**2019 NATIONAL SMOKE ALARM SUMMIT**

**EVIDENCE INFORMING ACTION:
CONSENSUS PRIORITIES TO INCREASE THE USE OF SMOKE
ALARMS IN U.S. HOMES**

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*Smoke Alarm Summit 2019*

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## EXECUTIVE SUMMARY

Two-of-every-five U.S. home fire deaths during 2012-2016 resulted from fires where no smoke alarms were present. The death rate per fire was more than 50% lower in homes with working smoke alarms than in home fires with no smoke alarms at all or none that were working.[1] Increasing the installation and maintenance of smoke alarms in U.S. residences is needed to help reduce fire-related fatalities. Understanding the reasons why many homes are unprotected or inadequately protected with smoke alarms is essential in order to increase their installation and maintenance.

Evidence collected from home visits in the field indicated that there were many unknowns with respect to the number of smoke alarms in homes and their functionality. This became a priority issue for The Vision 20/20 Project and led to the partnership with the Johns Hopkins Center for Injury Research and Policy (JHCIRP) to better understand what is known, what the data gaps are, and what specific data are needed to help increase the installation and maintenance of smoke alarms in U.S. residences.

On April 17 - 18, 2019, thirty-two participants representing stakeholder groups such as the fire service, academia, government, non-profit, and private sector organizations, convened for a two-day Smoke Alarm Summit at the Johns Hopkins Bloomberg School of Public Health. This summit was organized as a follow-up to the original smoke alarm summit conducted by The Vision 20/20 Project and the Johns Hopkins Center for Injury Research and Policy in 2015. The goal of the 2019 Summit was to revisit the original summit recommendations, note the progress made since that time, and to provide recommendations for actions steps that would continue to lead the United States toward having more working smoke alarms in homes.

Data to identify the next steps and priorities for a national effort to increase the installation and maintenance of smoke alarms were obtained from experts who presented at the original Smoke Alarm Summit. The presentations and a concluding webinar for the 2019 Summit are available at www.StrategicFire.org/SmokeAlarmSummit2019

The top four action items identified in 2015, in order of priority were:
1. Conduct a national census (or representative sample in-home survey) on the prevalence and characteristics of smoke alarms.
2. Promote fire department home safety visits that use best practices in installation and education.
3. Establish a task force (that includes fire service members and data users) to make recommendations on enhancing the utility of the NFIRS.
4. Encourage technology developments that would improve the utility and consumer friendliness of smoke alarms.

Of these recommendations, action was taken on each of the four items and significant progress was reported at the 2019 summit. Specifically:

- The Consumer Product Safety Commission (CPSC) began a survey of U.S. homes to determine the number of working smoke and carbon monoxide alarms. That study is currently underway.
- Home Safety Visits (HSV) have been promoted heavily by The Vision 20/20 Project, and the American Red Cross still places a high priority on home safety visits and smoke alarm installations as they conduct thousands of such visits with partner fire departments across the nation. HSV's are also promoted by other organizations including the National Fire Protection Association and the National Fire Academy.
- A task force to make recommendations on changes to the National Fire Incident Reporting System (NFIRS) was formed, but the recommendations made for changes to NFIRS reporting have not been finished. The changes suggested do not require any changes to NFIRS itself, but rather in the supplemental questions that can be asked within the current version of NFIRS.
- Smoke alarm technology continues to evolve. Significant changes to UL 217 Standard for Smoke Alarms, the testing criteria for smoke alarm performance, and NFPA 72 National Fier Alarm and Signaling Code , the standard for smoke alarm installation and maintenance, have and are changing the way that smoke alarm technology is being developed. These new standards are just now beginning to have an impact on the type of smoke alarms seen on the market for purchase. It is too soon to know how these changes will impact the number of working smoke alarms in U.S. homes, though the significant issue of reducing the occurance of nuisance or unwanted alarms, especially from cooking sources, is a foundation of the changes in both standards.

## SUMMARY OF 2019 SUMMIT

### Process and Priorities

Summit participants that included representative of fire service, academic, governmental, non-profit, and private sector organizations, were identified and invited by Vision 20/20 and the Johns Hopkins Center for Injury Research and Policy.  The goal of the Summit was to revisit the original summit findings, and to outline action steps that would result in more working smoke alarms in U.S. homes.

