WUI Wildfires

Steering Committee Report

Environmental Health and Emergency Preparedness Team
NATIONAL NETWORK OF PUBLIC HEALTH INSTITUTES | SUMMER 2026

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Executive Summary

In partnership with UL Research Institutes' Chemical Insights Research Institute, the National Network of Public Health Institutes (NNPHI) undertook a collaborative project to strengthen understanding of WUI wildfire risks and health impacts in Wildland-Urban Interface (WUI) communities. The Colorado Health Institute (CHI) supported data and mapping activities, and a multidisciplinary Steering Committee of 10 professionals provided expertise and guidance throughout the project.

Over six months, the Steering Committee participated in four meetings focused on Data and Mapping, Education and Training, Communications and the *Clear the Air* Campaign, and Final Recommendations and Future Priorities. Members represented public health, environmental health, emergency management, wildfire response, academia, data science, and geospatial analysis. Discussions and project materials were reviewed to identify key findings and recommendations. The Steering Committee emphasized that WUI wildfire vulnerability is complex, locally specific, and extends beyond wildfire hazard alone. Effective preparedness requires integrating health, environmental, demographic, socioeconomic, housing, infrastructure, emergency response, and recovery considerations while incorporating local knowledge. Members also highlighted the need to translate science and data into practical, trusted, and actionable information that is accessible, culturally and linguistically appropriate, locally relevant, and feasible for diverse communities. Preparedness should address immediate response and smoke exposure as well as longer-term health, financial, housing, and recovery needs.

Four priorities emerged from the Steering Committee's work:

- Build a more complete understanding of WUI vulnerability through integrated, locally validated data and tools.
- Turn science and data into practical, trusted action through accessible and locally relevant resources.
- Invest in community capacity and cross-sector partnerships to strengthen preparedness and resilience.
- Support sustained WUI learning and collaboration through continued training, technical assistance, research, and knowledge sharing.

Together, these findings demonstrate that effective WUI wildfire preparedness requires integrated data, local expertise, actionable communication, community capacity, and sustained collaboration.

Introduction

In partnership with UL Research Institutes' Chemical Insights Research Institute, the National Network of Public Health Institutes (NNPHI) undertook a collaborative project to increase awareness among public health professionals of wildfire risks and health impacts in Wildland-Urban Interface (WUI) communities. The project engaged the Colorado Health Institute (CHI) to support data and mapping activities and convened 10 professionals through a multidisciplinary Steering Committee to provide expertise and guidance throughout the project. Through development and review of data and mapping resources, reviewing the *Clear the Air* campaign, and Steering Committee engagement, the project sought to advance evidence-informed tools, resources, and recommendations to strengthen public health preparedness, communication, and resilience in WUI communities.

Introduction to Steering Committee

The 2025–2026 Wildland Urban Interface (WUI) Wildfire Steering Committee was established to provide multidisciplinary guidance on public health preparedness, wildfire smoke exposure, and resilience in Wildland-Urban Interface communities. Recognizing the increasing frequency and severity of wildfires across the United States and their growing impacts on public health, the Steering Committee was convened to ensure that project resources, recommendations, and strategies were grounded in scientific evidence while remaining practical and adaptable for state and local implementation. The committee brought together ten experts representing academia, state and local public health, emergency management, environmental health, wildfire response, data science, and geospatial analysis to ensure that project resources and recommendations reflected both scientific evidence and the practical realities faced by communities impacted by wildfire smoke.

Over a six-month period, members participated in an initial orientation followed by four structured virtual meetings, completing pre-meeting reviews, document feedback, and post-meeting assignments. These activities were designed to capture members' technical expertise, lived experiences, and recommendations while refining the *Clearing the Air* campaign and informing broader public health strategies. The meetings focused on Data and Mapping (November 2025),

Education and Training (December 2025), Communications and the *Clearing the Air* Campaign (January 2026), and Final Recommendations and Future Priorities (February 2026).

