

# PIO Crisis Communication on Social Media Across Agencies: Social Listening, Public Perception, and Design Considerations

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## ABSTRACT

Public information officers (PIOs) increasingly rely on social media for crisis communication, yet sustained social listening, especially for tracking public perception, is difficult to maintain under time, staffing, and platform constraints. We present an exploratory qualitative interview study of seven PIOs from government agencies in the U.S. Mountain West. Participants described different objectives on blue-sky days versus during emergencies: on blue-sky days, social media was used mainly for preparedness outreach and relationship-building, while during emergencies it was used to share incident updates, amplify partner agencies, and reassure affected communities. Participants also described social listening as important but unevenly sustained in practice. While many participants valued monitoring public questions, reactions to official messages or misinformation as important, most still relied on manual checks or engagement on their own accounts. Differences in PIO responsibilities, staffing, and agency role shaped whether social media work remained primarily one-way or included more sustained listening. Based on these findings, we derive design considerations for scheduling and pre-planning, monitoring, post review, and multi-agency coordination. Participants were generally more comfortable with bounded automation for monitoring, review, and other back-end support than with automation that produces public-facing messages, aside from limited and clearly constrained uses such as routine after-hours acknowledgments.

## Keywords

Crisis communication, Social media, Public information officers, Social listening, Blue sky days

## INTRODUCTION

Social media is now a routine part of official crisis communication (Hughes & Palen, 2009; Reuter & Kaufhold, 2018). During hazardous events, public information officers (PIOs) of government agencies use social media platforms to post updates, answer questions, or correct rumors. They also leverage social media signals to learn about what people ask, share, and how they react emotionally (Hughes & Shah, 2016). In the United States, these responsibilities are reflected in guidance for PIOs: the Federal Emergency Management Agency (FEMA) identifies social listening and public information sharing as important parts of emergency communication practice (FEMA, 2020). In particular, social listening can help PIOs detect misinformation, identify emerging information gaps, and track how official messages are received on social media.

Although social listening is framed as an important part of crisis communication, our earlier interviews suggest that it is often difficult to sustain in practice. Information overload, tight timelines, limited staffing and technical support can make social listening difficult to maintain, while broader political, institutional, technical, and social constraints further shape how public organizations use social media (Knox, 2016, 2023; Plotnick & Hiltz, 2016).

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These constraints shape not only whether PIOs conduct social listening, but also which kinds of social media information they attend to and prioritize.

One consequence of these constraints is that some kinds of social media information are treated as more important than others, and this becomes especially visible in how PIOs attend to public perception. FEMA guidance emphasizes gauging public perception of response and recovery as an important part of social listening (FEMA, 2020), yet in practice attention typically shifts toward information that more directly supports immediate operations. This contrast between perception-focused listening and more immediate operational information needs is also reflected in prior research. For example, crisis informatics has produced substantial work on operationally “actionable” information from social media (Alam et al., 2018, 2021; McCreddie et al., 2019, 2020; Zade et al., 2018). Threat perception and emotional responses, despite their direct relevance to protective-action decisions, have received less sustained attention (Demuth et al., 2018; Lindell & Perry, 2012; Wang & Kogan, 2025a). This imbalance suggests that crisis communication research still tends to privilege operationally actionable information over perception-focused forms of social media listening.

What PIOs treat as important social media information also depends on the local hazard context in which they work. In this study, we focus on the U.S. Mountain West, which includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming (U.S. Census Bureau, 2021). The region is regularly affected by hazards such as wildfire, flooding, drought, and severe winter weather. As these hazards unfold, public concerns, information needs, and misinformation can shift quickly, making social listening especially important. These recurring hazards make the Mountain West an important region for exploring how crisis communication priorities, public concerns, and social listening practices are shaped under similar regional hazard conditions.

Existing work has begun to document PIO social media practices, but it has often focused on emergency management settings (Biglow & Marshall, 2023). Crisis communication on social media, however, also depends on PIOs in agencies such as public health, transportation, fire services, and city government, whose responsibilities and communication needs may vary. We therefore explore PIO social media work across multiple Mountain West government agencies rather than focusing only on emergency management contexts.

Building on this broader institutional scope, we present an exploratory qualitative interview study of how PIOs across Mountain West government agencies use social media for crisis communication, with particular attention to social listening and public perception. Our study was guided by the following questions:

- What objectives do PIOs pursue in crisis communication on social media?
- How do PIOs practice social listening, and what constraints shape that work?
- How does public perception factor into PIOs’ social media work across different agency contexts?