Presentations were given by subject matter experts on:

- An update on the national fire loss data related to smoke alarm performance and fires, and in particular fire deaths, by Marty Ahrens of the National Fire Protection Association
- An update on the national smoke and carbon monoxide home survey being conducted by the Consumer Product Safety Commission (CPSC) by Arthur Lee of CPSC
- An update on technological advances in smoke alarm technology, driven in part by changes to UL 217 and NFPA 72 by Richard Roberts, a National Electrical Manufacturer's Association representative to The Vision 20/20 Project and a subject matter expert from Honeywell.
- An update on codes and standards was provided by L.J. Dallaire, the fire marshal for the Architect of the Capitol, and a key member of NFPA 72 with subject matter expertise.
- An update on relevant research on smoke alarms by Amanda Kimball of the NFPA's Fire Protection Research Foundation.
- An update on legislative issues related to smoke alarms by Bruce Johnson of Underwriters Laboratories (UL).
- An update on progress made on educational messaging for smoke alarms by Meri-K Appy from The Vision 20/20 Project.
- A report on the research done to provide the fire service and others with a view on the potential threat of legal liability for smoke alarm installation programs by Jon Vernick of the Johns Hopkins Center for Injury Research and Policy.

Each module began with the subject matter expert in that content area presenting a summary about what is currently known.  These presentations were followed by a question and answer and discussion period to identify the gaps that require further data, research or other information.  Attendees were then asked to sit at assigned tables and a table recorder selected from among them recorded and reported the table recommendations coming from each group.

The table reports are provided in Appendix A of this document.

# Smoke Alarm Summit 2019

All of the recommendations from the Summit are designed to move the national fire safety agenda toward increasing the number of working smoke alarms in U.S. homes. Nearly two-thirds of people who die in fires still do so in homes without a smoke alarm at all, or alarms that are not operating. It is the focus of this summit report to identify action items that will measurably change those results.

The attendees who participated in the Summit made a number of recommendations, and for the purposes of this report some have been brought forward as higher priority action items. They are grouped by topical categories that were used during the summit to facilitate discussion, although there is evident overlap across the categories.

Typically, these reports form the foundation of activity for The Vision 20/20 Project and/or other organizations with similar goals. The reports may result in individual or collaborative efforts to move the action items to reality.

The categories for grouping recommendations include:
- Data collection and analysis
- Research
- Codes and standards
- Technology
- Legislation
- Educational messaging

**Data Collection and Analysis**
- Data collection and analysis continue to be significant challenges for the fire service, and the data needed for smoke alarm performance are a high-priority sub-set of the larger needs for complete, accurate data collection and analysis.
- Follow-up work on improving smoke alarm performance reporting from NFIRS is still needed. Supplemental reports for smoke alarm performance for significant fires, such as where a fire death occurs, could be designed and implemented. Additional resources would be required to report on these findings.
- Data collection and analysis needs to be promoted to firefighters as front-line reporters of fire incidents, in part by making it valuable and useful to them.
- Model practices in data collection and analysis need to be identified and promoted, including the use of applications and technology that can upload data into NFIRS automatically.

**Research**
- A specific research agenda needs to be developed that will provide the basis for evidence-based decision making to increase the number of working smoke alarms in U.S. homes. There is obvious overlap between a research agenda and the data collection and analysis capabilities that would feed into more specific research projects. This research would include looking at alarm performance and human behavioral elements that impact the goal. It should also include a re-examination of the research behind the 10 year alarm life recommendations.

- The performance of smoke alarms produced under new UL 217 product testing standards needs to be monitored and compared with existing alarm performance so that we may determine if the goals of increased smoke alarm use through a reduction in nuisance or unwanted alarms actually occurs and whether this results in fewer disabled smoke alarms.
- Home safety visits with smoke alarm installations should still be promoted because ample evidence exists that demonstrate their effectiveness. But more model programs that provide examples for others to emulate need to be identified that include model processes for data collection and behavior change over long periods of time.
- Research on the results of smoke alarm legislation across the nation is necessary to help inform efforts to harmonize legislative requirements with continual changes in technology or codes and standards requirements, especially where those requirements may vary from the latest editions of model fire codes and UL testing standards. (i.e. UL 217 and 268)

**Codes and Standards**
- Additional advocacy is needed in the codes and standards process (NFPA 72) for low frequency sounding alarms that are demonstrated to improve wakefulness of smoke alarms, especially with the young, elderly and those who are hard of hearing or impaired in some way such as by drugs or alcohol.
- Findings of the smoke alarm research need to be promoted within the model codes and standards processes and used to inform decision making.