The Steering Committee provided oversight and guidance on educational materials, identified priority data sources and policy considerations, and developed recommendations to strengthen public health preparedness for WUI communities. Discussions focused on three primary areas: improving the collection and use of wildfire-related data, enhancing educational resources and technical guidance, and supporting local public health agencies and communities through practical communication and preparedness strategies.

All Steering Committee materials, including pre-meeting assignments, meeting discussion transcripts, meeting notes, chat materials, and post-meeting assignments from all four meetings, were reviewed, coded, and analyzed using an informal thematic analysis approach to identify recurring themes and cross-cutting findings. The findings and recommendations presented in this report reflect the collective expertise of the Steering Committee and are intended to inform future public health practice, resource development, and decision-making related to wildfire preparedness, smoke exposure, and resilience in WUI communities.

Recruitment and Selection

Steering Committee members were recruited to provide a diverse mix of expertise and perspectives related to wildfire preparedness and public health in Wildland-Urban Interface (WUI) communities. Recruitment focused on identifying individuals with both technical expertise and practical experience to help guide the project. Recruitment campaign leveraged the National Network of Public Health Institute's (NNPHI) existing communication platforms on LinkedIn, Instagram and our weekly Top 5 E-newsletter.

Desired experience and representation included:

- Lived or worked in a WUI community with wildfire experience
- Had experience responding to disasters or emergency events
- Brought data science expertise
- Had geospatial data and mapping experience
- Academia, public health institutes, and training centers
- State, local, tribal, or territorial health departments

- Emergency management and public safety organizations
- Subject matter expertise in public health, environmental health, emergency preparedness and response, wildfire response and prevention, public policy, and related fields

NNPHI received 28 applications from 14 states and jurisdictions and 3 countries. NNPHI screened all applications to ensure applicants met the minimum eligibility and experience requirements. Following the initial screening, applications underwent a comprehensive review process similar to NNPHI's standard Request for Proposal (RFP) evaluation process. Each applicant was independently reviewed by 5 independent reviewers and scored based on the established selection criteria.

After the scoring process was complete, the NNPHI Environmental Health and Emergency Preparedness team selected ten Steering Committee members. Final selections were based not only on overall scores but also on creating a multidisciplinary committee that represented a diverse range of professional backgrounds, geographic regions, organizational affiliations, and areas of expertise. This intentional selection process ensured the committee included perspectives from public health, emergency management, environmental health, academia, data science, geospatial analysis, and wildfire response.

The selected Steering Committee members included:

- Birch Barron, Eagle County Government, CO
- Clarissa Boggs-Blake, Clear Creek County Office of Emergency Management, CO
- William Dresser, University of Colorado Boulder, CO
- Erica Fischer, Oregon State University, OR
- Nathaniel Goeckner, City of Louisville, CO
- Anastasia Gunawan, Northern Nevada Public Health, NV
- Lisa Lamb, Sonoma County Environmental Health, CA
- Jun Meng, Washington State University, WA
- Maxwell Palmer, New Mexico Department of Homeland Security and Emergency Management, NM
- Matthew Weinburke, Independent Environmental Health/Public Health Consultant, CA-based

Coding and Analysis Methodology

An informal thematic analysis was conducted to identify and synthesize key findings emerging from each of the four Steering Committee meetings. Three members of the project team independently reviewed and coded all Steering Committee materials, including pre-meeting assignments, meeting discussion transcripts, meeting notes, meeting chat, and post-meeting assignments. Following independent coding, the codes were reviewed and organized into related clusters based on common concepts and patterns across the materials. These clusters were then examined and synthesized into broader themes that captured recurring and salient areas of discussion across the Steering Committee. The resulting themes were used to organize and interpret the findings presented in this report, with the goal of representing the collective expertise, perspectives, and priorities expressed by Steering Committee members throughout the process.

