on a screen-out capture form on the researcher's tablet. This will allow for tracking of the total number of residents spoken to, capturing screen-out data, and analyzing non-response by demographics and reasons given not to participate.

Since the survey is administered by interviewer, item non-response has low likelihood. Nonetheless, a survey entry will be considered as complete only when 80% of the survey questions have been answered, skip patterns excluded. Based on the initial non-response analysis

the appropriate approach to handling missing data will be identified and whether simple or multiple-imputation is required.

B.4. *Test of Procedures or Methods to be Undertaken*

The current survey content was developed by Vision 20/20 and Tridata, LLC, which specialize in fire safety and engineering, and reviewed by specialists with expertise with fire and CO safety, including staff from fire departments, Red Cross, subcontracted engineering firms, and CPSC staff. EurekaFacts reviewed instruments to ensure adherence to survey design guidelines and ensure an efficient and accurate data collection process which would minimize overall administration length and reduce the burden placed both on the respondents and the survey team. Three survey methodologists and two statisticians reviewed the survey and provided recommendations for ensuring relevance, clarity, and minimal response burden.

The full survey instrument underwent testing via cognitive interviews with 18 household residents (OMB Control Number 3041-0136). Cognitive testing was carried out to ensure that any questions that were misunderstood by respondents or that were difficult to answer would be improved prior to the survey fielding, and thus increase the overall quality of survey data and the accuracy of the study results. The respondents for the cognitive interviews were recruited using a slightly modified version of the survey screener (modified to meet the needs of recruiting for cognitive interviews). Recruitment was conducted using a mixed-mode methodology that combined posting on community websites such as Craigslist, and telephone outreach to follow-up specific leads generated by the advertising. The interview sessions lasted for approximately ninety minutes. The cognitive interviews were conducted with two groups of participants: 1) individuals who report having a smoke alarm that is not connected to a central alarm that may notify the police or fire department, and 2) individuals who do not have a smoke alarm installed, or if they do, their smoke alarm is connected to central or security alarm. Similarly, as planned during the actual survey fielding, during the cognitive pretesting the first group (with smoke alarm) was administered the full in-house version of the survey instrument and the second group (no smoke alarm or central alarm) was administered the telephone version of the survey. The cognitive interviews examined how well the questions performed and ensured that the material was clear and easy to understand among potential survey respondents. As part of this effort, the cognitive testing was designed to assess the question-response process in terms of respondent's comprehension, information retrieval process, judgment as to providing requested information, and perceived degree of ease or difficulty experienced in formulating accurate/correct responses to each question posed.

Overall the cognitive interviews demonstrated that the survey instrument did not pose any considerable challenges to the respondents. A majority of the survey questions were clear and easy to understand, and the response categories for multiple-choice questions were relevant. The testing identified minor misunderstanding or different ways of interpreting a few terms. Based on the pretesting results, participants' comments and suggested improvements of the question wording were identified and implemented. By utilizing this method prior to survey fielding, this helped to increase the overall quality of the survey data and the accuracy of the study results.

EurekaFacts continued to adjust and refine the instrument with CPSC to make it appropriate for fielding. After collecting the first 9 completes using the original methodology, EurekaFacts evaluated the overall process and proposed the change to the door-to-door random walk

methodology. A non-substantive change request to OMB was submitted by CPSC, and EurekaFacts adopted the new method with OMB approval.

After the first round of recruitment and data collection using the new methodology, EurekaFacts found no major issues and continued with the data collection effort. After the first 50 completes were collected, a brief analysis of selected questions was conducted to ensure data quality and instrument functionality; no changes were needed. Additionally, an internal debrief was conducted and lessons learned from those initial interviews were incorporated into the rest of the data collection effort and highlighted in the pilot report. All data collected will be incorporated into the overall sample of 1,055 cases.

B.5. *Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data*

Consulted on statistical aspects of the design and to collect and analyze the data:

Jorge Restrepo (240) 403-1636

Robert Suls (240) 403-1641
Djass Mbangdadji (240) 403-1640

Bohdana Sherehiy, PhD (240) 403-1637

EurekaFacts, LLC

Arthur Lee (301) 987-2008

Matthew Brookman (301) 987-2467

Consumer Product Safety Commission

Appendices

Appendix A: Door Hanger Literature to Distribute to Households

Note that the door card information will slightly change based on the staffing and location (e.g., partner company mentioned, phone number to contact, and image of interviewer badges). Use of NFPA logo, mention of CPSC and NFPA as sponsors, and EurekaFacts name and website will remain consistent.

Appendix B: In-Home Informed Consent Form

INFORMED CONSENT

Consumer Product Safety Commission (CPSC) Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households

Thank you for your interest in participating in the research study. This study is conducted by EurekaFacts on behalf of the U.S. Consumer Product Safety Commission (CPSC). We are conducting a nationwide survey on household fire and carbon monoxide (CO) safety. The purpose of this study is to gather information about the functionality of smoke detectors and CO detectors in U.S. households by asking a series of survey questions and testing your household smoke and CO alarms. Findings from this research will help CPSC improve home safety.

The combined survey and testing of smoke alarms and CO alarms will take up to 60 minutes. Our trained and qualified two-member survey team will ask you questions related to your smoke detectors and CO detectors, and then inspect these devices in your home. You will receive a $50 gift card from a major card company as a token of appreciation for completion of the study.

If the survey team finds any detectors to be non-functioning, new detectors and/or batteries can be offered, free of charge, based on availability. If you are renting your home, the property manager will need to be contacted to arrange installation of the new detector at a later date. With your permission, we would like to collect non-functioning smoke or CO detectors and send them to CPSC's lab to find out why they do not work. In addition, we may request your permission to take a photograph of your smoke and CO detector(s) to study different alarm types and functionalities.

Information collected from this study will help CPSC to improve household fire and CO safety. Your input will assist with developing standards and guidelines that will help protect property and human life. This research does not involve any foreseeable risks.

Your participation in this research study is completely voluntary. You may stop at any time if you do not want to continue with the study by notifying a member of the survey team. Your responses will be maintained confidential and will be used for research purposes only. At no time will any identifiable information be linked to any of your answers. All information collected through our research process is reported to CPSC anonymously.

We ask for your consent to participate in answering questions as part of the survey portion of this study.

☐ I consent
☐ I do not consent

We ask for your consent to participate in the smoke and CO alarm testing portion of this study in your home.

☐ I consent
☐ I do not consent

Your signature below means that you have freely agreed to participate in this research study. You should consent only if you have read this document and you understand its contents.

Print name Signature Date

Appendix C: Waiver, Release and Hold Harmless Agreement

Home Address: _____

In consideration of the voluntary performance of my participation in the U.S. Consumer Product Safety Commission (CPSC) Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households, which is being conducted at my residence, located at <ADDRESS>_____ I, on behalf of myself, and all members of family, as well as my heirs, executors, administrators or successors, hereby waive any claim or cause of action of any nature that I have, or in the future may have, against any and all individual or organizational participants in the CPSC Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households, including but not limited to CPSC and EurekaFacts, LLC, its agents or employees, which claim or cause of action grows out of or results from increased levels of carbon monoxide, a fire or other damage, following the testing and inspection of one or more of the smoke and or carbon monoxide detectors, in addition one or more of the following action(s):

1. Replaced batteries
2. Provided new CO detector(s)
3. Provided new smoke detector(s)
4. Collected faulty CO detector(s)
5. Collected faulty smoke detector(s)
6. Took no additional action
7. Obtained photograph of smoke/ carbon monoxide detector(s) (Device only)

I further hereby agree to release and hold harmless any and all organizational and individual participants including the **[Partner Name]** and municipality of [MUNICIPALITY NAME] in the CPSC Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households from and against all damages of any kind, to persons or property, growing out of or resulting from a fire or increased levels of carbon monoxide in my referenced home.

I acknowledge having read, understood, and agreed to the above waiver, and release.

Print name	Signature	Date

Witness (Print name)	Signature	Date

*This form generally indicates that the occupant or owner of the property agrees to waive his or her rights to sue any individual, any municipality and any other organizations or individuals involved in the safety inspection of this home, if a fire or increased levels of carbon monoxide occurs after the inspection. The purpose of the waiver is to protect the individual or any of the organizations involved against liability arising from the home fire inspection. This statement is intended for information only, the terms of the waiver themselves shall prevail if there are any questions. You should seek advice if you do not understand this waiver.

Appendix D: Thank You Email For Participating in In-Home Interview

DATE>
IF SENT AS EMAIL - Subject: Thank you for your participation in the CPSC Research Study

Dear **<NAME>,**

Thank you for participating in the interview survey about smoke and carbon monoxide (CO) safety for the U.S. Consumer Product Safety Commission (CPSC) on **<DATE>** at **<TIME>.** The information you provided will be used to improve fire and carbon monoxide safety for millions of families across the U.S. We truly value your input and appreciate your time.

Again, thank you very much and feel free to contact us with any questions.

Sincerely,

<NAME>
Field Services Coordinator
EurekaFacts, LLC
(240) 403-1645
(301) 610-0640 - fax
www.eurekafacts.com

Appendix E: Extended Explanation of Study

<DATE>
IF SENT AS EMAIL - Subject: Additional Information for a CPSC Research Study

Hello,

I am contacting you from EurekaFacts, a survey research company. You are receiving this email because you have previously requested additional information about the in-home safety survey that we are conducting on behalf of the U.S. Consumer Product Safety Commission (CPSC).

These interviews are an important part of the research process. The purpose of this survey is to inform CPSC about the use of smoke detectors and CO detectors in homes in the United States. In addition, information collected from this survey will improve household safety across the U.S. Your input will assist with developing standards and guidelines that will help protect property and human life.

This study will require a qualified two-member survey team to visit your home to ask you a series of questions about household fire safety and then test your smoke and carbon monoxide (CO) detectors to make sure they work. A member of the team who is trained and certified to inspect and install smoke detectors will test your smoke and carbon monoxide detectors to see if they are working.

If the batteries in the detectors need to be replaced, we can provide you with a replacement for free. If, during in-home interview, the survey team finds any detectors to be non-functioning, new ones will be offered at no cost. If you are renting your home and agree to participate in the study, the property manager will need to be contacted to discuss arrangements regarding the survey team visit and smoke detectors testing. All in-home interview sessions will last up to 60 minutes.

In instances where you may not have a smoke detector or CO detector, we are still interested in you participating in the survey. If your home does not have a smoke detector or CO detector, we will conduct the interview over the phone instead. The telephone interview will last up to 20 minutes.

The participant will receive a gift card from a major credit card company in appreciation for completion of the survey. Different incentive amounts are provided depending on whether the participant completes the in-home or telephone interview. The variation of monetary value is due to the amount of time and effort involved in the in-home survey administration compared to the shorter telephone survey administration.

If you would like to participate in the study, please call EurekaFacts at the toll-free number **<NUMBER>** and mention you are calling for the CPSC Smoke and CO Detector study, or click here **<WEBSITE>** for more information. Please have your unique ID ready when contacting our call center staff.

Thank you for your willingness to participate in this important survey.
Sincerely,

EurekaFacts, LLC on behalf of the
U.S. Consumer Product Safety Commission

Appendix F: Frequently Asked Questions (FAQs)

What is this study about?
The Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households is sponsored by the National Fire Protection Agency (NFPA) and the U.S. Consumer Product Safety Commission (CPSC). EurekaFacts, an independent research firm, is conducting the study on behalf of the NFPA and CPSC in conjunction with their local area partners. Our goal is to gather information about smoke and carbon monoxide (CO) detectors nationwide.

What is the purpose of the study?
The purpose of this survey is to gather information on perceptions, usage, and functionality of smoke and CO detectors in homes within the United States. Findings from this survey will help establish a baseline for measuring future progress, and for providing vital information for public safety education, code enforcement, and improving the technology.

How will I be contacted?
Field interviewers will be knocking on doors in randomly selected neighborhoods of the metro area. You may receive a door hanger advertising the study prior to their arrival. When the field interviewers knock on your residence, you will be asked to participate and screened for eligibility.

When and where will the interview be held?
If you qualify for the in-home interview, a two-member survey team will interview you immediately inside your residence.

How long will the interview last?
The full-length in-home interview is expected to last up to 60 minutes. The shortened in-home interview is expected to last no more than 20 minutes.

What is involved in the in-home interview?
This study will require a qualified two-member survey team to visit your home to ask you a series of questions about household fire and carbon monoxide safety. Both members will present their official badges to confirm their identity and legitimacy. A trained member of the team will inspect and test your smoke and carbon monoxide detectors to see if they are working properly. The in-home interview will last about 60 minutes.

I do not have a smoke or CO detector. Am I still eligible?
Yes. We are still interested in speaking with households that do not have a smoke alarm or CO detector. In this case, we will conduct a shorter interview with you, which will last about 20 minutes. It will consist of some survey questions only.

How was I selected for this study?
Your neighborhood was selected at random from a list of areas associated with one of the study's 24 metropolitan areas. Ultimately, this study will represent different regions of the country and various types of homes. We hope you participate in this important study and contribute to fire safety.

Can I recommend a friend?
No. Households were specifically selected to participate in this study based on several factors. Unless their household was also chosen for the study, we are unable to interview them.

Will my information be kept confidential?