**Technology**
- Technology development often outpaces the codes and standards development process. These developments need to be continually monitored for changes that can reduce alarms being disabled and to improve their overall performance, including the ability to wake certain demographic groups such as the very young or those with hearing impairments.

**Educational Messaging**
- Model messaging designed to motivate people to purchase and maintain their own smoke alarms is still necessary. There are a variety of messages still being used that are conflicting with regard to battery life, testing, and other issues that ultimately confuse people.
- This messaging should also include a standardized approach to the long-known issue of closing doors to compartmentalize fires, which has grown in importance due to the increasing speed of fire spread in modern homes.
- Model messaging will benefit from more research on human behavior change, which should be incorporated into messaging.
- Model messaging needs to be adapted as necessary for the anticipated cost increases associated with smoke alarms that meet new UL 217 requirements.

- The report on liability concerns by The Network for Public Health Law ([Installation Liability Report](#)) needs to be promoted throughout the fire safety community, so that local installation programs are not prohibited for the wrong reasons.

**Legislation**

- Legislation for smoke alarms varies across the nation and often conflicts with nationally recognized standards.  A legislative agenda needs to be developed to prevent potential conflicts in issues such as battery life, new technologies, and combination alarm configurations that may not be currently allowed under some state, city or local laws.

**Advocacy**

- It is evident that one strategy alone will not be effective at increasing the number of working smoke alarms in U.S. homes.  A multi-disciplinary approach is needed that takes into account the different topical categories identified for this report.  There are numerous organizations and processes that exist to promote the goal of obtaining and maintaining more smoke alarms in US homes.  A deliberate methodology is needed to bring these organizations together on a consistent basis so that efforts to improve smoke alarm performance can be better coordinated.

## POST-SUMMIT

This summit was intended to follow-up and build upon the original summit conducted in 2019.  The process of gaining consensus informally involved reviewing the draft report by attendees of the summit, gathering their recommended changes, and capturing the important action items as a priority. No formal vote was taken by the participants.

The table notes from each small group providing recommendations were compiled and grouped for by topical category to provide source material for any organization or individual intending to act on the recommendations so that they can either see for themselves the "history" of various comments, or to follow up with attendees for greater detail.

Without a long-term funding capability, it is the usual practice of The Vision 20/20 Project to seek funding for high priority action items.  It is also possible that other organizations, or groups of them, may proceed with action items using their own resources.  The track record for creating action with this type of planning process is good, and an indicator that further action is possible and probable.

A small task group has been formed that will follow up on the issues presented in this report.  It will be comprised of a balanced group to marry the technology, data collection, human behavioral and educational messaging necessary to make progress.  This task force will report to Vision 20/20 on their progress as part of a strategic planning process that will be considered to make a multi-disciplinary task group a base strategy for Vision 20/20.

## Citations of Interest

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# APPENDIX A: TABLE NOTES – ACTION ITEMS

### Data

- Establish a task group to review the CPSC survey results and develop an action plan that includes recommendations for updated messaging, possible changes to codes, new research needed, etc. Group should include someone to provide information on applicable codes from 1995 to present at the local jurisdictional level in areas surveyed so that CPSC can assess impact on the survey data that may have been caused by different installation codes. (NFPA and ICC? Legacy codes?) (Consider students in fire protection engineering or architecture or Research Foundation)
- Examine various factors that may affect the number of working smoke alarms in a home.
- Examine the cause of nonoperational smoke alarms collected from the survey.
- More research may be needed on human interaction and user behaviors with smoke alarms: use and maintenance…how do people test, replace batteries…
- Develop a plan for assessing the performance of the new 217 alarms as they enter the market: do they reduce the # of nuisance alarms? How well to they perform overall?
- Improve batteries (temperature) to reduce middle of the night chirps
- Ask for volunteers to install the new alarms and set up a protocol to help assess performance
- Should we be concerned with battery quality?
- What are the cost implications of battery maintenance and replacement with the new alarms?
- What are risks associated with people being on ladders to install, test and batteries vs fire risks? (This may discourage non-working smoke alarms.)
- Is the 10-year replacement message still valid? But we want to retain it to encourage updates to the new product
- Benchmarking studies around the impact that they are having, the new smoke alarm technology as it is being used. NFIRS won't be catching this type of data.
- Develop a baseline of today's installs to be able to compare to the new ones that will be installed someday
- Catching the nuisance data will be harder because the fire department is not contacted when these occur
- Mapping the installs vs. the fire loss data, was it successful?
- FireCares, combing ideas on who they are doing
- How do we capture this data?
- TECHNOLOGY – can they download data from the smoke alarms on operations?
- Recommended changes to NFIRS? Hard to do, should we do it? Maybe the recommendation is coming up with a way to capture the data that we need, what this is TBD. Perhaps from mining the narratives on the NFIRS reports?