Findings from Each Topic Meeting

Meeting 1: Data and Mapping

Purpose: The first meeting established the conceptual and technical foundation for the project by exploring how data, GIS, and mapping can better identify and communicate wildfire vulnerability in Wildland-Urban Interface (WUI) communities. Committee members were asked to share their expertise on existing national, state, and local data sources, discuss measures that capture community vulnerability and resilience, and identify gaps that may limit comprehensive analysis. The discussion emphasized the importance of integrating high-quality, multidisciplinary datasets while ensuring that rural, Tribal, and historically under-resourced communities were accurately represented. Insights from this meeting established the foundation for the project's geospatial analysis and informed the selection of data sources used to support future communication and planning efforts. In addition, datasets were shared with Colorado Health Institute (CHI) to inform the geospatial analysis work.

Findings: While the meeting focused initially on data and mapping, the discussion quickly broadened into a conversation about the relationship between environmental hazards, community characteristics, public health, and emergency management. Participants consistently challenged traditional approaches to WUI wildfire risk assessment, emphasizing that meaningful vulnerability assessments must extend beyond fire behavior and landscape characteristics to incorporate

the people, places, and systems that influence community resilience and contributed to contaminant exposure.

Committee members expressed a shared belief that technical tools, including maps and vulnerability indices, should not simply visualize wildfire hazards but should support real-world decision making. The emphasis was on the need to integrate environmental, health, demographic, and operational data into practical tools that can guide preparedness, mitigation, response, and recovery activities. The discussion also reinforced the importance of cross-sector collaboration and practical communication strategies that enable communities to translate information into preparedness and response actions. The main findings from the first Steering Committee meeting include:

1. *Integrated Data Systems Enable Meaningful WUI Vulnerability Assessment:* There was consensus among the Steering Committee that understanding wildfire vulnerability requires integrating multiple sources of information rather than relying solely on traditional wildfire hazard data. Committee members described wildfire vulnerability as the intersection of environmental conditions, population characteristics, social, economic, and health indicators, housing, infrastructure, and emergency response, including fire fighters, capacity. Rather than advocating for additional datasets alone, committee members emphasized creating integrated systems capable of combining information from multiple disciplines into a coherent picture of community vulnerability.

   Participants discussed numerous existing mapping platforms and data sources, including ArcGIS, Watch Duty, AirNow, Crisis Track, and government agencies such as FEMA, EPA, NOAA, CDC, NIOSH, USGS, and Census data. However, they noted that these resources often exist in isolation and vary considerably across jurisdictions. The discussion therefore focused less on identifying new data sources than on improving interoperability, integrating environmental health information, and creating decision-support tools that are meaningful for first responders, emergency management and public health. Members also highlighted numerous applications for integrated WUI maps, including prioritizing mitigation projects, informing evacuation planning, supporting grant applications, targeting outreach efforts, guiding land-use review, supporting shelter planning, and briefing elected officials. These examples demonstrated that

committee members viewed maps not as informational products, but as operational tools that connect data to action.

Quotes: "Without knowing enough about the human life and property, it will always be difficult to ascertain the exact wildfire risk of a population, particularly as it pertains to something as deeply personal as health."

"The most successful integration of different data is done at the local level and driven by local staff."

2. *WUI Vulnerability is context-specific and must be locally grounded:* The Steering Committee emphasized that national datasets alone cannot adequately characterize wildfire vulnerability. Members stressed that local context fundamentally shapes WUI wildfire risk and that statewide or national datasets often fail to capture the realities experienced by individual communities, particularly rural areas.

   Rather than viewing local knowledge as supplemental, members consistently described it as essential for validating data, interpreting results, and ensuring that vulnerability assessments accurately reflect conditions on the ground. Emphasizing that wildfire risk assessments should account for local firefighting capabilities and operational realities rather than relying solely on hazard indicators.

Quotes: "The data is the product of the system, and the system doesn't work in those places (rural areas). So why would the data?"

3. *WUI Wildfire risk extends beyond hazard exposure:* The Steering Committee consistently broadened the discussion of WUI wildfire risk beyond fire behavior and physical exposure to include the characteristics that influence a community's ability to prepare for, respond to, and recover from wildfire events.

   Rather than viewing vulnerable populations as a separate issue, members integrated demographic and health considerations directly into discussions of WUI wildfire risk and smoke exposure. This reflects a public health perspective in which WUI wildfire vulnerability results from the interaction between hazards and the populations exposed to them rather than as an environmental phenomenon alone.