All responses are kept completely confidential. At no time will any identifiable information be linked to any of your answers. All information collected through our research process is grouped and reported anonymously.

What are the incentives for participating?

The participant will receive a gift card from a major credit card company as an incentive in appreciation at the completion of the survey. Participants completing the full in-home interview will receive a **$50 gift card**. Participants completing the shortened version will receive a **$10 gift card**. The different incentive amounts are due to the amount of time and effort involved in to complete each type of interview.

What precautions are you taking to protect people from COVID?

All sponsors and interviewers have implemented the CDC guidelines to safely conduct this home safety study while also promoting public health. Interviewers will be wearing masks at all times when interacting with the public and gloves when handling alarms. They will be practicing social distancing when interviewing participants and will use hand sanitizer after each interview. Participants are encouraged to also practice social distancing and wear a mask during the interview.

What is the duration of this study?

We will be conducting this survey between 2019 and 2022 in 24 randomly selected metropolitan areas across the country (plus the pilot in Washington DC).

Whom can I contact with additional questions?

If you have any questions about this study, contact EurekaFacts via email at CPSC-alarm-participants@eurekafacts.com. If you have any ethical concerns regarding this research, please contact Jorge Restrepo, Institutional Review Board, at 240-403-4800, or restrepoj@eurekafacts.com.

Appendix G: In-Home Survey – Consumer Product Safety Commission (CPSC) Survey on Usage and Functionality of Smoke Alarms and Carbon Monoxide Alarms in Households

2019 U.S. Consumer Product Safety Commission (CPSC) Survey on Usage and Functionality of Smoke and Carbon Monoxide (CO) Detectors in Households
Door to Door Campaign 60-minute Instrument (Households with Smoke and/or CO Alarms)
Final Questionnaire

This is the In-home survey instrument that is to be administered to participants in person. The instrument features both questions to be asked of the participant and clearly labeled instructions for the interviewers.

[MODULE 1: APPROACHING HOUSEHOLDS - QUESTIONS FOR INTERIVEWERS TO FILL]

[ASK ALL:]
S.1 What is the type of home in which the resident resides? {1a}

1 Single Family Detached Housing
2 Single Family Attached Housing (*e.g.,* townhouse, rowhouse)
3 Apartment/Condo [If Apartment see Instructions for Apartment Selection]
4 Mobile/Other Manufactured Housing
5 Trailer/RV
6 Other (specify) *[Textbox]*

[IF APARTMENT (S.1=3) CONTINUE TO S.3, ELSE SKIP TO S.4]

[Interviewer Instructions] For selection of the first apartment household within an apartment/condo building or complex, please reference the training on "Instructions for Apartment Selection."

[Interviewer Instructions]
The following script is to be read in the instances where there is a front desk concierge. If there is no front desk concierge present continue to apartment door.

"Good Morning/Afternoon/Evening. I am conducting research on behalf of the National Fire Protection Association (NFPA). Part of our research requires us to interview residents of this building. I can offer them free carbon monoxide and smoke alarm testing. Would it be ok for us to offer your residents this free service?"

Show front desk staff your Field Interviewer identification and provide them with an official letter/factsheet for validation.

[ASK IF APARTMENT, S.1=3]
S.2 [Observe:] Do you have permission to enter the building? **{1b}**

1 Yes (CONTINUE)
2 No (SKIP TO REASON FOR TERMINATION Q.108)
3 Permission not needed (CONTINUE)

[Interviewer Instructions]

Start screening process before knocking on the door (Complete questions S.1 – S.2)

Once contact has been made with the resident, interviewers should immediately begin collecting information from the respondent.

- Interviewers should be thoroughly familiar with the scripted content below to the extent that you can engage in a conversational style. Scripted content shown in *italics.*

Important — Addressing non-response to questions: Response options to questions may include "Don't know", "Unsure", or "Refused" options. Do not read these aloud at any time during the interview.

- Only record these options if the respondent provides it him or herself.
- If the respondent indicates that they don't know the answer to a question, mark the appropriate answer or fill in "DK" for Don't Know in the space provided.

Questions marked **(Observe)** are for interviewers to fill in themselves. Do not read to participants.

[ASK ALL:]
S.3 **Interviewer**: Please complete the required team information {I}

a. Unique ID (Format: YYYYMMDDHHMM) [Textbox]
b. Date of visit [Textbox]
c. Survey Interviewer name [Textbox]
d. Alarm Inspector name [Textbox]
e. Partnering Organization/ Fire Department [Textbox]
f. Street address [Textbox]
g. Apt/ Suite [Textbox]
h. City [Textbox]
i. State [Textbox]
j. Zip code [Textbox]
k. Pre-screen Start time (hh:mm) [textbox]

S.4 [Observe:] Did someone answer the door at the participant's household? **{1c}**

1 Yes (CONTINUE)
2 No (SKIP TO REASON FOR TERMINATION Q.108)

[MODULE 2: INTRODUCTION]

[Interviewer Instructions]
Use the following options to get in the door – alter as applicable.

[READ:] "Hello. I am [Surveyor name piped in] and this is [Alarm Specialist name piped in] from [Fire department/Organization piped in].

Show the participant the organization or EurekaFacts provided ID badge. Have copies of letters endorsing the survey from CPSC and local fire department if available to share when needed.

[READ:] "Good Morning/Afternoon/Evening. I am a here on behalf of the National Fire Protection Association, or NFPA, as part of a survey about household smoke detectors. This is a nationwide effort along with the U.S. Consumer Product Safety Commission (CPSC) to improve home safety. We are in your neighborhood today offering smoke alarm and carbon monoxide detector testing and replacements if needed for free!

[If needed:] Just for simplicity, I will refer to the sponsor of the survey as NFPA.

S.6 Are you the head of the household and over 18 years of age? **{2a}**

1 Yes (SKIP TO S.10)
2 No (CONTINUE)

[ASK IF S.6=2]
S.7 Is there another person available we may speak with, who is 18 years or older and may be considered one of the heads of the household? **{2b}**

1 Yes (CONTINUE)
2 No (SKIP TO REASON FOR TERMINATION Q.108)

NO QUESTIONS S.8-S.9

[Read:] *"We are asking people in your community a few questions about their smoke and carbon monoxide detectors and doing some simple tests to make sure the detectors work. If the batteries in your detector need to be replaced, we have new batteries to give out, free of charge. Also, if any of your detectors do not work, we have new ones to replace them, again free of charge. We would like to collect any detectors that don't work and send them to the Consumer Product Safety Commission's lab to find out why they don't work. This interview will take up no more than 60 minutes, and at the end of the interview we will provide you with a $50 gift card as appreciation for your time."*

[ASK IF S.6=1 OR S.7=1]
S.10 *Would you like to see if you qualify for this opportunity? Remember if you qualify, we will replace the batteries and/or alarms as needed and you will receive a $50 visa gift card as a thank you for your time.* **{New}**

1 Yes, I want to see if I qualify (SKIP TO S.13)
2 No, I do not want to check my qualification

[ASK IF S.10=2]
S.11 **Refusal Aversion:**
Interviewer Instructions: Select and read the following refusal aversion prompts below. Attempt multiple combinations and find the approach that works best for you. [Programming note: Select all that apply]

1. *We cannot complete this important safety campaign without the help of community members like you. Your input is urgently needed. [Can we count on your participation?]*

2. *This survey on home fire and carbon monoxide safety is the first of its kind in over 25 years. Now is a unique opportunity for you to represent the voice of your community in this important public*

safety campaign. [Can we count on your participation?]

3. *Do you happen to know someone impacted by a fire in their home in the last few years? [Wait for response] I am sorry to hear that. Unfortunately, they are not alone. Household fires strike 1.3 million homes each year [If "no" Redirect to Fire Fact Below] [Can we count on your participation?] [Can we count on your participation?]*

4. *Did you happen to know that around the U.S. there are 1.3 million household fires and more than $10 billion dollars in losses each year? This survey, that could benefit from your input, and from others like you, is vital to reducing this kind of loss and tragedy. [Can we count on your participation?]*

5. *Did you happen to know that 3 out of 5 home fire deaths involve missing or malfunctioning smoke detectors? At the same time … the risk of death in a home fire is 54% lower in homes with working smoke alarms. Your participation today will help the U.S. Consumer Product Safety Commission improve home safety and save lives. [Can we count on your participation?]*

[ASK IF S.10=2]
S.12 [Observe:] Was/were the prompts successful? **{New}**

1 Yes, participant wants to see if they qualify (CONTINUE)
2 No, participant does not want to check qualification (SKIP TO REASON FOR TERMINATION Q.108)

[ASK IF S.12=1]
S.13 Thank you, may I please have your name? **{New}**

1 [Textbox]

[ASK ALL:].
S.14 [COVID SCREENING QUESTIONS:] *Before we continue it's important that I ask a few quick questions regarding COVID-19. In the past 14 days, has anyone within the household had a fever, cough or shortness of breath? Has anyone come in contact with someone known to have COVID-19 or in contact with a person currently waiting for a COVID-19 test result? Lastly, has anyone in the household had contact with an individual who is currently quarantined due to COVID-19 infection?*

[Interviewer Instructions]
If participant says "yes" to any of these questions, terminate the session. Thank the participant for their willingness to participate but decline to continue.

[READ:] *Thank you for your willingness to participate in our study, but just to be cautious we will not be able to complete the interview. This is for the safety of the interview and research team and for other residents we will encounter. Thank you for understanding. Have a good day.*

1 Yes to any (SKIP TO REASON FOR TERMINATION Q.108)
2 No to all (CONTINUE TO MAIN SCREENING S.15)

[MODULE 3: SMOKE ALARM/CO DETECTOR SCREENING]
"Great. Let's begin."

[ASK ALL:].

S.15 First, do you have any smoke detectors in your home? When considering whether you do, please do not include any uninhabited outbuildings or apartment hallways. If you are not sure, I can assist by inspecting the home with you. **{4a, 4a1}**

[DO NOT READ]

1 Yes, I have smoke detectors (CONTINUE)
2 No, I do not have smoke detectors (SKIP TO S.19)

[ASK IF S.15=1]

S.16 Are any of your smoke detectors connected to a central alarm or security system that notifies the police or fire department when it goes off? **{4b}**

[If needed: "*What we mean by this is if the smoke detector detected smoke, it would automatically notify the police or fire department."*]

[DO NOT READ LIST]

1 Yes (SKIP TO S.19)
2 No (SKIP TO S.19)
3 Don't Know (CONTINUE)

[ASK IF S.16 "DON'T KNOW", S.16=3:].

S.17 Thinking of all fire and smoke related incidents at your residence, has the police or fire department ever arrived in response to a notification from a central alarm or security system? **{4c}**

[DO NOT READ LIST]

1 Yes
2 No
3 Never had a fire or smoke related incident

NO QUESTION S.18

[ASK ALL:]

S.19 Do you have any carbon monoxide detectors in your home? When considering whether you do, please do not include any uninhabited outbuildings or apartment hallways. If you are not sure, I can assist by inspecting the home with you. **{5a,5a1}**

[DO NOT READ LIST]

1 Yes, I have CO detectors (CONTINUE)
2 No, I do not have CO detectors (SKIP TO S.23)

[ASK IF S.19=1:].

S.20 Are any of your carbon monoxide detectors connected to a central alarm or security system that notifies the police or fire department when it goes off? **{5b}**

[If needed: *What we mean by this is if the carbon monoxide detector detected carbon monoxide, it would automatically notify the police or fire department.*]

[DO NOT READ LIST]

1 Yes (SKIP TO S.23)
2 No (SKIP TO S.23)
3 Don't Know (CONTINUE)

[ASK IF S.20 "DON'T KNOW", S.20=3:].
S.21 Thinking of all carbon monoxide related incidents at your residence, has the police or fire department ever arrived in response to a notification from a central alarm or security system? **{5c}**

[DO NOT READ LIST]
1 Yes
2 No
3 Never had a carbon monoxide related incident

[ASK ALL]
S.23 [OBSERVE:] Time screening ended: ___ (hh:mm AM/PM)

Go to <u>Abbreviated Survey for Participants without Detectors or with Detectors Connected to a Security Alarm System</u> if there are any combinations that indicate that the interviewer is unable to inspect either a smoke or CO detector. See Appendix I for full list of combinations.

[ASK ALL QUALIFIED PARTICIPANTS:]
S.24 *"Great you qualify for this interview! Before we begin, we need you to review a consent form with information about the study."*

"Please read the following off of my tablet. If you agree to allow this interview to proceed, please sign the bottom. Let me know you have any questions."

[Interviewer Instructions]
- Go to the next page and hand the tablet to the respondent for them to read and sign electronically.
- If participant refuses, say thank you and terminate.

[ASK ALL]
S.25 **Consumer Product Safety Commission (CPSC) Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households**

Informed Consent Form

Thank you for your interest in participating in the research study. This study is conducted by EurekaFacts on behalf of the *National Fire Protection Association* (NFPA) and the U.S Consumer Product Safety Commission (CPSC). We are conducting a nationwide survey on household fire and carbon monoxide (CO) safety. The purpose of this study is to gather information about the functionality of smoke detectors and CO detectors in U.S. households by asking a series of survey questions and testing your household smoke and CO alarms. Findings from this research will help the NFPA and CPSC improve home safety.

