UCLA Aliso Canyon Disaster Health Research Study

SUMMARY OF PRELIMINARY FINDINGS:
FOCUS GROUPS ON MENTAL HEALTH EFFECTS FROM THE DISASTER

Exploring the psychosocial impacts of the Aliso Canyon Blowout: Tracing an 'Invisible' Disaster

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Background and Objectives: Between October 2015- February 2016, the Aliso Canyon (AC) gas well leaked more than 100,000 metric tons of methane and ethane gas into the atmosphere, constituting the largest uncontrolled release from a single underground gas storage facility in US history. The AC gas well is situated near the Porter Ranch community in the San Fernando Valley of Los Angeles County, with more than 130,400 people living within five miles of the well at the time of the event. However, despite mass evacuations, business closings, and temporary school relocations, the AC Natural Gas Disaster ('AC Disaster') received scant coverage in the national media; an 'invisible disaster' both in terms of the physical nature of exposure (aerosolized natural gas) and collective recognition. This qualitative study thus aimed to examine the long-term impacts of the AC Disaster on psychological, social, and community well-being. The purpose of this study was to investigate the impact of the AC Disaster on mental health and well-being, in residents' own words, to inform the development of a resident health survey.

Methods: Using a purposive, age-stratified sampling approach, our team conducted six focus groups between March and June 2024 with individuals living within a 5-mile radius of the gas leak in October 2015. Since approximately 23 percent of the population were under 19 years old and 18 percent were aged 65 or older at the time of exposure, we also aimed to assess differences in experience based on life stage. Participants were thus sorted into young (18-34), mid-age (35-64), and older adult (65+) groups. Each focus group lasted between 75-90 minutes and explored the following topics: 1) Key memories from the event; 2) Short-term physical and mental health symptoms; 3) Long-term physical and mental health symptoms; 4) Social and community-level changes; 5) Changes to long-term plans and expectations for the future. All focus groups were held virtually (Zoom), audio-recorded, and transcribed verbatim. Transcripts were reviewed, summarized, and inductively coded for themes by 3 trained analysts using the Framework Method. The coding team met regularly to achieve consensus on major themes and subthemes.

Results: Across six focus groups, participants (N=34) described experiences with a myriad of persistent mental health concerns, the most common being emotional distress, anxiety, depression, anger, and PTSD. The themes identified in this analysis reveal that different dimensions of disaster 'invisibility' both reinforce and provide a framework for understanding the poor long-term psychosocial impacts of the AC Disaster. While the physical hazard is itself unseen, participants also experienced *Invisible Risks*; perceived delayed and conflicting communication with local authorities led participants to feel that they were left to assess and manage their own risk. The mid-age adult groups specifically reported experiencing long-term distress and guilt about whether they had made the 'correct' choices for their families, or unknowingly harmed their children. The unknown, *Invisible Harms* of the AC Disaster—what exactly were residents exposed to, in what dosage, for how long—facilitated a heightened state of health anxiety that persists into the present day. Groups in each age range described persistent anger and frustration at a perceived lack of corporate accountability and government response, feeling abandoned by local institutions. The sentiment that AC survivors constitute an *Invisible Community* has lowered trust and confidence that residents will be told the 'truth' about their exposure, or that future leaks can be prevented. Finally, participants across life stages shared altered life plans, *Invisible Consequences* of an unknown exposure burden. Young adult participants expressed a desire to permanently relocate but worried for the health of their relatives and loved ones still living in the area. In contrast, older adult participants expressed guilt at the possibility of relocating or retiring elsewhere, fearing that the next family to move in may also become exposed.

Discussion: The invisibility of the AC Disaster's risk, harms, and consequences exacerbates participants' long-term distress and anxiety. The onset of new physical symptoms or diagnoses (e.g., neurological disorders, respiratory conditions, cancers), leaves participants in a perpetual state of limbo, wondering if their experiences can be attributed to AC, feeling unheard by medical authorities because their symptoms cannot be 'proven,' and retraumatized by sensory triggers of the event. The themes reported in this paper thus serve as a call to make the 'invisible,' visible. Robust exposure studies will allow researchers to clarify AC's invisible harms; future studies will aim to assess short- and long-term effects of the AC disaster, as well as the impact of routine emissions on the health of communities living and working in proximity to the blowout. Our immediate next steps will be to refine the resident health survey based on these themes and disseminate the survey to systematically assess resident self-reported health and well-being.