Quotes: "Without knowing enough about the human life and property, it will always be difficult to ascertain the exact wildfire risk of a population..."

4. *Collaborative partnerships strengthen risk assessment and preparedness:* Steering Committee members repeatedly emphasized that meaningful WUI wildfire preparedness requires collaboration across sectors. Effective vulnerability assessment depends upon contributions from community organizations, public health and public safety agencies, emergency management, healthcare organizations, academia, and local responders and practitioners. Rather than focusing exclusively on data sharing, members described partnerships as mechanisms for improving community understanding, validating findings, and ensuring that project outputs reflect local realities. One specific recommendation was on engaging community-based organizations to conduct economic and social surveys and ensuring representation from hospitals, academic institutions, nonprofit organizations, and disability services in future project activities.

   The Steering Committee viewed collaboration as essential infrastructure rather than supplemental support. Partnerships were seen as necessary for improving both the technical quality and practical relevance of project outputs.

Quote:"(we need) people that represent the community" and **"**Hospitals, academia, non-profits, can give insight and data need to have representation...on WUI Wildfire Task forces."

5. *Risk communication must translate information into action:* The committee consistently emphasized that effective communication extends beyond describing WUI wildfire hazards. Members argued that communication should provide practical guidance that enables individuals and communities to reduce risk and make informed decisions before, during, and after wildfire events. Communication was discussed as an essential bridge between technical information and public action. Furthermore, the members distinguished between information dissemination and effective communication. The committee advocated for communication strategies that are practical, audience-centered, and linked directly to preparedness actions.

Quote: "Effective risk communication involves sharing information about the hazard... However, meaningful messaging also needs to include actionable steps that people who are susceptible to health impacts from smoke can do to limit their risk and protect themselves from smoke and poor air quality."

Several concepts cut across all five findings. First, participants consistently emphasized that local knowledge is indispensable for validating data. Communicating risk, and ensuring that technical products accurately reflect community conditions. Second, equity considerations were embedded throughout the discussion, with repeated references to vulnerable populations, demographic characteristics, and barriers to preparedness. Third, participants viewed technical tools, including maps and vulnerability indices, as means to support operational decision making rather than ends in themselves. Finally, collaboration emerged as both a technical necessity for improving data quality and a practical strategy for strengthening implementation.

Several areas of consensus emerged during the meeting:

- WUI Wildfire vulnerability should integrate environmental, health, and social data.
- Local knowledge is essential for developing valid and actionable vulnerability assessments.
- Vulnerable populations should be explicitly incorporated into WUI planning and preparedness.
- Cross-sector partnerships strengthen both the quality and applicability of project outputs.
- WUI vulnerability maps should function as decision-support tools that inform preparedness, mitigation, response, and recovery.

These shared principles provide a coherent framework for subsequent phases of the project and were revisited in later Steering Committee discussions.

Meeting 2: Education and Training

The second Steering Committee meeting shifted from technical data to community education and communication. Rather than asking what information exists, the discussion focused on whether communities actually receive information they can understand and use. Members examined existing educational resources, identified gaps in preparedness and communication

materials, and discussed how information could be made more relevant to the diverse communities affected by wildfire.

Findings: A central finding was that the availability of information does not necessarily translate into effective preparedness. The Committee described resources that were overly technical, generic, inconsistent across agencies, difficult to access, or insufficiently tailored to local circumstances. Therefore, they emphasized the need for education and communication that is practical, locally relevant, accessible, trusted, and connected to specific actions residents and practitioners can take.