## Appendix A: Table Notes – Action Items

- Need more real-time data
- If we can drive the content, if they don't
- During home visit, collecting data while in the home, assess the community risk.
- What kind of platform do we collect this on?
- Need to capture data on a national level.
- Would be good to know if people are getting the alarms through the grants vs. buying them/acquiring them on their own, this would let us know if there is sustainability after the grant.
- Data resources and quality data (New Orleans, Census, NFIRS improvements)
- Does the new standard work – does it actually reduce unwanted alarms give quicker alert, etc – are they working?
- Use data to geo map installations and assess outcomes
- New York mandated 10-year batteries – look at states with that rule and assess: does it matter. Does this legislation reduce home fire deaths?
- Check waking effectiveness of kids today that use ear pods constantly.
- Continuity of data collection needs to be emphasized to the fire service so they know the value of their reporting and will do it better. Accurate data collection is critical to messaging and to use. Fire departments would do better reporting if they understand its value.
- Consider wider and newer sources of data. Some data may be in community building departments and not the fire department.
- Gather smoke alarm and other home safety equipment info via the US Census.
- Report addresses of smoke installations by fire departments, Red Cross and others to data systems to make it possible to assess outcomes of smoke alarm installation projects.
- Record street address/location of smoke alarm installations for databases.
- Measure impact of the new UL standard.
- Define actual hostile fire condition and a nuisance condition so the two can be distinguished and accurately reported in NFIRS and other data systems.
- Analysis of market segments: smoke alarms provided and installed for every home does not solve the problem. There are too many homes. What are the right messages to the population? How do we appeal to the larger part of the population to buy and install smoke alarms for themselves. High-risk populations are dying so provide and install alarms for those households AND motivate others to buy and install for themselves. Are we giving away alarms to people who would buy them for their homes?
- Human factors -what do we know about smoke alarm interaction with people and how they react to smoke alarms.
- Insure that the waking effectiveness of smoke alarms is known and verified. Can a different alarm be more effective?
- We need the continuity of surveying the same audience. Follow up surveys with the same people over time about smoke alarm experience.

## Appendix A: Table Notes – Action Items

- Look at the Smoke Signals from New Orleans to enter data free.
- Look at available data to target populations to get firefighters in the homes.
- Mine data for where fuel and housing are in the wildland and WUI.
- Prioritize those at-risk for not have smoke alarms
- Use satellites to identify homes in high risk areas and merge with other data to identify appropriate treatment
- Mandate a reporting system on how the smoke alarms are installed, where, demographics, etc.
- Look at available data to target populations to get firefighters in the homes.
- Mine data for where fuel and housing is in the wildland and WUI.
- Prioritize those at-risk for not have smoke alarms.
- Use satellites to identify homes in high risk areas and merge with other data to identify appropriate treatment

### **Research**

- Do communities that enforce smoke alarm requirements at point of sale have more working alarms?
- Develop a research agenda for home fire safety in conjunction with Vision 20/20, CDC, CPSC, NIH to address prioritized needs.
- Research the results/effectiveness of installing smoke alarms in bedrooms vs only on every level.  (are more alarms better or are fewer alarms in more homes a more effective strategy?)
- Create a unified system to capture success stories of potential lives saved from the installation of smoke alarms or installation of new batteries – is FEMA/Red Cross doing this?
- Older Adult Strategy:
    - Conduct studies to understand and positively influence older adults' knowledge, beliefs and practices regarding use of evidence-based smoke alarms and assistive devices that meet their unique needs.
    - Emphasize the crucial role of FIRE PREVENTION to protect older adults from home fires and burns such as clothing ignitions.  Consider reaching out to the caregiver community to help them prepare a plan for their aging loved one that includes caregiver-
    - assisted rescue.
    - Research the indicators that aging occupants and persons with disabilities are no longer capable of self-rescue (mobility, cognition, hearing aids removed, etc.)
    - Study the value of installing a conventional alarm in the homes of older adults living independently vs alarms designed for that audience. (Should smoke alarm install programs be funded to install conventional alarms in these homes?)