The combined survey and testing of smoke alarms and CO alarms will take up to 60 minutes. Our trained and qualified two-member survey team will ask you questions related to your smoke detectors and CO detectors, and then inspect these devices in your home. You will receive a $50 gift card from a major card company as a token of appreciation for completion of the study.

If the survey team finds any detectors to be non-functioning, new detectors and/or batteries can be offered, free of charge, based on availability. If you are renting your home, the property manager will need to be contacted to arrange installation of the new detector at a later date. With your permission, we would like to collect non-functioning smoke or CO detectors and send them to CPSC's lab to find out why they don't work. In addition, we may request your permission to take a photograph of your smoke and CO detector(s) to study different alarm types and functionalities.

Information collected from this study will help the NFPA and CPSC to improve household fire and CO safety Your input will assist with developing standards and guidelines that will help protect property and human life. This research does not involve any foreseeable risks.

Your participation in this research study is completely voluntary. You may stop at any time if you do not want to continue with the study by notifying a member of the survey team. Your responses will be maintained confidential and will be used for research purposes only. At no time will any identifiable information be linked to any of your answers. All information collected through our research process is reported to the NFPA and CPSC anonymously.

S.25a We ask for your consent to participate in answering questions as part of the survey portion of this study.

1 I consent
2 I do not consent (SKIP TO REASON FOR TERMINATION Q.108)

S.25b We ask for your consent to participate in the smoke and CO alarm testing portion of this study in your home.

1 I consent
2 I do not consent (SKIP TO REASON FOR TERMINATION Q.108)

S.25c Your signature below means that you have freely agreed to participate in this research study. You should consent only if you have read this document and you understand its contents. **{2d}**

[ASK ALL]
S.26 Informed Consent Form **{2e-eg}**

a Signature [*Signature box]*
b Enter Name *[Text box]*
c Date *[Textbox]*

(READ) *"Thank you. It is also important that you read and sign a hold harmless agreement for our visit to your house today.*

[Interviewer: Read the information below if the participant requires additional information.]

*This form generally indicates that the occupant or owner of the property agrees to waive his or her rights to sue any individual, any municipality and any other organizations or individuals involved in the safety inspection of this home, if a fire or increased levels of carbon monoxide occurs after the inspection. The purpose of the waiver is to protect the individual or any of the organizations involved against liability arising from the home fire inspection. This statement is intended for information only, the terms of the waiver themselves shall prevail if there are any questions. You should seek advice if you do not understand this waiver.

[ASK ALL:]

S.27 **Waiver, Release and Hold Harmless Agreement {Q48}**

In consideration of the voluntary performance of my participation in the National Fire Protections Association (NFPA) and U.S. Consumer Product Safety Commission (CPSC) Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households, which is being conducted at my residence, located at <INSERT ADDRESS>

I, on behalf of myself, and all members of family, as well as my heirs, executors, administrators or successors, hereby waive any claim or cause of action of any nature that I have, or in the future may have, against any and all individual or organizational participants in the CPSC Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households, including but not limited to the NFPA, CPSC, and EurekaFacts, LLC, its agents or employees, which claim or cause of action grows out of or results from increased levels of carbon monoxide, a fire or other damage, following the testing and inspection of one or more of the smoke and or carbon monoxide detectors, in addition one or more of the following action(s):

1) Replaced batteries
2) Provided new smoke detector(s)
3) Collected faulty smoke detector(s)
4) Obtained photograph of smoke/ carbon monoxide detector(s) (Device only)
5) Provided new CO detector(s)
6) Collected faulty CO detector(s)
7) The possibility of no additional action

I further hereby agree to release and hold harmless any and all organizational and individual participants including the **[Partner Name]** and municipality of [MUNICIPALITY NAME] in the NFPA and CPSC Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households from and against all damages of any kind, to persons or property, growing out of or resulting from a fire or increased levels of carbon monoxide in my referenced home.

1 I acknowledge having read, understood, and agreed to the above waiver, and release.
2 I decline the above waiver and release. (Skip to Q.108)

S.28 Participant Signature{Q48a.}
S.29 Name_____ {48b}
S.30 Date_____ {48c}

***This form generally indicates that the occupant or owner of the property agrees to waive his or her rights to sue any individual, any municipality and any other organizations or individuals involved in the safety inspection of this home, if a fire or increased levels of carbon monoxide occurs after the inspection. The purpose of the waiver is to protect the individual or any of the organizations involved against liability arising from the home fire inspection. This statement is intended for information only, the terms of the waiver themselves shall prevail if there are any questions. You should seek advice if you do not understand this waiver.**

(READ) *"Thank you. Your input is very important to this research. My teammate will now gather the tools needed to test your alarms. In the meantime, you and I will begin the questionnaire.*

[INTERVIEWER] Alarm inspector should ensure all materials are available for alarm testing and call supervisor for any needed supplies (ladder, measuring tape, etc.) If there are pets in the home, please politely ask the participant if they can be placed in a separate room during the interview.

[MODULE 4: HOME CHARACTERISTICS]

[ASK ALL]
Q.1 Do you or another member of your household own or rent your home? (DO NOT READ LIST) **{6}**

1 Own
2 Rent
98 Don't know
99 Refused

[ASK ALL]
Q.2 For how many years have you lived in this (apartment/house)? (DO NOT READ LIST) **{7}**

1 Drop down menu of full year integers [Include less than one year to 50 or more]
98 Don't know
99 Refused

[ASK ALL]
Q.3 Please tell me to the best of your knowledge, in what year was this (apartment/house) built? Was it … (READ LIST) **{8}**

1 2010 or later
2 Between 2000 and 2009
3 Between 1990 and 1999
4 Between 1980 and 1989
5 Between 1970 and 1979
6 Between 1960 and 1969
7 Before 1960
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

[IF "Single Family Detached Housing" or "Single Family Attached" (S.1=1-2), ASK:]
Q.4 What types of fuel-burning appliances, if any, do you own or have in your home? By fuel burning appliances, we mean appliances that use gas, propane, oil, wood, wood pellets, coal, or kerosene. Do not include electric-powered appliances. (READ LIST, SELECT ALL THAT APPLY) **{9a}**

1 Gas powered generator
2 Furnace or boiler
3 Water heater
4 Charcoal grill
5 Gas Dryer
6 Wood or pellet burning fireplace or stove
7 Kitchen appliances (e.g., stove, oven)
8 Other (Specify) *[TEXTBOX]*
9 Do not own any fuel-burning appliances [Exclusive]
98 Don't know (DON'T READ) [Exclusive]
99 Refused (DON'T READ) [Exclusive]

[IF "Single Family Detached Housing" or "Single Family Attached" (S.1=1-2), ASK:]
Q.5 Does this residence have an attached garage unit? (DO NOT READ LIST) **{9b}**

1 Yes
2 No (SKIP TO Q.9)
98 Don't know (SKIP TO Q.9)
99 Refused (SKIP TO Q.9)

[IF "Single Family Detached Housing" or "Single Family Attached" (S.1=1-2), ASK:]
[IF "Yes" (Q5=1), ASK]
Q.6 For what purposes is the attached garage used? Would you say… (READ LIST, SELECT ALL THAT APPLY) **{9c}**

1 Workshop/ workspace
2 Store tools or lawn/ sports equipment
3 Store vehicle(s) (e.g., motorcycle, car, SUV, van, etc.)
4 Fuel burning appliances (e.g., furnace, water heater, grill, etc.)
5 Other (Specify:) *[TEXTBOX]*
98 Don't know
99 Refused

NO QUESTIONS Q.7-Q.8

[MODULE 5: SMOKE DETECTOR BEHAVIORS]

[ASK IF HAS SMOKE DETECTORS, S.15=1:].
Q.9 Please tell me to what extent do you believe your home is safe with your current smoke detectors? Would you say ... **{4d}**

[READ LIST]
1 Not at all safe
2 Slightly safe
3 Moderately safe
4 Mostly Safe
5 Very safe
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

[ASK IF HAS SMOKE DETECTORS, S.15=1:]
Q.10a About how often do you use the test button to test the smoke detector or detectors in your home? Would you say… (READ LIST) **{10a}**

1 Never
2 Once every few years (SKIP TO Q11a)

3 Once every year (SKIP TO Q11a)
4 Once every 6 months (SKIP TO Q11a)
5 Once every 3 months (SKIP TO Q11a)
6 Once every month (SKIP TO Q11a)
7 Once every week (SKIP TO Q11a)
8 Other (specify) *[TEXTBOX]* (SKIP TO Q11a)
98 Don't know (DON'T READ) (SKIP TO Q11a)
99 Refused (DON'T READ) (SKIP TO Q11a)

[ASK IF HAS SMOKE DETECTORS & NEVER TESTS, S.15=1 & Q10a=1:]
Q.10b. Please tell me, what are some of the reasons that you have not tested your smoke detector or detectors? (DO NOT READ LIST, SELECT ALL THAT APPLY):

1 Did not know you should test
2 Did not think it was important enough
3 Did not know how to test (SKIP TO 11a)
4 Don't need to test because they go off occasionally
5 Physically unable to reach
6 Other (Specify) *[Textbox]*
98 Don't know
99 Refused

[ASK IF HAS SMOKE DETECTORS & NEVER TESTS, S.15=1 & Q10a=1:]
Q.10c. Do you know how to test your smoke detector or detectors, or not? (DO NOT READ LIST)

1 Yes
2 No
98 Unsure
99 Refused

[ASK IF HAS SMOKE DETECTORS, S.15=1:]
Q.11a Do you think most, or all of your smoke detectors are working? By working, I mean they would make a sound if they detected smoke right now. (DO NOT READ LIST)

1 Yes (SKIP to Q12)
2 No
98 Don't know (SKIP TO Q12)
99 Refused (SKIP TO Q12)

[ASK IF 11a=2, "No":]
Q.11b What are some of the reasons your smoke detectors may not be working? Again, by working, I mean they would make a sound if it detected smoke right now. (DO NOT READ LIST, SELECT ALL THAT APPLY)

1 Did not get around to fixing it
2 Do not know how to fix or replace it
3 Unable to install or fix it
4 Unable to afford new ones
5 Disconnected it (GO TO Q.11c)
6 It is the landlord's responsibility
7 Removed battery (GO TO Q.11d)

8 Batteries never installed
9 Batteries not working and not yet replaced
10 Other reason *[TEXTBOX]*
98 Don't know
99 Refused

[ASK IF 11b=5, "Disconnected it"]

Q.11c You mentioned that one or more of your smoke detectors was disconnected. For what reason(s) were the smoke detectors disconnected? (DO NOT READ LIST, SELECT ALL THAT APPLY)

1 Nuisance when they go off
2 Detector frequently went off
3 Would not stop beeping/ chirping
4 No longer worked
5 No reason in particular
6 Other reason *[TEXTBOX]*
98 Don't know
99 Refused

[ASK IF 11b=7, "Removed battery"]

Q.11d You mentioned that the batteries were removed from one or more of your smoke detectors. For what reason(s) were the batteries removed from the smoke detector or detectors? (DO NOT READ LIST, SELECT ALL THAT APPLY)

1 Batteries no longer worked
2 Batteries were leaking/ discharge
3 Batteries expired
4 Detector would not stop beeping/chirping
5 Intended to replace batteries, but forgot to install new ones
6 Installed wrong type of batteries
7 Needed batteries for another device
8 Other reason _____
98 Don't know
99 Refused

[ASK IF HAS SMOKE DETECTORS, S.15=1:].

Q.12 Do you know how to… (DO NOT READ RESPONSE OPTIONS)

a. Install a smoke detector?
b. Maintain a smoke detector in good working order?

[Response Options]

1 Yes
2 No
98 Unsure
99 Refused

[ASK IF HAS SMOKE DETECTORS, S.15=1:].

Q.13 To the best of your knowledge, how often should you replace your old smoke detector with a new smoke detector in your home? Would you say… (READ LIST)

1 Never, unless the detector stops working
2 Once every 6 months
3 Once a year
4 Once every 2 – 5 years
5 Once every 6 – 9 years
6 Once every 10 years
7 Once every 10+ years
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

[ASK ALL:].