The discussion also broadened the concept of preparedness beyond immediate wildfire response. Members identified significant gaps related to insurance, financial consequences, recovery, water quality, mental and behavioral health, and the needs of populations that may face additional barriers to preparedness or evacuation. The main findings from the second Steering Committee meeting include:

1. *WUI Education and Guidance Must Be Practical, Locally Relevant, and Action-Oriented*: The Members consistently described that WUI education should help people understand what WUI wildfire risk means for their specific circumstances and what they can do to reduce that risk. Generic preparedness materials were viewed as insufficient, particularly for communities with distinctive terrain, evacuation constraints, housing characteristics, or mitigation needs. The Committee discussed a range of existing educational resources, but their descriptions frequently emphasized the importance of audience, local relevance, practical guidance, and usability. Resources such as Living With Fire, Headwaters Economics, Listos California, Sonoma County materials, and the NM After Wildfire Guide illustrated the value of participants placed on resources that translate technical information into practical guidance.
   Throughout the discussion, the Committee was communicating that the primary problem is not simply an absence of WUI wildfire and wildfire information, rather, the problem is a mismatch between available information and the circumstances in which communities must use it. Members noted that residents may struggle to understand how national or state guidance, even local government, applies to their own neighborhood and risk profile.

Quote: "There is a lot of value in creating educational and guidance materials around prevention."

2. *Effective Communication Requires Consistency, Accessibility, Trust, and Multiple Channels*: Communication also emerged as one of the themes in Meeting 2 with members centering on the biggest communication challenges for WUI wildfires. These included fragmented communication across agencies, inconsistent terminology between agencies and to the public, and public alert fatigue, limited year-round messaging, language barriers, which led to challenges reaching people through appropriate channels. The committee's discussion demonstrated that effective communication requires more than developing a high-quality message. Messages must reach the intended audience through a trusted channel, use understandable language, remain consistent across agencies, and provide clear actions. Participants specifically discussed emergency alert systems and the need for both public agencies and communities to better understand how to use Integrated Public Alert & Warning System (IPAWS). They also described the challenge of alert fatigue, where residents may disable emergency notifications after receiving too many irrelevant alerts. This illustrates the importance of communication not only for delivering information, but also for correcting misconceptions about wildfire response capacity.
   Members conceptualized communication as an interconnected system involving terminology, channels, timing, trust, and audience needs. Inconsistent messages across agencies can undermine both comprehension and trust, while excessive messaging can result in disengagement.

Quote: "There is still a belief that the firefighters can save all the infrastructure"

3. *Education and Preparedness Must Account for Diverse Communities and Unequal Access*: The committee repeatedly emphasized that WUI communities are not homogeneous. Different populations experience different barriers to receiving, understanding, and acting on wildfire information. Furthermore, they highlight that many communities are unaware they are designated as 'WUI'. Education and preparedness becomes more complex when planning does not account or is not aware of populations that require additional considerations such as people with disabilities, non-English speakers, renters, short-term rental occupants, migrant and seasonal workers, Tribal communities, frontier communities,

and tourists. The committee specifically described Tribes and frontier communities as among the hardest populations to reach because of poor connectivity, geography, and cultural considerations. Moreover, the Members emphasized the importance of cultural competence and culturally and linguistically appropriate approaches to disaster education and preparedness.

4. *Preparedness Must Extend Beyond Immediate Response to Recovery and Financial Resilience*: One of the most important contributions of Meeting 2 was the expansion of the definition of preparedness beyond immediate WUI wildfire response. Participants identified significant gaps in information and support related to insurance coverage, financial losses, rebuilding, temporary housing, water quality, and longer-term recovery. Insurance emerged particularly strongly in the pre-meeting assignment. Participants described widespread difficulty understanding what insurance policies cover, the financial consequences of displacement and property loss, and the relationship between mitigation and insurance. They also raised concerns about renters and populations that may be underinsured or excluded from conventional mitigation approaches. The Steering Committee argued that wildfire resilience depends not only on surviving the immediate event but also on a community's ability to navigate the financial, health, housing, and social consequences that follow.

Quote: "Public safety agencies are good at putting out fires and reducing casualties in the immediate aftermath of a fire, but there are gigantic gaps in our systems for helping people meet essential needs during the months/years-long recovery process."