To answer these questions, we conducted semi-structured interviews with seven PIOs from government agencies in the Mountain West whose roles include crisis communication on social media. The participants came from multiple government agencies, allowing us to capture a range of perspectives within a shared regional hazard context. This paper contributes: (1) an empirical account of how Mountain West PIOs use social media for crisis communication, (2) an analysis of how social listening constraints and attention to public perception shape that work, and (3) design considerations aligned with PIOs’ constraints and preferences.

## BACKGROUND

### Crisis informatics and social media for crisis communication

Crisis informatics examines how people and institutions use information and communication technologies (ICTs) during emergencies, and how those practices shape coordination, response, and recovery (Hagar & Haythornthwaite, 2005; Palen et al., 2009). Early work emphasized that affected communities are not passive recipients of aid, but active participants who share information, self-organize, and collaborate with formal responders (Dynes, 1970; Fritz & Mathewson, 1957; Kendra & Wachtendorf, 2003). Social media platforms have become a central site for this activity, providing a low-cost way to broadcast information, document events, and connect with others in real time (Houston et al., 2015; Palen & Hughes, 2018; Palen et al., 2010).

For crisis communication, social media supports both traditional one-way dissemination of official information and more interactive, two-way exchanges. Public agencies use social media to issue warnings, share incident updates, and explain protective actions, while members of the public use the same channels to seek information, report local conditions, and express concerns (Hughes & Palen, 2012; Hughes et al., 2014; Palen & Liu, 2007). This

activity generates large volumes of crisis-relevant content such as texts, photos and videos that can contribute to situational awareness and support operational decision-making (Cameron et al., 2012; McCreadie et al., 2019; Vieweg et al., 2010). It also provides a record of how people interpret risk, respond to official messages, and talk about responsible agencies (FEMA, 2020; Houston et al., 2015).

Prior work has shown that different stakeholders play distinct roles in these online spaces. Government agencies, public officials, and news organizations often act as authoritative sources whose messages can reduce uncertainty and counter misinformation (Andrews et al., 2016; Stieglitz et al., 2018; Tapia & Moore, 2014). At the same time, posts from affected individuals and community groups provide fine-grained local detail that is difficult to obtain through formal channels alone (Kogan et al., 2015; Starbird et al., 2010). Therefore, understanding how official stakeholders, and in particular public information officers (PIOs), interpret, prioritize, and act on social media content within this broader sociotechnical environment is essential for supporting crisis communication in practice.

### Public information officers and official crisis communication

Among official stakeholders on social media, public information officers (PIOs) play a central role in coordinating crisis messages and communicating with the public (FEMA, 2020; Tapia & Moore, 2014). Historically, PIOs have been described as *gatekeepers* who craft and disseminate one-way messages on behalf of their agencies (Martín et al., 2017). With the rise of social media, their role has expanded to that of *translators* or brokers who both convey official information and interpret, filter, and relay information from the public and other sources (Hughes & Palen, 2012).

Most crisis informatics work that examines official use of social media has concentrated on PIOs and communication staff in emergency management agencies or closely related organizations (Biglow & Marshall, 2023; Hughes & Palen, 2012; Hughes et al., 2014). Although related work has examined PIO communication and monitoring in other domains, such as public health, this broader range of agency settings remains less well documented (Avery, 2017; Lowrey et al., 2007). In agencies such as public health departments, transportation departments, fire departments, and city governments, PIO roles can differ substantially in responsibilities, available time, and resources: in some agencies, PIO work is a full-time position, while in others it is one part of a broader job description. These differences shape how PIOs use social media, what they prioritize, and how much capacity they have for activities beyond basic broadcasting, such as sustained social listening (Avery, 2017). Our study builds on this literature by examining PIOs' crisis communication work across several types of agencies within a shared regional context in the Mountain West.

### Social listening in crisis communication

Alongside posting, social listening has become a recommended part of PIOs' work on social media. FEMA's PIO guidance defines social listening as monitoring what people are saying online before and after posting in order to track community activity, rumors and misinformation, and information gaps that require follow-up (FEMA, 2020). It also highlights two main reasons for social listening: (1) identifying unmet operational needs and (2) gauging public perception of incident response and recovery efforts. Together, these two information needs provide a useful framework for thinking about how PIOs should attend to public information in practice.