Q. 14 On a scale of 1 to 5, where 1 is "Not at All Necessary", and 5 is "Extremely Necessary", how necessary do you feel it is to have a smoke detector installed in your home? **{Q29}**

1 1 – Not at All Necessary
2 2
3 3
4 4
5 5 – Extremely Necessary
98 Don't Know
99 Refused

[ASK IF NO SMOKE DETECTOR, S.15=2]

Q.15 Please tell me what are some of the reasons you don't have a smoke detector installed in your home? (DO NOT READ LIST, SELECT ALL THAT APPLY) **{Q30}**

1 Don't think I need one
2 Did not come with residence
3 They are a nuisance
4 They did not or don't work
5 Never got around to replacing previous detectors
6 It is the landlord's responsibility
7 Other reason*[Textbox]*
98 Don't know
99 Refused

[MODULE 6: FIRE HISTORY]

[ASK ALL:]

Q.16 In the past 12 months, have you had any accidental fires – that is unintended or unwanted smoke or flames - in your home? Please include fires that were too small to call the fire department. (DO NOT READ LIST) **{14a}**

1 Yes (CONTINUE)
2 No (SKIP TO Q.17)
98 Don't know (SKIP TO Q.17)
99 Refused (SKIP TO Q.17)

[ASK IF "Yes", Q16=1:]

Q.16a Thinking of the most recent accidental fire(s), how did you become alerted to the incident? (DO NOT READ LIST, SELECT ALL THAT APPLY) **{14b}**

1 Saw the fire
2 Smelled the fire
3 Heard the fire
4 Felt the heat of the fire
5 Smoke detector (SKIP Q16c)
6 Someone notified me
7 Other (Specify) [textbox]
8 Don't remember
98 Don't know
99 Refused

IF S.15=1, "Has smoke alarms", CONTINUE
ELSE SKIP TO Q.20

[ASK IF Q16 "Has smoke alarms" AND "Yes" had accidental fires, Q16=1 AND S.15=1]
[ASK IF Q16a OTHER THAN "Smoke detector" Q16a= 1-4, 6-8,98-99]

Q.16b Thinking of the most recent accidental fire(s), did any of the smoke detectors go off during the fire(s)? (DO NOT READ LIST) **{14c}**

1 Yes (SKIP TO Q.17)
2 No
98 Don't know (SKIP TO Q.17)
99 Refused (SKIP TO Q.17)

[ASK IF Q16b= "No", Q16b=2]

Q.16c Thinking of the most recent accidental fire(s), do you think that enough smoke reached the smoke detector that it should have sounded? (DO NOT READ LIST) **{14d}**

1 Yes
2 No
98 Don't know
99 Refused

[ASK IF HAS SMOKE ALARMS, S.15=1]

Q.17 In the past 12 months, have any of your smoke detectors gone off when there was no fire, other than when the smoke detector was being tested? (DO NOT READ LIST) **{Q15a}**

1 Yes
2 No
98 Don't know
99 Refused

[ASK IF Q17=1, "Yes"]

Q.17a Why do you think the smoke detector went off when there was no fire? (DO NOT READ LIST, SELECT ALL THAT APPLY).**{15b}**

1 Cooking
2 Fireplace
3 Tobacco
4 Steam from bathroom
5 Low battery
6 Other (Specify:) *[textbox]*
7 No apparent reason
98 Don't know
99 Refused

NO QUESTIONS 18-19
[MODULE 7: CO DETECTORS]

[ASK IF HAS CO DETECTORS, S.19=1:].

Q.20 Please tell me to what extent do you believe your home is safe with your current carbon monoxide detectors? Would you say... (READ LIST**) {5d}**

[READ LIST]

1 Not at all safe
2 Slightly safe
3 Moderately safe
4 Mostly Safe
5 Very safe
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

[ASK ALL:]

Q.21 How would you know if high levels of carbon monoxide (CO) were present in your home? (DO NOT READ LIST, SELECT ALL THAT APPLY). **{16}**

1 You can smell it

2 You can taste it
3 You can see it
4 You can feel it
5 Carbon monoxide detector
6 Other (Specify:) [textbox]
7 Respondent does not believe there is a way to know if CO is present
98 Don't know
99 Refused

[ASK ALL:]
Q.22 How much do you believe you know about carbon monoxide detectors? (READ LIST) **{17}**

1 Nothing at all
2 A little
3 Some
4 A lot
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

IF HAS CO DETECTORS, S.19=1 CONTINUE
ELSE SKIP TO Q.27

[ASK IF HAS CO DETECTORS, S.19=1:].
Q.23 About how often do you use the test button to test your carbon monoxide detector or detectors? Would you say… (READ LIST) **{18a}**

[READ LIST]

1 Never
2 Once every few years (SKIP TO Q24)
3 Once every year (SKIP TO Q24)
4 Once every 6 months (SKIP TO Q24)
5 Once every 3 months (SKIP TO Q24)
6 Once every month (SKIP TO Q24)
7 Once every week (SKIP TO Q24)
8 Other (specify) [TEXTBOX] (SKIP TO Q24)
9 Don't know (SKIP TO Q24) (DON'T READ)
10 Refused (SKIP TO Q24) (DON'T READ)

[ASK IF HAS CO DETECTORS, S.19=1:]
[ASK IF NEVER TESTS, Q.23=1:].
Q.23a What were the reasons that you have not tested your carbon monoxide detector or detectors? (Open ended, capture their response) **{18b}**

1 [Text box]

[ASK IF HAS CO DETECTORS, S.19=1:]

Q.24 Do you think most or all of your carbon monoxide detectors are working? By working, I mean they would make a sound if they detected carbon monoxide right now. (DO NOT READ LIST) **{19a}**

1 Yes (SKIP TO Q.25)
2 No
98 Don't know (SKIP TO Q.25)
99 Refused (SKIP TO Q.25)

[ASK IF 24=2, "No":]

Q.24a What are some of the reasons your carbon monoxide detectors may not be working? Again, by working, I mean they would make a sound if it detected carbon monoxide right now. (DO NOT READ LIST, SELECT ALL THAT APPLY) **{19b}**

1 Did not get around to fixing it
2 Do not know how to fix or replace it
3 Unable to install or fix it
4 Unable to afford new ones
5 Disconnected it
6 It is the landlord's responsibility
7 Removed battery
8 Batteries never installed
9 Batteries not working and not yet replaced
10 Other reason [textbox]
98 Don't know
99 Refused

[ASK IF 24a= "Disconnected it", 24a=5,]

Q.24b You mentioned that one or more of your carbon monoxide detectors was disconnected. For what reason(s) were the carbon monoxide detectors disconnected? (DO NOT READ LIST, SELECT ALL THAT APPLY) **{19c}**

1 Nuisance when they go off
2 Detector frequently went off
3 Would not stop beeping/ chirping
4 No longer worked
5 No reason in particular
6 Other reason [textbox]
98 Don't know
99 Refused

[ASK IF Q24a= "Removed battery", Q24a=7]

Q.24c You mentioned that the batteries were removed from one or more of your carbon monoxide detectors. For what reason(s) were the batteries removed from the smoke detector or detectors? (DO NOT READ LIST, SELECT ALL THAT APPLY) **{19d}**

1 Batteries no longer worked
2 Batteries were leaking/ discharge
3 Batteries expired
4 Detector would not stop beeping/chirping
5 Intended to replace batteries, but forgot to install new ones
6 Installed wrong type of batteries
7 Needed batteries for another device

8 Other reason *[textbox]*
98 Don't know
99 Refused

[ASK IF HAS CO DETECTORS, S.19=1:]
Q.25 For what reasons do you have a carbon monoxide detector? (DO NOT READ LIST, SELECT ALL THAT APPLY) **{Q20}**

1 It is required by law
2 It makes me feel safe
3 It is helpful in detecting carbon monoxide
4 It came with the residence
5 I own generators/ fuel-burning appliances
6 Other (Specify:) [textbox]
98 Don't know
99 Refused

[ASK IF HAS CO DETECTORS, S.19=1:].
Q.26 To the best of your knowledge, how often should the carbon monoxide detectors in your home be replaced? Would you say… (READ LIST)

1 Never, unless the detector stops working
2 Once every 6 months
3 Once a year
4 Once every 2 – 5 years
5 Once every 6 – 9 years
6 Once every 10 years
7 Once every 10+ years
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[ASK ALL:].
Q. 27 On a scale of 1 to 5, where 1 is "Not at All Necessary", and 5 is "Extremely Necessary", how necessary do you feel it is to have a carbon monoxide detector installed in your home? **{Q31}**

1 1 – Not at all necessary
2 2
3 3
4 4
5 5 – Extremely Necessary
98 Don't Know
99 Refused

[ASK IF NO CO DETECTOR, S.19=2]
Q.28 Please tell me what are some of the reasons you don't have a carbon monoxide detector installed in your home. (PRECODED LIST. DO NOT READ, SELECT ALL THAT APPLY) **{Q32}**

1 Don't think I need one
2 Did not come with residence

3 They are a nuisance
4 They did not or don't work
5 Never got around to replacing previous detectors
6 It is the landlord's responsibility
7 Other reason *[Textbox]*
98 Don't know
99 Refused

NO QUESTION 29

IF NO CO DETECTORS, S.19 = 2, SKIP TO Q32
ELSE, CONTINUE

[MODULE 8: CO History]

[ASK IF HAS CO DETECTORS, S.19=1:]
Q.30 In the past 12 months, has your carbon monoxide detector or detectors ever gone off, other than when the carbon monoxide detector was being tested? (DO NOT READ LIST) **{22a}**

1 Yes
2 No (SKIP TO Q31)
98 Don't know (SKIP TO Q31)
99 Refused (SKIP TO Q31)

[ASK IF Q30= "Yes", Q30=1:]
Q.30a Thinking of the last time your carbon monoxide detector went off, how did you react when you heard the detector? (DO NOT READ LIST, SELECT ALL THAT APPLY) **{22b}**

1 Left the house
2 Called the fire department
3 Ventilated home (opened windows, door, used fan, etc.)
4 Unplugged or disconnected it
5 Reset it
6 Removed battery
7 Other action (specify) [textbox]
8 Don't remember
98 Don't know
99 Refused

[ASK IF HAS CO DETECTORS, S.19=1:].
Q.31 Do you know how to…(DO NOT READ RESPONSE OPTIONS) **{23}**

a. Install a carbon monoxide detector?
b. Maintain a carbon monoxide detector in good working order?

[Response Options]
1 Yes

2 No
98 Unsure
99 Refused

[ASK ALL:]
Q.32 In the past 12 months, were you aware that any of your friends, relatives, neighbors, or coworkers experienced…(DO NOT READ RESPONSE OPTIONS) {Q24}

a. An accidental fire?
b. A carbon monoxide incident? (e.g., effects of carbon monoxide poisoning)

[Response Option]
1 Yes
2 No
98 Unsure
99 Refused

[MODULE 9: Fire Safety Sources]

[ASK ALL:]
Q.33 In the past 12 months, have you looked for any information about either fire safety or carbon monoxide safety, or not? (DO NOT READ LIST) **{34a}**

1 Yes
2 No (SKIP TO Q36)
98 Unsure (SKIP TO Q36)
99 Refused (SKIP TO Q36)

[ASK IF Q.33=1:]
Q.34 Where do you obtain information about **fire safety**? (READ LIST ONE AT A TIME) (SELECT ALL THAT APPLY) **{34b}**

1 TV news, or radio
2 Internet search engines like Google
3 Family or friends
4 Community or religious organizations
5 Social media like Facebook
6 Local fire department
7 Other (SPECIFY) (DON'T READ) *[Textbox]*
8 None of these (DON'T READ)
98 Don't know or remember (DON'T READ)
99 Refused (DON'T READ)

[ASK IF Q.33=1:]
Q.35 Where do you obtain information about **carbon monoxide safety**? (READ LIST ONE AT A TIME) (SELECT ALL THAT APPLY) **{34c}**

1 TV news, or radio
2 Internet search engines like Google
3 Family or friends
4 Community or religious organizations
5 Social media like Facebook
6 Local fire department
7 Other (SPECIFY) (DON'T READ) *[Textbox]*
8 None of these (DON'T READ)
98 Don't know or remember (DON'T READ)
99 Refused (DON'T READ)

[ASK ALL:]
Q.36 How often do you or another member of the household cook at home using a stove or oven? Does a member of this household cook… (READ LIST)? **{35}**

1. Never
2. A few times per year
3. A few times per month
4. A few times per week
5. Every day
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[OBSERVE:]
Q.37 Time: ___ (hh:mm AM/PM)

NO QUESTIONS 38-39

[MODULE 10a: Alarm Testing]

[Interviewer note: Reintroduce team member who will conduct alarm test and hand them the tablet to continue the interview.]

"Now we'd like to test your detector(s) to make sure that they are working properly."

[ASK ALL:]
Q.40 **(READ)** How many floors (levels) are there in your home? Please include the basement and finished attic, if you have one. **{25}**

[INTERVIEWER] For an apartment, treat the entire apartment as one floor unless more than one level. DO NOT report the number of floors in the apartment building.

[Dropdown]
1. 1
2. 2
3. 3
4. 4

5. 5
6. 6 or more

[Interviewer note: Q41 through Q79 asked/conducted for each smoke alarm and each CO alarm]

[ASK ALL:]
Q.41 **(READ)** Would you show me the (first/next) detector? **{25B}**

[INTERVIEWER] Please ensure to have all materials are available and prepared for testing. If there are no more alarms to test, select "No more alarms available for testing" to skip the alarm testing portion.