5. *Effective WUI Preparedness Requires Coordinated Cross-Sector Capacity*: The Steering Committee stated that no single agency can provide all of the information, expertise, relationships, and resources necessary to prepare WUI communities. The committee identified schools, faith-based organizations, nonprofit organizations, community groups, public health agencies, emergency management, fire agencies, and other partners as important channels for reaching communities. This builds directly on Meeting 1, when Members emphasized the importance of community partnerships for developing and validating WUI vulnerability information. In Meeting 2, the emphasis shifted toward using those relationships to deliver education and preparedness information. The committee viewed relationships and shared capacity as essential infrastructure for preparedness. Trusted community organizations can provide access to

populations that government agencies may struggle to reach, while cross-agency coordination can reduce inconsistent messaging and improve operational understanding.

Quote: "Participation is key to providing innovative and community led approaches that should be incorporated into training, education, and interventions."

Overall findings

The December 2025 meeting expanded the Steering Committee's understanding of WUI preparedness from “what information is needed” to “how information becomes useful to communities.” The committee identified a persistent gap between the existence of wildfire information and the ability of residents and practitioners to understand, trust, access, and act upon that information. Members called for resources that are practical, locally relevant, accessible, culturally appropriate, and connected to specific preparedness actions. The meeting also broadened the concept of preparedness. The Steering Committee identified insurance, financial costs, mental and behavioral health, water quality, housing, and long-term recovery as important dimensions of WUI wildfire resilience that are often insufficiently addressed by existing educational materials.

Several areas of consensus emerged during the meeting:

- WUI education should be practical and prevention-oriented.
- Resources should be tailored to local circumstances and specific audiences.
- Communication should use clear, consistent terminology across agencies.
- Multiple communication channels are necessary to reach diverse populations.
- Translation alone is insufficient without cultural and contextual relevance.
- Education should address both immediate preparedness and longer-term recovery.
- Insurance and financial resilience are important but underdeveloped components of wildfire preparedness.
- Public health perspectives should be more fully integrated into WUI wildfire education and response frameworks.

Meeting 3: Communications and the *Clear the Air* Campaign

- The third Steering Committee meeting focused on translating wildfire and WUI information into practical community action through strategic communications and the refinement of the *Clear the Air* campaign. Building on the education and communication discussion from meeting 2, participants reviewed the *Clear the Air* campaign materials and provided recommendations to improve message clarity, accessibility, user experience, and regional relevance. The discussion demonstrated that participants valued resources that translate complex scientific information into practical actions. At the same time, members identified important limitations in existing materials, particularly when guidance assumes a certain level of health literacy, access to technology, housing infrastructure, financial resources, or English proficiency. Participants therefore emphasized the need for communication products that are not only scientifically credible, but also understandable, locally relevant, culturally responsive, and feasible for the people expected to use them.

The main findings from the Third Steering Committee meeting included:

1. *Public health information must translate complex wildfire smoke science into clear, actionable guidance:* Air quality and wildfire smoke were central to the January discussion. Members consistently valued *Clear the Air* resources that connected information about smoke and exposure to specific actions individuals could take to reduce risk highlight those that address particulate matter, filtration, indoor air quality, and DIY air cleaners. These materials translated technical information into practical protective actions. One member specifically described the value of guidance that links exposure levels to concrete steps such as staying indoors, filtration, and DIY air cleaners.
   At the same time, participants identified areas where the scientific and public health guidance could be strengthened, including WUI wildfire specific smoke, health impacts of emissions, regional smoke profiles, outdoor activity, occupational exposure, and hazards following a fire. Members also identified the need for more information about what happens after a fire, including exposure risks associated with returning to affected areas.
   The committee also recognized that this translation challenge is complicated by scientific uncertainty. Guidance must be clear enough to support action while remaining appropriately grounded in the available evidence.

Quote: "The Safeguarding Your Health page is most useful to me and my primary audience. Air quality concerns can be difficult to communicate because it can feel like there is nothing that can be done to reduce risk on an individual level."