## Appendix A: Table Notes – Action Items

- What are the recommended safety behaviors for parents and caregivers that would include a RESCUE PLAN for each child and older adult?  Develop clear, simple, developmentally appropriate messaging about what should be expected of young children in terms of self-rescue (should we encourage them to stay put until an adult arrives to assist them?  At what age can we be confident that a child could navigate their escape out of a burning home?  Need new experts to help us with this.)
- Identify home fire safety needs and effective interventions for Native American and immigrant communities
- Should we be concerned with battery quality?
- What are the cost implications of battery maintenance and replacement with the new alarms?
- What are risks associated with people being on ladders to install, test and batteries vs fire risks?  (This may discourage non-working smoke alarms.)
- Some level of research of the new smoke alarms and are they doing what they say they are doing regarding nuisance and detecting fires
- Messaging effectiveness, is it reaching all demographics as it intends? Do research to evaluate it
- Did the messages motivate the change, did it result in the behavioral change we wanted?
- We need to make sure the messaging actually resonates and works
- How are people getting their messages and information, look at what are the new/current channel?
- Is there a way to work with Facebook to get them to do it as an altruistic project?
- How do we obtain behavioral change, do all of these things we are doing actually result in behavioral change?
- Monitor the type of contents and ignition sources to see if there are changes in contents that may impact the effectiveness of the smoke alarms

- Consider a mechanism for determining what type of research CRR needs. For example, what is the home of the future going to look like?
- Recyclables, for example, is that making the house safer or less safe because of the type of contents?
- Impact of the graying of society on fire safety, aging in place
- Smart homes and impact of aging in place, use of smart technology to provide safer homes
- Being integrated into the development of technology, how it will impact the fire service
- What's the next generation of alert, integrated into the smart home
- Are any groups doing a pre-and-post evaluation about whether behavioral change has occurred as a result of home safety visit? If we went back a week later, has the behavior changed?
- How smoke alarms work. Assess new 217 outcomes
- How people use and respond to smoke alarms

## Appendix A: Table Notes – Action Items

- o Use and maintenance
- o Waking effectiveness
- Longitudinal survey about long term use of smoke alarms
- How many detectors are enough? Do you follow up to install more or different alarms as the code changes?
- Update the research, it's dated. Include CO detectors . When does research age out.
- Help define for the public what 3 minutes means for egress – particularly in the context of having to wake and evacuate children and family members with access and functional needs
- Research on alert tones, new technologies, life expectancy of new smoke alarms
- How many smoke alarms are enough?
- Analysis CPSC survey to understand consumer marketplace and where needs and opportunities are. Include data from home visit reports.
- Review COHb data currently is based on healthy adults. Need to recalibrate CO alarms to meet the needs of the current population. Validate the curve and chronic and acute levels of CO.
- Prepare literature review of smoke alarm wakefulness with summary for SA installers and code and standards members committees.
- Allocate AFG funding for prevention and injury reduction research.
- What are the barriers for consumers to buy and install their own smoke alarms? Methods to install smoke alarms that do not required tools and do the instructions help consumer install in best locations.
- How to communicate smoke alarm best practices to fire departments and other smoke installers ie social media, online learning, face to face training, or SOP' to adopt. Which works better to effect change in FD?
- What are best practices as interconnected alarms age out at ten years
- What is the impact of age of the smoke alarm performance?
- Where in communities high-risk people live so that FDs go know where to go and can prioritize the visit.
- Look at why some FDs do home safety visits and install smoke alarms and why some don't so we would know how to motivate them to do it.
- What is the impact of the newly designed alarms on performance-nuisance, etc

### **Technology**

- Research the viability of a new technology to eliminate need to replace batteries
- How do we prepare the fire service for the new technology and the new installation/placement requirements? (What partnerships will help volunteer departments educate their communities about the new alarms?)
- Research needed on the results/effectiveness of installing smoke alarms in bedrooms vs only on every level.