1. Begin inspection
2. No more alarms available for testing (SKIP TO Q80)

[ASK IF Q.41=1:]
Q.42 **(READ)** What level of the home are we currently on? (NOTE: For an apartment, treat the entire apartment as first level unless more than one level. Do NOT report what floor of the building it is on.) **{26a}**

1 Basement
2 First level
3 Second level
4 Third level
5 Fourth level
6 Fifth level
7 Sixth level
8 Finished attic
9 Other [Textbox]

[ASK IF Q.41=1:]
Q.43 **(OBSERVE)** What area or room of the home are you currently in? **{26b}**

1 Inside the bedroom
2 Hallway outside of bedrooms
3 Hallway - other
4 In Family room/Living room
5 In Kitchen
6 In Dining area
7 In Bathroom
8 In Closet
9 In Stairwell
10 In Laundry room /Storage room
11 Other area

[ASK IF Q.41=1:]
Q.44 **(READ)** What type of detector is this? Would you say it is a smoke detector, carbon monoxide detector, both a smoke and CO detector, or you don't know? **{26C}**

1 Smoke detector
2 CO detector
3 Smoke/CO Combined
4 Don't know or other (INSPECT)

[ASK IF Q.44=4]
Q.44a **[INTERVIEWER]** Please inspect back of detector for manufacturer information - look for name/ type of detector. Please select correct type of detector. **{26C2}**

1 Smoke detector
2 CO detector
3 Smoke/CO Combined

NO QUESTION Q.45

[ASK IF Q.41=1:]
Q.46 **(READ)** For quality control purposes, we'd like to collect three photographs of this detector. Do we have your permission? **{26d}**

1 Yes
2 No
3 Could not take picture

[ASK IF "No", Q.46=2]
"Okay. No problem."

[ASK IF Q.46=1]
Q.46a **[INTERVIEWER]** Only remove the alarm from the mounting plate to see the back of the alarm, disconnected only the ac pig tail if needed. Do not cut or disconnect any electrical wires connected to the wall or ceiling directly.

Please obtain three photographs including the following items.

Instructions:

1) Press the "Upload" button.
2) Select the camera option.
3) Take picture.
4) Accept picture.

[ASK IF Q.46=1]
Q.46a [IMAGE UPLOAD] Front of detector (to capture image of detector)
Q.46b [IMAGE UPLOAD] Back of detector (UL and Manufacturer information)
Q.46c [IMAGE UPLOAD] Side of detector (may have a install/replacement sticker)

[ASK Q.41=1, Alarm Testing Being Conducted]
Q.47 **(READ)** How old do you think this detector is? Would you say… **{26w}**

1 Less than 1 year old

2 1 – 5 years old
3 6 – 10 years old
4 More than 10 years old
5 Don't know (DON'T READ)
6 Refused (DON'T READ)

IF Q.44 or Q44a= "Smoke Alarm" or "Smoke/CO Combined" Continue
ELSE IF Q.44 or Q44a= "CO", SKIP TO CO TESTING Q.52

[MODULE 10b: Smoke Alarm Testing]

[ASK IF Q.44 or Q44a= "Smoke Alarm" or "Smoke/CO Combined:]
Q.48a **(READ)** Is there a kitchen with a stove top on this floor? **{26e1}**

1 Yes
2 No (SKIP TO Q.49)

[ASK IF Q.48a=1:]
Q.48b **(READ)** Is this alarm the closest to the Kitchen with a stove top? **{26e2}**

1 Yes
2 No (SKIP TO Q.49)

[ASK IF Q.48b=1:]
Q.48c **(OBSERVE)** Approximately, what is the horizontal distance between the stove or cooktop in the kitchen and the closest smoke detector on the same floor? Use measuring tape if necessary. **{26e3}**

1 Less than 6 feet
2 6 – 10 feet
3 11 – 20 feet
4 More than 20 feet
98 Don't know

[ASK IF Q.44 or Q44a= "Smoke Alarm" or "Smoke/CO Combined:]
Q.49 **INSTRUCTIONS ON TESTING SMOKE DETECTOR WITH AEROSOL-SMOKE TEST**

- Warn consumer of loud noise when the smoke detector sounds.
- Use hearing protection, if needed.
- Only disconnect alarms from AC Pig tails. Do not disconnect AC pig tails from other electrical wires in the wall/ceiling.

FIRST SMOKE TEST:

1) Using the aerosol smoke test spray, point tube at detector from a distance of 1 – 2 feet
2) Spray a three second burst of aerosol, and wait 10 seconds
3) If detector sounds, testing is complete.

4) Spray short burst of canned air to accelerate and clear smoke detector

IF NO DETECTOR SOUNDS:

1) Using microfiber cloth, brush alarm lightly clear grille and surface of detector
2) Spray again using aerosol smoke test for 5 seconds and wait 10 seconds
3) If detector sounds, testing is complete
4) Spray short burst of canned air to accelerate and clear smoke detector

(OBSERVE) Did smoke detector sound in response to this smoke test? **{26f}**

1 Yes (SKIP TO Q.51 IF COMBINED ALARM, OR Q.58 IF SMOKE ONLY)
2 No (CONTINUE)
3 Could not test (SKIP TO Q.75)

[ASK IF Q.49=2, SMOKE DETECTOR DID NOT SOUND:]
Q.50 INSTRUCTIONS ON TESTING USING TEST(S) BUTTON

- Warn consumer of loud noise when the smoke detector sounds.
- Use hearing protection, if needed.

1) Read directions on detector for testing function (push and release/push and hold)
2) Press and hold the "Test" button according to directions
3) If detector sounds, testing is complete. Label for collection due to inoperable sensor

(OBSERVE) Did detector sound in response to the smoke test button? **{26g1}**

1 Yes (SKIP TO Q.58 – INOPEREABLE)
2 No (SKIP TO Q.53 – BATTERY REPLACEMENT)
3 No test button on unit (SKIP TO Q.53 – BATTERY REPLACEMENT)
4 Could not test (SKIP TO Q.75)

[MODULE 10c: Combination CO/Smoke Alarm Testing]

[ASK IF COMBINATION CO/SMOKE ALARM, Q.44 or Q44a=3]
Q.51 INSTRUCTIONS ON TESTING COMBINED CO DETECTORS

1) Press and hold the "Test/Reset" button until the detector sounds
2) Release the "Test/Reset" button
3) If detector sounds, testing is complete

(OBSERVE) Did detector sound in response to the second (CO) test button? **{26g2}**

1 Yes (SKIP TO Q.58)
2 No (SKIP TO Q.58 – INOPERABLE)

3 No test button on unit (SKIP TO Q.58)

[MODULE 10d: CO Alarm Testing Only]

[ASK IF CO ALARM, Q.44 or Q44a=2:]
Q.52 INSTRUCTIONS ON TESTING CO DETECTOR ONLY

- Warn consumer of loud noise when the CO detector sounds.
- Use hearing protection, if needed.
- Only disconnect alarms from AC Pig tails. Do not disconnect AC pig tails from other electrical wires in the wall/ceiling.

1) Press and hold the "Test/ Reset" until the detector sounds
2) Place your fingers over the sounder opening and check the power and detector by releasing the "Test/Reset" button.
3) If detector sounds, testing is complete.

(OBSERVE) Did detector sound in response to the CO test button? **{26g3}**

1 Yes (SKIP TO Q.60)
2 No (CONTINUE TO BATTERY, Q.53)
3 Could not test (SKIP TO Q.75)

[MODULE 11: Battery Replacement & Retesting]

[ASK IF SMOKE DETECTOR DID NOT SOUND TO SMOKE TEST BUTTON, OR NO TEST BUTTON ON UNIT, Q.50=2 or 3:]
[ASK IF Q.52=2, CO DETECTOR ONLY DID NOT SOUND DURING TEST:]
Q.53 REPLACING/INSTALLING BATTERY

[INTERVIEWER] You will now attempt to change the batteries on the non-working alarm.

1) Verify the type of batteries the alarm may need and check your inventory.
2) If the smoke detector uses a 10-year seal battery, the battery cannot be replaced. A smoke detector that uses a 10-year sealed battery can be identified if:
    a. The unit does not have a battery door or compartment.
    b. The label states "10-year seal battery" or similar.

(READ) May I put a new battery in this detector to determine whether the detector needs to be replaced? {26h}

1 Yes (CONTINUE)
2 No (Label for collection) (SKIP TO Q.58 IF SMOKE/COMBINATION OR Q.60 IF CO ONLY)

3 No – 10-year Seal Battery Present or AC only (Label for collection) (SKIP TO Q.58 IF SMOKE/COMBINATION OR Q.60 IF CO ONLY)
4 No replacement batteries available (SKIP TO Q.75)

[ASK IF Q.53=1, "Yes" TO CHANGING BATTERY AND Q44/Q44a=1" SMOKE" OR "3" COMBINATION]
Q.54 REPLACING/INSTALLING BATTERY

1) Replace or restore batteries in detector
2) Repeat smoke test using up to 3- one second sprays, ten seconds apart with tube against the grill.

(OBSERVE) Did the detector sound in response to this smoke test? {26i}

1 Yes (SKIP TO Q.58)
2 No (Label for collection-INOPERABLE) (SKIP TO Q.58)

NO QUESTION Q.55

[ASK IF Q.53=1 AND Q44/Q44a= 2 "CO" OR 3 "COMBINATION"]
Q.56 INSTRUCTIONS ON RETESTING CO DETECTOR TEST BUTTON

1) Press and hold the "Test/ Reset" until the detector sounds
2) If detector sounds, testing is complete.

(OBSERVE) Did detector sound in response to the second test button? **{26j2}**

1 Yes (CONTINUE)
2 No (Label for collection) (CONTINUE)

NO QUESTION Q.57

IF Q44/Q44a=1" SMOKE" OR 3 "COMBINATION" CONTINUE
ELSE SKIP TO Q59

[MODULE 12: DETECTOR CHARACTERISTICS]

[ASK IF Q44/Q44a=1" SMOKE" OR 3 "COMBINATION"]
Q.58 **(OBSERVE)** What type of smoke detector is this? **{26L}**

1 Photoelectric
2 Ionization
3 Combined photo/ion
4 Combined ion with CO
5 Combined photo with CO
98 Don't know
99 Other _____

NO QUESTION 59

[ASK IF Q.41=1:]
Q.60 **(OBSERVE)** What type of power source does the detector have? **{26n}**

1 Replaceable battery
2 Sealed battery
3 AC Only
4 AC with battery
98 Don't know

[ASK IF Q.41=1:]
Q.61 (OBSERVE) What is the manufacture date of the detector? **{26o}**

1 Year [textbox]
98 Don't know

[ASK IF Q.41=1:]
Q.62 **(OBSERVE)** What is the model number of the detector? **{26p}**

1 Model number [textbox]
98 Don't know

[ASK IF Q.41=1:]
Q.63 **(OBSERVE)** Is the detector interconnected with other detectors in the home, (i.e., a wired detector), OR is it a standalone wire free detector (i.e., a wireless detector)? **{26q}**

1 Yes
2 No
98 Don't know

NO QUESTION 64

[ASK IF Q.41=1:]
Q.65 **(OBSERVE)** Does the detector have strobe lighting for hearing impaired? **{26s}**

1 Yes
2 No
98 Don't know

[ASK IF Q.41=1:]
Q.66 **(OBSERVE)** Is this detector connected to a tactile notification device (bed shaker or pillow shaker) for the hearing impaired or blind? **{26t}**

1 Yes

2 No
98 Don't know

[MODULE 13: BATTERY RELATED]

[ASK IF Q60=1, "Replaceable battery"]
Q.68 **(OBSERVE)** Was this detector found to have a dead battery, (e.g., the old battery was connected but the detector responded to aerosol smoke after battery replacement?) **{26u}**

1 Yes
2 No

[ASK IF Q.60=1-4, "Battery" or "AC"]
Q.69 (OBSERVE) Was the detector found without a battery, with battery disconnected, or AC power disconnected? {**26v}**

1 Yes
2 No

[MODULE 14: NON-WORKING DETECTORS]

[ASK IF DETECTOR DOES NOT WORK: SEE APRENDIX II FOR COMBINATIONS]
Q.70 **(READ)** *"It is important that we determine why detectors don't work. "*

"I would like to collect this detector and send it to the U.S. Consumer Product Safety Commissions lab for analysis to find out why it does not work properly."

(READ) May I collect this detector? **{26x}**

1 Yes
2 No

[ASK IF DETECTOR DOES NOT WORK: SEE APRENDIX II FOR COMBINATIONS]
Q.71 **(READ)** *"I will need to label this alarm as inoperable/not working. Please do not remove the label. "*

Directions: Place a label from the provided label sheet on the front of the detector (not covering any important information) and record the identification number below. **{26x}**

1 Label number [textbox]

[SHOWN IF Q70=2]
Q.72 [Interviewer] Take and image of the shipping label/ tracking sticker and upload before handing to participant.

(READ) *"That is fine. You may keep the detector today. However, I will still provide you with a new detector, and give you this mailer so you may send your old detector to the U.S. Consumer Product Safety Commission's lab for analysis, if you choose to do so?* **{26xb}**

1 [UPLOAD IMAGE]

NO QUESTION 73

Q.74 **[INTERVIEWER]**

1) We are only able to provide up to 3 alarms per household.
2) Read script based on availability.

If alarms available*: "We are able to provide a replacement smoke smoke/CO detector based on availability."*

If alarms not available: *"Unfortunately, we do not have any additional alarms to provide based on availability."* (Select option 3 and do not read question text below.)

(READ) Would you like a replacement to this alarm? **{26xb2}**

1 Yes
2 No, I do not want a replacement alarm (SKIP TO Q.75)
3 No replacement alarms available (SKIP TO Q.75)

[SHOW IF Q70=1]
[INTERVIEWER] Carefully Package detector according to checklist.