Crisis informatics research has proposed many ways to extract crisis-relevant information from social media streams, often using machine learning to classify or rank posts. Existing work has focused mainly on information that serves operational needs, such as identifying relevant messages, damage reports, requests for help, or other content that contributes to situational awareness and humanitarian response (Alam et al., 2018, 2021; Imran et al., 2016; McCreadie et al., 2019, 2020; Olteanu et al., 2014, 2015). These methods are valuable for identifying operational needs and can potentially support PIOs when they need specific types of "actionable" information to include in official updates. However, it remains unclear to what extent these methods are available in forms that PIOs can directly use in practice (Avery, 2017; Hughes & Shah, 2016; Knox, 2023).

In comparison, tools that support the second task, understanding public perception, are far less developed. Recent quantitative approaches to identify posts that reflect public perception (Wang & Kogan, 2025a) have begun to address this gap, but scalable, practitioner-ready tools remain limited.

Because practitioner-ready tools remain limited, agencies often rely instead on more general-purpose social media management platforms or manual monitoring strategies (Houston et al., 2015; Reuter & Kaufhold, 2018). Existing tools may offer some support for monitoring social media content, but they often provide only limited support for perception-focused listening and may depend on predefined keywords or generic categories rather than crisis-specific or regionally grounded ones. As a result, prior work still leaves open how PIOs actually gauge and prioritize public perception in day-to-day social media work under organizational constraints.

## Public perception

Research on risk and crisis communication has long emphasized that people do not simply receive official messages; they interpret them through their perception (Demuth et al., 2018; Lindell & Perry, 2012). The Protective Action Decision Model, for example, highlights three core perception types that shape behavior in emergencies: threat perception, protective action perception, and perception of stakeholders (Lindell & Perry, 2012). These perceptions would shape whether people consider a situation as threatening, view recommended actions as feasible, or see official sources as credible.

Prior studies of crisis communication on social media have attempted to trace how these perceptual processes unfold in practice. Qualitative and mixed-methods work has shown how people talk about evolving risks, express emotions such as fear or anger, and respond to official updates and guidance online (Anderson et al., 2016; Demuth et al., 2018; Stowe et al., 2018). More recent quantitative work that identifies posts pertaining to public perception at scale (Wang & Kogan, 2025a), has started to track how people frame risk and react to different types of official messages (Wang & Kogan, 2025b). However, these quantitative approaches were limited compared with the large amount of work on operationally “actionable” information.

Although the literature explains why public perception is important in crisis communication, it remains less clear how PIOs actually gauge public perception in their work, how much they prioritize it relative to more immediate operational information, and what constraints shape that work. In this paper, we explore how PIOs currently try to gauge public perception, what constrains work in practice, and what these findings imply for tool support.

## METHODS

To understand how PIOs in different agencies use social media for crisis communication, we conducted semi-structured interviews with PIOs from government agencies in the Mountain West region of the United States. All participants were responsible for public communication on emergencies or disasters using social media. This single-region design across different agencies allows us to explore how organizational mandate and local hazard context shape PIOs’ objectives, priorities (including public perception), and work practices. We describe recruitment, consent, the interview protocol, and our analysis below. We report the study methods with attention to qualitative reporting details recommended by COREQ (Tong et al., 2007).

### Participants Recruitment

We used network-based recruitment to reach PIOs in the Mountain West whose roles include crisis communication on social media. A study flyer was distributed to eligible participants. The flyer described the study’s purpose (understanding how tools might support PIOs’ information work), the virtual interview format, and the expected duration (30–60 minutes). The interviewer/research team did not have prior personal relationships with participants before recruitment.

Recruitment was supported by a collaborating PIO in the state division of emergency management. The collaborator first participated in an interview and then assisted with recruitment by sharing the study flyer through (a) a State PIO Association mailing list and (b) a broader network of emergency-management PIOs. To minimize the possibility that potential participants would feel personally approached or pressured, the collaborator did not recruit individuals directly beyond distributing the flyer. Although the collaborator was professionally connected to some members of these networks, participation remained voluntary. Recruitment and interviews were conducted between October 2023 and April 2024. As PIOs often have demanding and unpredictable schedules, scheduling interviews proved challenging: several individuals who initially expressed interest were ultimately unable to participate because their obligations changed. Our collaborator re-sent the flyer in January 2024 to reach additional participants. Of the 12 individuals who expressed interest, seven were interviewed and five were unable to schedule or did not respond further.

The PIOs (Table 1) who participated were from a range of agencies, including state emergency management, a city fire department, city government, a county health department, a state insurance department, and the National Guard. This sample across agencies provides perspectives spanning immediate response, local incidents, public health emergencies, and long-term recovery.