## Appendix A: Table Notes – Action Items

- Have to educate the media on the new technology and how it is going to impact the consumer.
- Download smoke alarm activation from the smoke alarms themselves to learn when they might have been activated.
- What is the elevator speech we can give the average fire fighter to respond to the questions about the smoke alarms?
- Need an FAQ for the fire service to use
- Low frequency sounder that is external to the smoke alarm to address the low frequency issue
- Can we create sensing technology that goes beyond 10 years?
- Need to give company officers that information on the technology so they can communicate with the public and their own crews. Make sure they know it is a priority.
- Can we give them some apps that will help give them info, such as the V2020 app.
- Keep an eye on the advances in smoke alarm sensing technology
- Making the device multi-functional, like First Alert did with Alexa, they know it is working.
- Make sure the fire service instructions are aware of examples, specific examples, of technology that they can communicate to the fire fighters. Want tangible examples. New technology is going to reduce nuisance alarms, which you are running out on all the time, burnt smoke.
- Turn off the stove
- Integrate into the base of a ceiling light fixture
- Warning someone that your stove is getting to be a problem
- Easily distinguishable alerts and alarms, either visual or audible instead of indistinguishable beeps
- When talking with the public do we need more generic terms … you Look at available data to target populations to get firefighters in the homes.
- Mine data for where fuel and housing is in the wildland and WUI.
- Prioritize those at-risk for not have smoke alarms.
- Use satellites to identify homes in high risk areas and merge with other data to identify appropriate treatment
- Look at available data to target populations to get firefighters in the homes.
- Need to get everyone across the nation on the "change your clock/change your battery: problem, SOLVE IT. Do as part of an FP&S grant? Require standardized messaging if you receive a grant.
- Insure consumer ease of choice in selecting and installing alarms for their homes.
- Interoperability of smoke alarms between brands makes it convenient for the consumer to replace a malfunctioning alarm.
- Continual research on technology sensors and placement of alarms to meet the life safety needs of people in their homes.

## Appendix A: Table Notes – Action Items

- Resolve barriers to low frequency sounders for smoke alarms i.e. power supply/batteries.
- Is the 10-year life of a smoke alarm still valid?
- Complete the NFPA Research Project with the goal to: Assess the data on waking effectiveness to determine an acceptable reduction in the required sound pressure for sounders using a 520 Hz square wave signal that still provides superior waking effectiveness compared to high frequency sounders.
- Reduce to one device – CO and Smoke alarms.
- Consider the accessibility of smoke alarms via cost point for all segments of the community. Scalability of technology can reduce cost.
- Tech is outpacing codes and standards need to sync with code development cycles and make it faster.
- Remote testing to test and silence smoke alarms. Infrared technology was once available from First Alert and worked well. People could test and silence smoke alarms with any TV remote control. People who must climb a ladder to test smoke alarms installed on high ceilings are less likely to test their smoke alarms. Older adults and people with disabilities can be responsible to test their smoke alarms and not depend on others.
- Add feature to bedside alert devices to respond to CO alarm with bed shaker and low frequency alarm.
- Need battery operated smoke alarm with low frequency sounder.
- Use imaging technology—satellites, etc. to identify housing, fuels, etc. in high risk areas.
- Ensure low frequency smoke alarms are in pipeline for quick availability.
- Require uniform packaging of smoke alarms that do not confuse the consumer

### Legislation

- Advocate for legislation to require that at point of sale, sellers must prove that their home meets minimum smoke alarm code requirements and fire departments should inspect to ensure compliance.
- Would like model legislation/clear guidance to provide to those states and jurisdictions with existing leg that needs to be changed with the advent of UL 217 and 268 to allow for new and innovative technologies meeting the requirements of these new standards that were not available in the market when legislation was enacted
- Senior/active adult (50+) communities, advocate for legislation to require assistive devices and effective signals that have a greater potential to awaken older adults.
- Add the word "effective" to Chapter 29 of NFPA 72 to "effective self-rescue."
- Harmonization of local codes/legislation across the nation.
- Has to be open-ended and flexible to allow for new technology to be addressed
- Locals/States have a lot of control over what is required retroactively
- Opportunity to educate the legislators more about fire safety, smoke alarms