[SHOW IF Q74=1]
(AFTER DETECTOR HAS BEEN REMOVED/BOX GIVEN):
(READ)" Here *is a replacement (smoke/CO) detector. I'm going to test it now to be sure it works. If you need any assistance installing the detector, please reach out to your local fire department"*

1) Perform Button Test
2) If detector sounded, Install or give respondent replacement detector.
3) If detector does not sound, select & test another detector

[MODULE 15: Reporting on Testing]

[ASK IF Q.41=1, Alarm Testing Being Conducted]
Q.75 **(OBSERVE)** Post inspection actions taken: (SELECT ALL THAT APPLY) **{26y}**

1 No action required
2 Battery replaced
3 Installed missing battery
4 Refused battery installation/ replacement
5 No batteries available for replacement
6 Collected detector
7 Advised replacement (AC/ hard wired)
8 Could not provide replacement detector/ Refused
9 Could not test detector

[ASK Q.75=9, "Could not test detector"]
Q.75a If could not test, why not? **{26k}**

1 Could not reach
2 Homeowner would not allow
3 No time
4 Other *[Textbox]*

[ASK IF Q.41=1, Alarm Testing Being Conducted]
Q.76 **(READ)** Are there any other detectors on this floor? This could include smoke detectors or carbon monoxide detectors. **{26z}**

1 Yes
2 No
3 Don't know

[ASK IF Q.41=1, Alarm Testing Being Conducted]
Q.77 **(READ)** What about other floors? Are there any smoke or carbon monoxide detectors on any other floors in this (house/apartment)? **{26aa}**

1 Yes
2 No
3 Don't know

Q.78 [OBSERVE] Time: ___ (hh:mm AM/PM)

NO QUESTION 79

Q.80 [INTERVIEWER] Check the time count for possibility to test additional alarms. If more than 30 minutes out of 60 minutes remain, ask participant to guide you to the next alarm. If there are fewer than 30 minutes remaining, do not test additional alarms. Select No, all alarms have been inspected (Q80=2).

If time allows, visually verify that there is another alarm to test before making a selection.
Once you select ***"Yes"*** the questions on Alarm inspection/testing will repeat for the next alarm.

Select ***"No, all alarms have been tested"*** If you have verified all smoke and CO alarms have been tested, OR if there is not enough time within the 60 minutes allotted. The system will move on to the next section and you will not be able to collect any additional alarm testing data.

Is there another alarm to test? **{26ab}**

1 Yes
2 No, all alarms have been inspected

[Interviewer note/reminder: If respondent asks why you are not testing any additional alarms, explain that to continue testing and complete the remainder of the survey questions will take longer than the allotted 60 minutes. The government approved survey only allows you to be in their home for 60 minutes.

END OF ALARM TESTING LOOP

THE LOOP WILL REPEAT FROM Q.41 IF Q.80=1
ELSE, CONTINUE

[MODULE 16: DETECTORS]

NO QUESTION 81

[ASK Q.44 OR Q.44a= 1 or 3]

Q.82 Interviewer: Thinking about the smoke alarms that you just tested, did the participant know the location of the smoke detectors in their home? **{27a}**

1 Yes, Knew all of them
2 Yes, Knew at least one, but not all
3 No, knew none of the locations

NO QUESTION 83

[ASK Q.44 OR Q.44a= 2]

Q.84 Interviewer: Thinking about the carbon monoxide alarms that you just tested, did the participant know the location of the carbon monoxide detectors? **{28a}**

1 Yes, Knew all of them
2 Yes, Knew at least one, but not all
3 No, knew none of the locations

Great! To ensure that we interview a broad mix of residents, I have a few brief demographic questions to ask about you and others within the household. It should only take a few minutes of your time.

[ASK ALL:]

Q.85 How many people live or stay in your household? This can include:

- Anyone who is living or staying here for more than 2 months
- Yourself, if you are living here for more than 2 months
- Anyone else staying here who does not have another place to stay, even if they are here for 2 months or less

Please do not include anyone who is living somewhere else for more than 2 months, such as a college student living away or someone in the Armed Forces on deployment. **{Q36}**

1 Enter number of people

[ASK ALL:]

Q.86 Thinking of the individual(s) who live here, including yourself, is there anyone… (INSERT ITEM) **{37}**

a Under 5 years old

b 5 to 9 years old
c 10 to 14 years old
d 15 to 19 years old
e 20 to 34 years old
f 35 to 54 years old
g 55 to 64 years old
h 65 years old or older

RESPONSE OPTIONS
1 Yes
2 No
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

NO QUESTIONS 87-90

[ASK ALL:]
Q.91 Thinking of the individual(s) who live here, including yourself, how many are … (INSERT ITEM) **{37a}**

[Carry forward any Q90=1]
a Under 5 years old
b 5-9 years old
c 10-14 years old
d 15-19 years old
e 20 to 34 years old
f 35 to 54 years old
g 55 to 64 years old
h 65 years old or older

RESPONSE OPTIONS
1 Enter number of people

[ASK ALL:]
Q.92 What is the highest level of education you have completed or the highest degree you have received? (DO NOT READ LIST) **{Q38}**

1 Less than high school, no diploma
2 High school diploma, or high school equivalent (GED)
3 Trade or Vocational school degree
4 Some college, no degree
5 Associate's degree
6 Bachelor's degree
7 Master's degree or higher

98 Don’t know
99 Refused

[ASK ALL:]
Q.93 Are you of Hispanic, Latino, or Spanish origin, such as Mexican, Puerto Rican or Cuban? (DO NOT READ LIST)

1 Yes
2 No
98 Don’t know (DON’T READ)
99 Refused (DON’T READ)

[ASK ALL:]
Q.94 What is your race? (SELECT ALL THAT APPLY) **{Q40}**

1 White
2 Black or African American
3 Asian
4 American Indian or Alaska Native
5 Native Hawaiian or other Pacific Islander
6 Some Other Race (Specify) [TEXTBOX]
7 Hispanic/Latino (e.g., Mexican, Puerto Rican, Cuban)
98 Don’t know (DON’T READ)
99 Refused (DON’T READ)

[IF NOT HISPANIC (Q93=2-99), ASK:]
Q.95 Is anyone in the household of Hispanic or Latino origin or descent? (DO NOT READ LIST) **{Q39}**

1 Yes
2 No
98 Don’t know (DON’T READ)
99 Refused (DON’T READ)

[ASK ALL:]
Q.96 Is anyone in the household deaf or hard of hearing? (DO NOT READ LIST) **{Q.41}**

1 Yes
2 No
98 Don’t know (DON’T READ)
99 Refused (DON’T READ)

[ASK ALL:]
Q.97 Does anyone in the household have a physical, mental, or other health condition that has lasted 6 or more months which makes it difficult for them to carry out day to day activities? (DO NOT READ LIST) **{Q.42}**

1 Yes
2 No
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

[ASK ALL:]
Q.98 Do any people in the home smoke cigarettes, cigars, hookahs, or pipes? Please do not include e-cigarettes or vaping devices. (DO NOT READ LIST) **{Q.43}**

1 Yes
2 No
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

[ASK ALL:]
Q.99 In the last 12 months, what was your total household income from all sources, before taxes? Just stop me when I get to the right category (READ LIST) (If necessary, read) **{Q.44}**

1 Less than $15,000
2 $15,000 to under $25,000
3 $25,000 to under $35,000
4 $35,000 to under $50,000
5 $50,000 to under $75,000
6 $75,000 to under $100,000
7 $100,000 to under $150,000
8 $150,000 to under $200,000
9 $200,000 or more
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

Q.100 [OBSERVE:] Time visit ended: ___ (hh:mm AM/PM)
NO QUESTIONS 101-103

[MODULE 18: INCENTIVE]

[ASK ALL:]
Q.104 **Incentive Form**
[INTERVIEWER:] Important Note. Do not hand participant gift card until you have verified their information.

(READ) "Thank you so much for participating in this survey. Your answers will help with improving household fire and CO safety across the U.S. As a token of our appreciation for completing the survey, we would like to provide you with this $50 gift card. Here is a short informational card about how best to use the gift card."

(READ) "Please verify that the following information is correct"

[INTERVIEWER: Show participant the next page and once all information is confirmed provide incentive card. Have participant sign receipt of card.

[PIPPED IN FIRST & LAST NAME FROM CONSENT]
[PIPPED IN STREET ADDRESS]
[PIPPED IN APT/SUITE #]
[PIPPED IN CITY], [PIPPED IN STATE] [PIPPED IN ZIP CODE]

I acknowledge that all this information is correct and that my $50 gift card for completing the In-home Smoke and CO Study has been provided. **{Q.46}**

Q104a Signature

[ASK ALL:]
Q.105 At a later date, the research team may want to talk further with people who took part in this survey. Would you be willing to talk to them about the survey at a convenient time in the future?

1 Yes
2 No
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

[ASK IF Q.105=1:]
Q.106 So that someone can reach you more easily, I just need to confirm your name, best phone number and email address.

1 Name:
2 Best phone number:
3 Email

Q.107 Time visit ended: ___ (hh:mm AM/PM) (GO TO END SCREEN MESSAGE 1)

[ASK IF TERMINATE]
Q108. If interview was not possible, what was the main reason?

1. Participant refused based on concerns over COVID-19 health risks (GO TO END SCREEN MESSAGE 2)
2. Participant refused for reasons other than COVID-19 health risks (GO TO END SCREEN MESSAGE 2)
3. Participant refused for unclear or unidentified reason(s) (GO TO END SCREEN MESSAGE 2)
4. Participant answered "yes" to at least one COVID screening question (symptoms, quarantine, etc.) (GO TO END SCREEN MESSAGE 2)
5. Refused entry to building (GO TO END SCREEN MESSAGE 2)
6. No one home (GO TO END SCREEN MESSAGE 2)

7. Only a minor was home (GO TO END SCREEN MESSAGE 2)
8. No smoke and CO alarms in the home & did not take short version (GO TO END SCREEN MESSAGE 2)
9. Alarms connected to security system & did not take short version (GO TO END SCREEN MESSAGE 2)
10. Participant did not consent to answering survey questions (GO TO END SCREEN MESSAGE 2)
11. Participant did not consent to alarm testing portion (GO TO END SCREEN MESSAGE 2)
12. Participant declined Hold Harmless agreement (GO TO END SCREEN MESSAGE 2)
13. Language barrier (GO TO END SCREEN MESSAGE 2)
14. Occupant refused entry (Why?): [textbox] (GO TO END SCREEN MESSAGE 2)
15. Other (specify): [textbox] (GO TO END SCREEN MESSAGE 2)

END SCREEN MESSAGES

Message 1:

(READ) *"Thank you very much for helping us with this study. All responses have been recorded."*

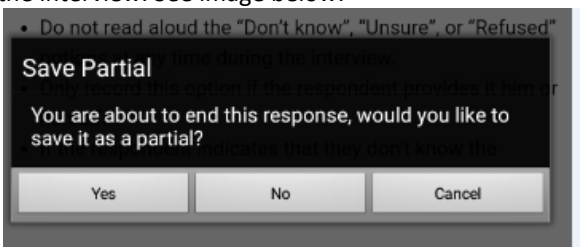
[INTEREVIEWER]
Please remember to:

- Upload and sync the data on the tablet according to the technical guide
- Carefully collect all alarms from this home (if applicable) and EurekaFacts testing materials
- Contact EurekaFacts if you have any questions or concerns

Message 2:

[INTERVIEWER] Participant is not eligible please thank them for their time and continue to next housing unit.
(READ) *"Thank you for answering these questions. Unfortunately, we are not able to continue with this interview. Have a nice day."*

[INTERVIEWER] **Please press the "X" on the top right corner of the screen to exit**.
When prompted with the option to save your response as partial, select "No". This will discard the case and end the interview. See image below:



Appendix I: Programed Qualifiers that result in Abbreviated Survey for Participants without Detectors or with Detectors Connected to a Security Alarm System

1. IF S.15= "No" AND S.19= No

2. OR IF S.15= “No” AND S.20= “Yes”
3. OR IF S.15= “No” AND S.21= “Yes”
4. OR IF S.15= “No” AND S.21= “Never has a CO …incident”

5. OR IF S.16= “Yes” AND S.19= No
6. OR IF S.16= “Yes” AND S.20= “Yes”
7. OR IF S.16= “Yes” AND S.21= “Yes”
8. OR IF S.16= “Yes” AND S.21= “Never has a CO …incident”

9. OR IF S.17= “Yes” AND S.19= No
10. OR IF S.17= “Yes” AND S.20= “Yes”
11. OR IF S.17= “Yes” AND S.21= “Yes”
12. OR IF S.17= “Yes” AND S.21= “Never has a CO …incident”
13. OR IF S.17= “Never has a fire …incident” AND S.19= No
14. OR IF S.17= “Never has a fire …incident” AND S.21= “Never has a CO …incident”
15. OR IF S.17= “Never has a fire …incident” AND S.20= “Yes”
16. OR IF S.17= “Never has a fire …incident” AND S.21= “Yes”

Appendix II: Logic resulting in replacement alarm question

1. **OR IF Q.50 in the current loop = “Yes”** (Faulty sensor, no smoke response but button sounds)
2. **OR IF Q.51 in the current loop= “No”** (Combination alarm, CO portion not working)
3. **OR IF Q.53 in the current loop= “No” (Participant does not want batteries in non-responding alarms)**
4. **OR IF Q.53 in the current loop = “no- 10-year seal...”** (Battery is 10 year)
5. **IF Q.54 in the current loop = “No” (**Battery was replaced, and the detector did not respond to smoke)
6. **OR IF Q.56 in the current loop = “No” (**Battery was replaced, and the CO detector did not respond to button test)

Appendix H: Abbreviated Survey for Participants without Detectors or with Detectors Connected to a Security Alarm System

2019 U.S. Consumer Product Safety Commission (CPSC) Survey on Usage and Functionality of Smoke and Carbon Monoxide (CO) Detectors in Households
Abbreviated Survey for Participants without Detectors or with Detectors Connected to a Security Alarm System
Door to Door Campaign 20-minute Instrument (No Alarm or Security Alarm Households)

See APPENDIX l at end of Appendix G (Door to Door Questionnaire) for qualifying combinations.
[INTERVIEWER] This is the survey instrument for participants who do not have a smoke alarm or have alarms that are connected to a security alarm system.