2. Communication products must be accessible, intuitive, and adapted to diverse audiences and contexts: The Steering Committee provided extensive feedback on the usability of the *Clear the Air* website and associated materials. Although the committee generally viewed the resources as valuable, members identified barriers related to navigation, readability, health literacy, language, visual design, and resource organization. Members also noted that resources designed for a general audience may not adequately serve rural residents, people with limited English proficiency, people with lower literacy, people living in trailers or apartments, and communities with different cultural or infrastructure contexts.
   They also noted that the site was generally clear and accessible but could benefit from better navigation and improvements to the way information and resources were organized

Quote: "All information should be easy to read, easy to access, and easy to understand. I believe in less is best and more pictures."

3. *Effective WUI wildfire communication depends on trusted local relationships and coordinated communication systems:* The January Steering Committee meeting reinforced the importance of community relationships and cross-agency coordination identified in Meeting 2. Members described local partnerships, community organizations, trusted messengers, and public information officers as important mechanisms for translating national resources into locally meaningful communication. The committee also identified the Joint Information System as a potential mechanism for improving cross-agency communication during wildfire events.
   The committee also discussed multiple communication channels, including social media, local news, community organizations, and in-person activities. The discussion suggested that no single channel is sufficient for reaching WUI populations, particularly in rural and frontier communities where connectivity may be limited.
4. *Effective preparedness guidance must account for structural, occupational, and real-world constraints:* A particularly important finding

from January 2026 was the committee's recognition that recommended protective actions may not be equally feasible for all residents. Members discussed differences in housing, HVAC availability, income, geography, infrastructure, occupation, and access to resources. These factors can determine whether people can actually implement the actions recommended in public health guidance emphasizing that lower-income communities may find some recommended protective measures financially unrealistic, while lower-cost and routine maintenance actions may be more feasible.

For example, members identified communities living in older homes, trailers, apartments, seasonal homes, and older Pueblo housing where standard indoor air recommendations may not be feasible.

Overall findings

The January 2025 Steering Committee meeting moved the project from broad discussions of communication and education toward practical evaluation of how wildfire health information functions as a public health intervention. The committee strongly valued information that translated complex science into clear actions, particularly around indoor air quality and smoke exposure. At the same time, participants identified important gaps in the accessibility, organization, navigability, and applicability of existing resources.

A central finding was that effective communication depends on more than scientific accuracy. Information must be understandable, accessible, culturally and geographically relevant, delivered through trusted channels, and feasible for people to act upon.

The committee also strengthened the connection between WUI wildfire smoke and public health. Participants identified the need for more specific information about WUI smoke, health impacts, occupational exposure, regional differences, outdoor activity, and post-fire exposure. Furthermore, the January discussion adds an important dimension to the equity findings from Meetings 1 and 2. Equity is not only about identifying vulnerable populations or translating materials. It also requires assessing whether recommended actions are structurally and economically feasible.

Meeting 4: Final Recommendations and Future Priorities

The fourth and final Steering Committee meeting served as a synthesis and validation session. Rather than introducing entirely new concepts, the discussion integrated lessons developed across the three meetings and identified priorities for applying and sustaining those lessons. The discussion focused particularly on persistent data gaps, opportunities for cross-sector data partnerships, the value of the steering committee process, and how they intended to apply project resources within their own organizations and communities. The conversation also explored recommendations for sustaining momentum beyond the project, including funding priorities, strategic investments, and opportunities to strengthen collaboration across sectors. They also reflected on the value of the multidisciplinary Steering Committee itself and described how the process had expanded their understanding of WUI wildfire preparedness and strengthened their ability to advocate for cross-sector approaches. The finding from the final steering committee meeting include:

1. *Integrated data are needed to quantify the full health, economic, and community impacts of WUI wildfire.* The final meeting reinforced the importance of integrated data established during Meeting 1 while substantially expanding the types of impacts participants believed need to be measured. In February, members identified persistent gaps in understanding the economic and healthcare consequences of wildfire, including insurance losses, healthcare costs, recovery impacts, and the experiences of rural and underserved communities. The discussion suggests that the committee no longer viewed data integration simply as a technical challenge. Instead, integrated data were viewed as necessary for demonstrating the consequences of wildfire, prioritizing resources, and making a compelling case to decision-makers.
2. *Cross-sector data partnerships and integrated tools can convert data gaps into actionable decision support:* A major contribution of the February discussion was the movement from identifying data gaps toward identifying specific partners and mechanisms for addressing those gaps. The committee proposed partnerships with EMS and fire software companies, insurers, healthcare systems, academic institutions, nonprofits, and other organizations that possess data not routinely available through public datasets. They specifically recommended partnerships with ESO, ImageTrend, and FirstWatch to obtain information on 911, hospital, and public health system impacts, as well as partnerships with the insurance

industry to obtain claims information and healthcare systems to integrate wildfire-related healthcare costs.

3. *WUI wildfire preparedness strategies and communications should be locally grounded and responsive to the community context.* The final meeting validated a principle present throughout all four meetings: WUI strategies cannot be effectively implemented through broad, undifferentiated approaches. The members highlighted the importance of community relationships and local knowledge in applying strategies effectively reiterating that standardized tools can identify patterns, but local knowledge is necessary to determine what those patterns mean and what interventions will work. Participants discussed sharing project resources with the public, using multiple communication channels, strengthening community relationships, and developing trauma-informed approaches to communicating wildfire risk and fire modeling.

Quote: "Developing public communication strategies for fire models that are trauma-informed. Residents need information, but we must be careful about timing and delivery so people aren't triggered."

4. *Cross-sector learning and sustained collaboration are necessary to carry the work forward.* The final meeting generated an important process-level finding: members viewed the Steering Committee itself as a valuable mechanism for building capacity. Members emphasized that the committee exposed them to perspectives, resources, strategies, and regional experiences that they would not otherwise encounter. Several participants described the process as helping them move beyond organizational silos and strengthening their ability to advocate for integrated approaches. One member described how the assignments and discussions allowed them to move beyond their usual silo and advocate more effectively for collaboration and integrated approaches. Therefore, the Steering Committee functioned not only as an advisory body but as a capacity-building and knowledge-exchange mechanism. This suggests that one of the project's products is not simply the information generated, but the network and shared understanding developed among practitioners, researchers, emergency managers, public health professionals, and other stakeholders.

Quote: “I appreciated hearing more from people on the prevention side and from different geographic regions. It gave me new perspectives I hadn’t considered before."

Overall findings:

The final steering committee meeting represented a transition from analysis to implementation. Across the first three meetings, the Steering Committee identified the information, communication strategies, resources, and community considerations necessary for effective WUI wildfire preparedness. In preparation and during the last meeting, members began specifying the infrastructure and relationships necessary to operationalize those findings. Three conclusions are particularly important:

1. Data gaps remain a fundamental barrier, particularly for understanding economic losses, healthcare impacts, recovery, rural communities, and Access and Functional Needs populations.
2. Specific partnerships and tools could address those gaps, suggesting that future work should emphasize interoperability and cross-sector data partnerships rather than isolated data development.
3. Relationships, community engagement, communication, and shared learning are part of the infrastructure for sustained preparedness, not ancillary activities.

WUI Wildfire Steering Committee Recommendations

Build a more complete understanding of WUI vulnerability: Develop integrated, locally validated approaches that connect wildfire hazard with health, environmental, socioeconomic, housing, infrastructure, emergency response, and recovery data, with particular attention to underserved and disproportionately affected communities.

Turn science and data into practical, trusted action: Translate complex wildfire and environmental health information into accessible, culturally and linguistically appropriate, locally relevant, low-barrier guidance and decision-support tools that communities and decision-makers can use before, during, and after wildfire events.

Invest in community capacity and cross-sector partnerships: Strengthen sustained partnerships among public health, emergency management, fire,

healthcare, community organizations, Tribal organizations, researchers, and private-sector partners, with resources and technical assistance directed toward locally identified needs and feasible interventions.

Create a sustained national infrastructure for WUI learning and action: Build on the Steering Committee through continued convening, technical assistance, training, resource sharing, applied research, "stories from the field," evaluation, and dissemination so that lessons learned are translated into practice and continuously improved.