## Appendix A: Table Notes – Action Items

- Need to have a cohesive, coordinated message, one that works effectively with local legislators that works across the nation.
- Putting together packages, training, material, for the local fire fighter, fire chief, to work with the local legislators
- Need to educate fire service leaders on how legislator works on the local level, how the process works. Don't know how to form it.
- Need to be visible so when it comes time for asking for money, legislation, we are known and seen.
- Not every meeting with a legislator is an ask. It can be to build the relationship that eventually leads to the ask.
- How do we bring ICMA/NLC/OMCA/NCM/NACO/NASL to a common table regarding government and legislative support for fire safety?
- Coordinated government relations campaign to educate legislators about the issue of not legislating the code.
- Develop guidance and technical assistance for best practices to amend/adopt model codes and standards
- Stay out of code issues. Don't legislate special interests that modify codes.
- Roll back specific smoke alarm technology legislation.
- Look for ways to enforce smoke alarm code in existing homes.
- Allocate AFG funding for prevention and mitigation research – social research and home fire safety technologies and injury prevention i.e., family fire drill instead of home escape plan
- We would like to do something that would make a requirement for smoke alarms—up to code, working, etc. at least with the transfer of homes—title changes, new mortgage, sales, etc.
- Optimize any legislation that is being considered—can we advise folks who are writing the new legislation to include language that will be appropriate for new smoke alarms and existing
- Will we need to work with local/state AHJs to correct/update legislation that calls for photoelectric and 10-year batteries?
- Will have to install wireless to obtain interconnectivity as an alternative to hardwire to achieve the highest standard of care.
- As part of receiving FP&S smoke alarms, you have to install to a given standard, such as NFPA 72
- If you get smoke alarms from FP&S, you need to meet requirements such as interconnectivity, even if more expensive
- Fight local ordinances that are different than NFPA 72 – new technology makes many of these statutes and regulations obsolete ie requiring photoelectric smoke alarms.
- Consider technical assistance for state and local compliance to codes i.e. sample language.

## Appendix A: Table Notes – Action Items

### **Educational Messaging**

- Establish a framework for the development of common and consistent "plain language" messaging that is related to smoke alarms that targets all stakeholders in the smoke alarm/CRR community (researchers, consumers, engineers, fire service, designers, etc.)  Work with EMAC and include professional audience testing in crafting this language.
- Who do we reach out for the graying of America, AARP, etc.?
- Is there a more influential demographic to reach out rather than directly to the high-risk groups to effect the change? What kind of messages/methodology do we need to use?
- Tying it into other healthy behaviors instead of the only focus, easier to absorb. This is part of what I need to be a good caregiver
- This is what you need for part of a healthy lifestyle.
- See some above under research
- Make sure the messaging is designed around urban/rural/suburban lifestyles
- Showing AHJs how it can be done, don't just throw the messaging out at them
- Micro-targeting the messaging to the different demographics
- Fire safety saves fire fighters as well, not just the public. It is a part of fire fighter safety
- Do research with the fire fighters to find out what they need, what do they want, what will work with them, make them comfortable in delivering the message.
- What are the new trends in education to align with them
- Requirement for CO to be added to smoke alarms
- How do we integrate into our schools
- Getting product placement into shows and movies to effect change, just like they removed smoking from movies
- Is there a way to automate messaging following a fire in a neighborhood, do on a nationwide message
- How are we going to fund activities on the local level, demonstrate the effectiveness of investing funds from local businesses in fire safety. Marketing dollars.
- Have a local partner that can possibly be the recipient of dollars instead of the enforcing agency doing the ask for dollars
- Get sustainability on a national level for messaging.
- Developing national relationships
- Look for deep pockets, such as drug companies
- National response to a local disaster/fire
- 
- Field installers incorporate training in successful education methods. Teach like a champion
- Coordinated campaign, led by CPSC/Ad Council that presents a coordinated message developed and promulgated by Vision 20/20 steering committee and/or CFSI National Advisory Committee

## Appendix A: Table Notes – Action Items

- Support a collaborative effort between designers/engineers and industry external affairs staff to develop a coordinate, simple messaging campaign on new technology and changes in smoke alarm/CO detector standards
- Develop education and training to support updated messaging for industry all the way down to end user advocates (e.g. fire service, non-profit organizations, etc.)
- Prepare messages to specific group with specific messages that meet their needs.
- Evaluate change your clock change your battery and sealed batteries for new messages that are current and effective. We are sending mixed messages and contradictory messages.
- Establish Residential Smoke Alarm Task Group for messages, monitoring technologies, data, and changes to codes and standards. Include UL, NIST, USFA, NFPA, CPSC, Vision 20/20.
- What is best practice for fire departments as interconnected alarm systems age out at 10 years. Where is the message for people who have these systems that they need maintenance?
- Implement new FF pledge (Like seat belt pledge) I have installed smoke alarms, tested them and practiced the fire drill with my family.
- Revisit messaging to ensure that children under 12 are considered as an at-risk group
- We already know there are several at-risk group--hard of hearing or deaf and older adults Need to make sure messaging is designed for them.
- Get insurance companies to be involved with messaging.
- Need to use common messaging and test some of the words that are concerns.
- Need to have a common communications plan with the new UL standard.
- Make sure that everyone knows about EMAC.
- Recommend EMAC is updated with any new needs for smoke alarms.
- Segmentation of the market…fire service, people dealing with codes, etc. all need to know in difference words and strategies.
- Promote adoption of latest codes and standards without changes.