[Module 16: Abbreviated Survey Consent and Hold Harmless Waiver]

Q.109[INTERVIEWER:] The participant does not have alarms eligible for testing. However, they do qualify for the "no alarm/security alarm" version of the survey.

[INTERVIEWER:] **If "no alarm/security alarm" interviews are needed for survey quotas use the following script**: "Thank you for answering these questions. Since you do not have a detector that we can test or because we have identified that your alarms will notify first responders, you are not eligible for the 60-minute survey in alarm testing study; you are, however, eligible for the 20-minute version of the survey where you can earn a $10 gift card for answering our brief questionnaire. Would you like to participate in this survey? "

[INTERVIEWER:] **If quota for "no alarm/security alarm" interviews is complete**: "Thank you for answering these questions. Since you do not have a smoke detector that we can test or because we have identified that your alarms will notify first responders, you are not eligible for this study. Have a nice day"

1. Yes, I would like to participate in the short survey (CONTINUE)
2. No, I do not want to participate (GO TO TERMINATION Q.108_F2)
3. Quotas complete for "no alarm/security alarm" interviews (DO NOT READ) (GO TO TERMINATION Q.108_F2)

[ASK ALL]
S.24_F2Before we begin, we need you to review a consent form with information about the study."

"Please read the following *off of* my tablet. If you agree to allow this interview to proceed, please sign the bottom. Let me know you have any questions."

[Interviewer Instructions]
- Go to the next page and hand the tablet to the respondent for them to read and sign electronically.
- If participant refuses, say thank you and terminate.

S.25_F2 **Consumer Product Safety Commission (CPSC) Survey on Usage and Functionality of Smoke Detectors and Carbon Monoxide Detectors in Households**

Informed Consent Form

Thank you for your interest in participating in the research study. This study is conducted by EurekaFacts on behalf of the U.S. Consumer Product Safety Commission (CPSC). We are conducting a nationwide survey on household fire and carbon monoxide (CO) safety. The purpose of this study is to gather information about the functionality of smoke detectors and CO detectors in U.S. households by asking a series of survey questions and testing your household smoke and CO alarms. Findings from this research will help CPSC improve home safety.

The interview lasts about 20 minutes and you will receive a $10 gift card from a major credit card company in appreciation for completion of the survey. Our trained and qualified two-member survey team will ask you questions related to fire and carbon monoxide safety.

Information collected from this study will help CPSC to improve household fire and CO safety. Your input will assist with developing standards and guidelines that will help protect property and human life. This research does not involve any foreseeable risks.

Your participation in this research study is completely voluntary. You may stop at any time if you do not want to continue with the study by notifying a member of the survey team. Your responses will be maintained confidential and will be used for research purposes only. At no time will any identifiable information be linked to any of your answers. All information collected through our research process is reported to CPSC anonymously.

S.25a_F2 We ask for your consent to participate in answering questions as part of the survey portion of this study.

1. I consent
2. I do not consent (SKIP TO REASON FOR TERMINATION Q.108_F2)

NO QUESTION S.25B_F2

S.25c_F2 Your signature below means that you have freely agreed to participate in this research study. You should consent only if you have read this document and you understand its contents.

[ASK ALL]

S.26_F2Informed Consent Form **{2e-eg}**

a. Signature [Signature box]
b. Enter Name [Text box]
c. Date [Textbox]

NO QUESTION S.27_F2

(READ) "Thank you. Your input is very important to this research. Let's Begin!"

Page Break

[Module 17: ABBREVIATED HOME CHARACTERISTICS]

[ASK ALL]

Q.1_F2Do you or another member of your household own or rent your home? (DO NOT READ LIST)

1. Own
2. Rent
98. Don't know
99. Refused

[ASK ALL]
Q.2_F2For how many years have you lived in this (apartment/house)?

1. Drop down menu of full year integers [Include less than one year]
98. Don't know
99. Refused

[ASK ALL]
Q.3_F2Please tell me to the best of your knowledge, in what year was this (apartment/house) built? Was it …? (READ LIST) **{8}**

1. 2010 or later
2. Between 2000 and 2009
3. Between 1990 and 1999
4. Between 1980 and 1989
5. Between 1970 and 1979
6. Between 1960 and 1969
7. Before 1960
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[IF "Single Family Detached Housing" or "Single Family Attached" (S.2=1-2), ASK:]
Q.4_F2What types of fuel-burning appliances, if any, do you own or have in your home? By fuel burning appliances, we mean appliances that use gas, propane, oil, wood, wood pellets, coal, or kerosene. Do not include electric-powered appliances. (READ LIST, SELECT ALL THAT APPLY) **{9a}**

1. Gas powered generator
2. Furnace or boiler
3. Water heater
4. Charcoal grill
5. Gas Dryer
6. Wood or pellet burning fireplace or stove
7. Kitchen appliances (e.g., stove, oven)
8. Other (Specify) [TEXTBOX]
9. Do not own any fuel-burning appliances [Exclusive]
98. Don't know (DON'T READ) [Exclusive]
99. Refused (DON'T READ) [Exclusive]

[IF "Single Family Detached Housing" or "Single Family Attached" (S.2=1-2), ASK:]
Q.5_F2Does this residence have an attached garage unit? (DO NOT READ LIST) **{9b}**

1. Yes
2. No (SKIP TO Q.9)
98. Don't know (SKIP TO Q.9)
99. Refused (SKIP TO Q.9)

[IF "Single Family Detached Housing" or "Single Family Attached" (S.2=1-2), ASK:]
[IF "Yes" (Q5_F2=1), ASK]
Q.6_F2For what purposes is the attached garage used? Would you say… (READ LIST, SELECT ALL THAT APPLY)

1. Workshop/ workspace
2. Store tools or lawn/ sports equipment
3. Store vehicle(s) (e.g., motorcycle, car, SUV, van, etc.)
4. Fuel burning appliances (e.g., furnace, water heater, grill, etc.)
5. Other (Specify:) [TEXTBOX]
98. Don't know
99. Refused

NO QUESTION Q.7_F2 - Q.8_F2
[Module 18: ABBREVIATED SMOKE DETECTOR BEHAVIORS]

[ASK IF HAS SMOKE DETECTORS, S.15=1:].
Q.9_F2Please tell me to what extent do you believe your home is safe with your current smoke detectors? Would you say ...

[READ LIST]
1. Not at all safe
2. Slightly safe
3. Moderately safe
4. Mostly Safe
5. Very safe
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

NO QUESTION Q.10_F2 – Q.11_F2

[ASK ALL:]
Q.12_F2Do you know how to… (DO NOT READ RESPONSE OPTIONS)

a. Install a smoke detector?
b. Maintain a smoke detector in good working order?

[Response Options]
1. Yes
2. No
98. Unsure
99. Refused

NO QUESTION Q.13_F2

[ASK ALL:].
Q. 14_F2 On a scale of 1 to 5, where 1 is "Not at All Necessary", and 5 is "Extremely Necessary", how necessary do you feel it is to have a smoke detector installed in your home? **{Q29}**

1. 1 – Not at All Necessary
2. 2
3. 3
4. 4
5. 5 – Extremely Necessary
98. Don't Know
99. Refused

[ASK IF NO SMOKE DETECTOR, S.15=2]

Q.15_F2Please tell me what are some of the reasons you do not have a smoke detector installed in your home? (DO NOT READ LIST, SELECT ALL THAT APPLY) **{Q30}**

1. Don't think I need one
2. Did not come with residence
3. They are a nuisance
4. They did not or don't work
5. Never got around to replacing previous detectors
6. It is the landlord's responsibility
7. Other reason/Textbox]
98. Don't know
99. Refused

[Module 19: FIRE HISTORY]

[ASK ALL:]

Q.16_F2In the past 12 months, have you had any accidental fires – that is unintended or unwanted smoke or flames - in your home? Please include fires that were too small to call the fire department. (DO NOT READ LIST)

1. Yes (CONTINUE)
2. No (SKIP TO Q.17)
98. Don't know (SKIP TO Q.17)
99. Refused (SKIP TO Q.17)

Page Break

[ASK IF "Yes", Q16_F2=1:]

Q.16a_F2 Thinking of the most recent accidental fire(s), how did you become alerted to the incident? (DO NOT READ LIST, SELECT ALL THAT APPLY) **{14b}**

1. Saw the fire
2. Smelled the fire
3. Heard the fire
4. Felt the heat of the fire
5. Smoke detector
6. Someone notified me
7. Other (Specify) [textbox]
8. Don't remember
98. Don't know
99. Refused

NO QUESTION Q.17_F2 – Q.19_F2

[Module 20: CO DETECTORS]

[ASK IF HAS CO DETECTORS, S.19=1:].

Q.20_F2Please tell me to what extent do you believe your home is safe with your current carbon monoxide detectors? Would you say... (READ LIST)

[READ LIST]

1. Not at all safe
2. Slightly safe

3. Moderately safe
4. Mostly Safe
5. Very safe
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[ASK ALL:]
Q.21_F2How would you know if high levels of carbon monoxide (CO) were present in your home? (DO NOT READ LIST, SELECT ALL THAT APPLY).

1. You can smell it
2. You can taste it
3. You can see it
4. You can feel it
5. Carbon monoxide detector
6. Other (Specify:) [textbox]
7. Respondent does not believe there is a way to know if CO is present
98. Don't know
99. Refused

[ASK ALL:]
Q.22_F2How much do you believe you know about carbon monoxide detectors? (READ LIST) **{17}**

1. Nothing at all
2. A little
3. Some
4. A lot
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

NO QUESTIONS Q.23_F2 - Q.26_F2
[ASK ALL:].
Q. 27_F2 On a scale of 1 to 5, where 1 is "Not at All Necessary", and 5 is "Extremely Necessary", how necessary do you feel it is to have a carbon monoxide detector installed in your home? **{Q31}**

1. 1 – Not at all necessary
2. 2
3. 3
4. 4
5. 5 – Extremely Necessary
98. Don't Know
99. Refused

[ASK IF NO CO DETECTOR, S.19=2]
Q.28_F2Please tell me what are some of the reasons you do not have a carbon monoxide detector installed in your home. (PRECODED LIST. DO NOT READ, SELECT ALL THAT APPLY) **{Q32}**

1. Don't think I need one
2. Did not come with residence
3. They are a nuisance
4. They did not or don't work
5. Never got around to replacing previous detectors

6. It is the landlord's responsibility
7. Other reason [Textbox]
98. Don't know
99. Refused

NO QUESTIONS Q.29_F2 - Q.31_F2

[ASK ALL:]
Q.32_F2 In the past 12 months, were you aware that any of your friends, relatives, neighbors, or coworkers experienced… (DO NOT READ RESPONSE OPTIONS) {Q24}

a. An accidental fire?
b. A carbon monoxide incident? (e.g., effects of carbon monoxide poisoning)

[Response Option]
1. Yes
2. No
98. Unsure
99. Refused

[MODULE 21: FIRE SAFETY SOURCES]

[ASK ALL:]
Q.33_F2In the past 12 months, have you looked for any information about either fire safety or carbon monoxide safety, or not? (DO NOT READ LIST)

1. Yes
2. No (SKIP TO Q36)
98. Unsure (SKIP TO Q36)
99. Refused (SKIP TO Q36)

[ASK IF Q.33_F2=1:]
Q.34_F2Where do you obtain information about **fire safety**? (READ LIST ONE AT A TIME) (SELECT ALL THAT APPLY)

1. TV news, or radio
2. Internet search engines like Google
3. Family or friends
4. Community or religious organizations
5. Social media like Facebook
6. Local fire department
7. Other (SPECIFY) (DON'T READ) [Textbox]
8. None of these (DON'T READ)
98. Don't know or remember (DON'T READ)
99. Refused (DON'T READ)

[ASK IF Q.33_F2=1:]
Q.35_F2Where do you obtain information about **carbon monoxide safety**? (READ LIST ONE AT A TIME) (SELECT ALL THAT APPLY)

1. TV news, or radio
2. Internet search engines like Google

3. Family or friends
4. Community or religious organizations
5. Social media like Facebook
6. Local fire department
7. Other (SPECIFY) (DON'T READ) [Textbox]
8. None of these (DON'T READ)
98. Don't know or remember (DON'T READ)
99. Refused (DON'T READ)

[ASK ALL:]
Q.36_F2How often do you or another member of the household cook at home using a stove or oven? Does a member of this household cook… (READ LIST)?