### **Advocacy**

- Use the media reports of fatal fires to follow up on incidents and help to identify trends vs. waiting on NFIRS reports. Try to do nationally with National Association of Broadcasters to help get info out, the teachable moments.
- Re-energize CDC's interest in home fire safety and target other federal agencies doing home visit programs – consider an approach combines home safety visits to install SAs with best practices to reduce other risks such as opioids, improve parenting skills, etc.
- How do we encourage enforcement in existing homes of every level, every sleeping area and interconnected smoke alarms.

## Appendix A: Table Notes – Action Items

### **Codes and Standards**

- What do we do with houses that are hardwired, would battery powered interconnectivity meet the requirements?
- What is allowable as a replacement for an alarm, always moving the bar up
- Targets for policy change Looking at FPS; Content of policy
- Have industry prepare cohesive message to streamline adoption of new smoke alarm installation codes for jurisdictions.
- A better way/faster to incorporate new technology into code and standards.
- Use CPSC Survey knowledge gained for messaging and to impact (be reflected in) codes and standards.
- Bring battery manufacturers into the codes and standards process.
- Get people together about issue of jurisdictions acting independently of the code.
- Remove strobe lights in sleeping rooms from NFPA 72. Light does not wake people. Install strobe in living space for people who are deaf. This accurately reflects the waking effectiveness research.

# APPENDIX B: PARTICIPANT DIRECTORY

## Smoke Alarm Summit –Evidence Informing Action
## April 17, 2019

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Appendix C: Summit Agenda

# APPENDIX C: SUMMIT AGENDA

**Vision 2020, the Johns Hopkins Center for Injury Research and Policy and NFPA Present:**

**The Smoke Alarm Summit**
**Wednesday, April 17, 2019**
**Feinstone Hall**
**Johns Hopkins Bloomberg**
**School of Public Health**
**615 N. Wolfe Street, Baltimore, MD 21205**

**MEETING OBJECTIVE:**

Based on progress made since the 2015 National Smoke Alarm Summit and the latest evidence, develop consensus recommendations for:

1. 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; and
3. Next steps to ensure that the findings from this meeting inform policy and practice to reduce the number of people who are dying in home fires where there are no working smoke alarms.

## Appendix C: Summit Agenda

**April 17th**   **Feinstone Hall, 615 N. Wolfe Street**

2:00   Welcome

Andrea Gielen, ScD
Director, Johns Hopkins Center for Injury Research and Policy

2:10   Progress since last Summit
Jim Crawford

2:20   Update on National Fire Data
Marty Ahrens

2:40   Update on National Survey
Arthur Lee

2:50   Update on Technology
Richard Roberts

3:20   Update on Codes and Standards
LJ Dallaire

3:30   Q & A with the panel of speakers – Shannon Frattaroli

3:45   Break

4:00   Introduction to Table Discussions
Shannon Frattaroli, PhD

4:10   Table Discussions on Data, Technology, Codes and Standards

(Answer 3-5 questions* from Shannon, collected at conclusion)

5:15   Adjourn

**6:30**   **Dinner -**  16 on the Park Rooftop Bar & Grille at the Marriott Residence Inn

## Appendix C: Summit Agenda

| **April 18th** | **Anna Baetjer Room 615 N. Wolfe Street Room W1030** |
|---|---|
| 8:00 | Continental Breakfast |
| 8:15 | Update on Research<br>Amanda Kimball |
| 8:35 | Update on Legislation<br>Bruce Johnson |
| 8:55 | Update on Educational Messaging<br>Meri-K Appy |
| 9:15 | Q & A with panel of speakers – Shannon Frattaroli |
| 9:30 | Break |
| 9:45 | Update on Installation Liability<br>Jon Vernick |
| 10:00 | Summary of 4/17 discussions & introduction to today's discussion<br>Shannon Frattaroli, PhD |
| 10:15 | Table Discussions<br>(Research, Legislation, Educational Messaging, Data, Technology, Codes & Standards) |
| 11:15 | Table Report-Outs and prioritizing activity<br><br>Poll Everywhere |
| 11:50 | Wrap Up<br>Jim Crawford |
| 12:00 | Adjourn |