1. Never
2. A few times per year
3. A few times per month
4. A few times per week
5. Every day
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

NO QUESTION Q.37_F2

[ASK ALL:]
Q.38Please tell me how you would evaluate your home fire safety. Would you say it is… (READ LIST)?

[READ LIST]
1. Not at all safe
2. Slightly safe
3. Moderately safe
4. Mostly Safe
5. Very safe
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

Q.39 [OBSERVE] Time: ___ (hh:mm AM/PM)

NO QUESTION Q.40_F2-Q.84_F2

[MODULE 22: DEMOGRAPHICS]

Great! To ensure that we interview a broad mix of residents, I have a few brief demographic questions to ask about you and others within the household. It should only take a few minutes of your time.

[ASK ALL:]
Q.85_F2How many people live or stay in your household? This can include:

- Anyone who is living or staying here for more than 2 months
- Yourself, if you are living here for more than 2 months
- Anyone else staying here who does not have another place to stay, even if they are here for 2 months or less

Please do not include anyone who is living somewhere else for more than 2 months, such as a college student living away or someone in the Armed Forces on deployment.

1. Enter number of people

[ASK ALL:]
Q.86_F2Thinking of the individual(s) who live here, including yourself, is there anyone… (INSERT ITEM)

a. Under 5 years old
b. 5-9 years old
c. 10-14 years old
d. 15-19 years old
e. 20 to 34 years old
f. 35 to 54 years old
g. 55 to 64 years old
h. 65 years old or older

RESPONSE OPTIONS
1. Yes
2. No
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

NO QUESTIONS 87_F2-90_F2

[ASK ALL:]
Q.91_F2Thinking of the individual(s) who live here, including yourself, how many are … (INSERT ITEM) **{37a}**

[Carry forward any Q90_F2=1]
a. Under 5 years old
b. 5-9 years old
c. 10-14 years old
d. 15-19 years old
e. 20 to 34 years old
f. 35 to 54 years old
g. 55 to 64 years old
h. 65 years old or older

RESPONSE OPTIONS
1. Enter number of people

[ASK ALL:]
Q.92_F2What is the highest level of education you have completed or the highest degree you have received? (DO NOT READ LIST)

1. Less than high school, no diploma
2. High school diploma, or high school equivalent (GED)
3. Trade or Vocational school degree
4. Some college, no degree
5. Associate degree
6. Bachelor's degree

7. Master's degree or higher
98. Don't know
99. Refused

[ASK ALL:]
Q.93_F2 Are you of Hispanic, Latino, or Spanish origin, such as Mexican, Puerto Rican or Cuban? (DO NOT READ LIST)

1. Yes
2. No
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[ASK ALL:]
Q.94_F2 What is your race? (SELECT ALL THAT APPLY)

1. White
2. Black or African American
3. Asian
4. American Indian or Alaska Native
5. Native Hawaiian or other Pacific Islander
6. Some Other Race (Specify) [TEXTBOX]
7. Hispanic/Latino (e.g., Mexican, Puerto Rican, Cuban)
98 Don't know (DON'T READ)
99 Refused (DON'T READ)

[IF NOT HISPANIC (Q93=2-99), ASK:]
Q.95_F2 Is anyone in the household of Hispanic or Latino origin or descent? (DO NOT READ LIST)

1. Yes
2. No
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[ASK ALL:]
Q.96_F2 Is anyone in the household deaf or hard of hearing? (DO NOT READ LIST)

1. Yes
2. No
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[ASK ALL:]
Q.97_F2 Does anyone in the household have a physical, mental, or other health condition that has lasted 6 or more months which makes it difficult for them to carry out day to day activities? (DO NOT READ LIST)

1. Yes
2. No
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[ASK ALL:]
Q.98_F2Do any people in the home smoke cigarettes, cigars, hookahs, or pipes? Please do not include e-cigarettes or vaping devices. (DO NOT READ LIST)

1. Yes
2. No
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[ASK ALL:]
Q.99_F2In the last 12 months, what was your total household income from all sources, before taxes? Just stop me when I get to the right category. (READ LIST) (If necessary, read)

1. Less than $15,000
2. $15,000 to under $25,000
3. $25,000 to under $35,000
4. $35,000 to under $50,000
5. $50,000 to under $75,000
6. $75,000 to under $100,000
7. $100,000 to under $150,000
8. $150,000 to under $200,000
9. $200,000 or more
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

Q.100_F2 [OBSERVE:] Time visit ended: ___ (hh:mm AM/PM)

NO QUESTIONS 101_F2-103_F2

[MODULE 23: INCENTIVE]

[ASK ALL:]
Q.104_F2 **Incentive Form**

[INTERVIEWER:] Important Note. Do not hand participant gift card until you have verified their information.

(READ) "Thank you so much for participating in this survey. Your answers will help CPSC with improving household fire and CO safety across the U.S. As a token of our appreciation for completing the survey, EurekaFacts would like to provide you with this $10 gift card."

(READ) "Please verify that the following information is correct."

[INTERVIEWER: Show participant the next page and once all information is confirmed provide incentive card. Have participant sign receipt of card.

[PIPPED IN FIRST NAME FROM CONSENT FORM]
[PIPPED IN LAST NAME FROM CONSENT FORM]
[PIPPED IN STREET ADDRESS]
[PIPPED IN APT/SUITE #]
[PIPPED IN CITY], [PIPPED IN STATE] [PIPPED IN ZIP CODE]

I acknowledge that all this information is correct and that my $10 gift card for completing the CPSC In-home Smoke and CO Study has been provided.

Signature

[ASK ALL:]
Q.105_F2 At a later date, CPSC may want to talk further with people who took part in this survey. Would you be willing to talk to them about the survey at a convenient time in the future?

1. Yes
2. No
98. Don't know (DON'T READ)
99. Refused (DON'T READ)

[ASK IF Q.105_F2=1:]
Q.106_F2 So that someone can reach you more easily, I just need to confirm your name, best phone number and email address.

1. Name:
2. Best phone number:
3. Email:

Q.107_F2 Time visit ended: ___ (hh:mm AM/PM) (GO TO END SCREEN MESSAGE 1)

[ASK IF TERMINATE]
Q108_F2. If interview was not possible, what was the main reason?

1. Participant refused based on concerns over COVID-19 health risks (GO TO END SCREEN MESSAGE 2)
2. Participant refused for reasons other than COVID-19 health risks (GO TO END SCREEN MESSAGE 2)
3. Participant refused for unclear or unidentified reason(s) (GO TO END SCREEN MESSAGE 2)
4. Refused entry to building (GO TO END SCREEN MESSAGE 2)
5. No one home (GO TO END SCREEN MESSAGE 2)
6. Only a minor was home (GO TO END SCREEN MESSAGE 2)
7. No smoke and CO alarms in the home (GO TO END SCREEN MESSAGE 2)
8. Alarms connected to security system (GO TO END SCREEN MESSAGE 2)
9. Participant did not consent to answering survey questions (GO TO END SCREEN MESSAGE 2)
10. Participant did not consent to alarm testing portion (GO TO END SCREEN MESSAGE 2)
11. Language barrier (GO TO END SCREEN MESSAGE 2)
12. Occupant refused entry (Why?): [textbox] (GO TO END SCREEN MESSAGE 2)
13. Other (specify): [textbox] (GO TO END SCREEN MESSAGE 2)

END SCREEN MESSAGES

Message 1:

(READ) "Thank you very much for helping us with this study. All responses have been recorded."

[INTEREVIEWER]
Please remember to:

- Upload and sync the data on the tablet according to the technical guide

- Carefully collect all alarms from this home (if applicable) and EurekaFacts testing materials
- Contact EurekaFacts if you have any questions or concerns

Message 2 :

[INTERVIEWER] Participant is not eligible please thank them for their time and continue to next housing unit.
(READ) “Thank you for answering these questions. Unfortunately, we are not able to continue with this interview. Have a nice day.”

Appendix I: Newspaper Advertisement/Newsletter (long and short form ads)

Long form ad: Newspaper/Newsletter

CPSC Smoke and Carbon Monoxide Detector Survey

A household fire and carbon monoxide (CO) safety survey is being conducted in <*your area* or CITY NAME>. EurekaFacts, on behalf of the U.S. Consumer Product Safety Commission (CPSC), is randomly selecting participants from all types of households. If you are contacted by EurekaFacts, we want to hear from you. Your participation in this research project will help us to improve home fire safety! Monetary compensation will be provided.

To learn more about this survey, please visit our website **<SURVEY INFORMATION WEB ADDRESS>**

CPSC Smoke and Carbon Monoxide Detector Survey

A small, independent survey research company is conducting an important nationwide survey for the U.S. Consumer Product Safety Commission (CPSC). The purpose of this survey is to gather information about fire and carbon monoxide (CO) safety in homes in the United States.

We strongly encourage you to participate in this nationwide effort to improve home safety and save lives. Anyone contacted by EurekaFacts is encouraged to respond. Households that meet criteria may be eligible for a monetary incentive in appreciation for completion of the survey.

To learn more about this survey, please visit our website **<SURVEY INFORMATION WEB ADDRESS>**

Short form ad: Tweet/ Brief Newspaper Mention

A survey to gather information about fire and carbon monoxide (CO) safety in homes is being conducted in <*your area or* CITY NAME>. Anyone contacted by EurekaFacts is encouraged to respond. To learn more visit: <**SURVEY INFORMATION WEB ADDRESS**>.

Appendix J: EurekaFacts Press Release/ EF website and LinkedIn

Rockville, MD. **(DATE)** - 25 years after the last major report on U.S. households use of smoke detectors, EurekaFacts and the Consumer Product Safety Commission (CPSC) are embarking on a new nationwide survey. The original 1992 study is still considered the gold standard for smoke detector research, but updated statistics are needed to reflect changes in technology and standards as well as the increased use of CO detectors.

In 1992, CPSC found that 28% of U.S. households did not have a working smoke detector. Many of those non-working smoke detectors were the result of non-functioning power sources such as dead batteries while over a third of respondents had intentionally disconnected the power source.

What makes this research project unique is that it includes the general population, not just high-risk groups or people who had fires. Participating households will be visited by a member of the research team and a representative from the local fire department. A free smoke detector and CO detector audit will be conducted, and any non-functioning detectors will be offered for replacement at no cost. Participants will also complete a survey and in turn receive monetary compensation for their time.

Similar to the 1992 survey and subsequent report, the new National Smoke and CO Detector survey will provide data to inform codes and standards, and fire prevention organizations and agencies with the information needed to target the areas efficiently and effectively for improving life safety and saving lives.

Those that have been contacted by EurekaFacts to participate, whether they have a smoke detector or not, are encouraged to learn more at: <**LINK**>.

Appendix K: Social Media Post/Google Ad/ Craigslist Ad

Are you interested in making a difference for millions of families across the U.S.? EurekaFacts, on behalf of the U.S. Consumer Product Safety Commission (CPSC), strongly encourages you to participate in a national survey about household fire and carbon monoxide (CO) safety. Anyone contacted by EurekaFacts is encouraged to respond. Your time and feedback will help CPSC in their efforts to improve home fire safety and ultimately, save lives.

To learn more about this survey, please visit our website **< SURVEY INFORMATION WEB ADDRESS>**

Appendix L: EurekaFacts Website – Landing Page Text

Smoke and Carbon Monoxide Detector Study

Knock, Knock! Open your door to participate in a nationwide survey to promote fire safety.

EurekaFacts, along with its local partners, is conducting a nationwide survey about household fire and carbon monoxide (CO) safety. This study is sponsored by the National Fire Protection Association (NFPA) and the U.S. Consumer Product Safety Commission (CPSC). The National Fire Protection Association (NFPA) is devoted to eliminating death, injury and economic loss due to fire and electrical hazards. Similarly, CPSC protects all of us against unreasonable risks of injuries and deaths related to the products we buy and use. The legacy and purpose of these organizations continues with your involvement in this nationwide survey.

The purpose of this survey is to inform the NFPA and CPSC about the use of smoke detectors and CO detectors in homes in the United States. The information collected from this survey will improve household safety across the U.S. Your input will assist with developing standards and guidelines that will help protect property and human life.

When you take part in this research, you speak for thousands of people like you, and you help to make homes safer.

Field survey teams will knock on doors in randomly selected areas to ask for voluntary participation in this survey. If you qualify and complete the in-home interview, you will receive a gift card from a major credit card company.

Survey participants must be at least 18-years-old and the head of the household. For this study, head-of-household means that you are knowledgeable about your home and are able to make decisions about it. All responses will be kept confidential.

This study has been approved by the U.S. Office of Management and Budget (OMB). The OMB Control Number is 3041-0180. <**LINK TO OMB APPROVAL>**

To answer your questions and concerns, learn more about this study on the Participant FAQ page **<HYPERLINK>**. If you heard about our need for interviewing teams and are interested in assisting our efforts, please tap the Volunteer FAQ page **<HYPERLINK>**

The study will be running from late 2019 through 2022. [**WHEN ACTIVELY FIELDING IN A LOCATION, SHOW:]** The study is currently in the **<NAME OF METRO AREA>** from **<APPROXIMATE DATES>**. All other dates are to be determined.

Check back for updates.

<LIST ALL METROPOLITAN AREAS FOR FIELDING>