### Consent

Before the interview, we sent each participant a digital consent form. All participants signed the form electronically in accordance with procedures approved by the University IRB. The consent process explained that participation was voluntary, that interviews would be audio-recorded with permission, and that identifying information would be removed from study materials.

## Semi-structured Interviews

We conducted seven semi-structured interviews with PIOs. With participants' consent, interviews were audio-recorded and conducted on Zoom. Interviews lasted 24–54 minutes (mean 40 minutes). The variation in length mainly reflected participants' limited availability: some could only schedule around 30 minutes, so in those cases we followed the planned questions more tightly and asked fewer improvised follow-up questions. These interviews were shorter but still provided sufficient material for our analysis.

The interview protocol was organized around questions on PIOs' roles and responsibilities and their use of social media. Together these questions covered three substantive areas: (1) role and primary duties, (2) collaboration with other practitioners, and (3) social media use for crisis communication. The full protocol is included in Appendix A.

We generated initial transcripts using Otter.ai and then manually reviewed and corrected them against the recordings.

## Data Analysis

We analyzed the cleaned transcripts in MaxQDA. Given the semi-structured interview format, we began with structural coding (Lungu, 2022) to organize the data by key procedural areas (e.g., role and duties, collaboration, social media use, challenges). We then added inductive subcodes to capture recurring concepts that emerged across interviews; excerpts could receive multiple codes when they addressed more than one topic.

Coding was conducted by the first author. The first author coded the first interview to develop an initial codebook, which was then reviewed with a supervisor and refined to clarify code definitions and boundaries. The first author subsequently coded the remaining interviews iteratively, updating the codebook as new patterns emerged. After the first four interviews, we held a second review meeting to merge overlapping codes and resolve ambiguities. To support transparency in the analytic process, we saved dated versions of the evolving codebook at key stages, including after the first interview and after the first four interviews.

Because this was a single-coder, iterative qualitative analysis, we did not have a formal intercoder reliability statistic. Instead, we supported analytic rigor through iterative codebook refinement, repeated review with a supervisor, and discussion-based resolution of coding ambiguities. Themes were reviewed and refined through discussion with the supervisor.

After coding was complete, we used affinity diagramming to synthesize higher-level themes by clustering coded excerpts and iteratively refining groupings through discussion. The resulting themes are reported in the Findings section.

## FINDINGS

The first category describes PIOs' goals for using social media across blue sky days and emergencies. The remaining three categories capture (1) what PIOs do on social media in practice, (2) practices that participants described as effective, and (3) the challenges they encounter. Together, these findings inform the design considerations discussed later in the paper.

### Goals for using social media

PIOs' goals for using social media show what they consider most important on these platforms. These goals differ between blue sky days and emergencies, as shown in Table 2.

**Table 1. Interview participants details. All participants are public information officers at government agencies. All participants actively use social media for crisis communication.**

ID	Department of Affiliation
P1	State Division of Emergency Management
P2	State Division of Emergency Management
P3	City Fire Department
P4	City Government
P5	County Health Department
P6	State Insurance Department
P7	National Guard

On blue sky days, PIOs use social media to promote emergency preparedness and increase public awareness of official sources. They also use it to build relationships, including strengthening trust, shaping how official accounts are perceived, and expanding their follower base.

During emergencies, priorities shift toward rapid, accurate incident updates that help the public understand risk and take protective actions, while also correcting misinformation. PIOs also use social media to support response operations by amplifying partner agencies' updates as well as to provide reassurance and emotional support to the public.

Across both contexts, these goals are pursued through posting, but the pace, scope, and responsiveness of communication differ. On blue sky days, posts are often planned in advance around department priorities, and listening is more limited and typically centered on reactions to agencies' own accounts. During emergencies, communication becomes more time-sensitive, and PIOs rely more actively on social listening to identify emerging questions, rumors, and information gaps and adjust communication accordingly.

### Work practices

PIOs' work practices describe how they use social media in routine duties and during emergencies. As shown in Table 3, we identified nine themes: two across contexts, three specific to blue sky days, and four specific to emergencies. Across these contexts, participants described differences not only in what they post, but also in how quickly they post, how broadly they monitor public response, and how they coordinate with other agencies.

#### General.

In general, PIOs in larger teams (P1, P2, P3, P6) described a formal review process, which is more critical during emergencies when accuracy is critical (**Theme 1**). Reviews often take longer when posts include photos or videos. In large-scale incidents, a Joint Information Center (JIC) or a virtual Joint Information System (JIS) can bring in additional staff to support review and verification. In contrast, individual PIOs (P4, P5, P7) typically described a light-weight process: they rely on informal content checks based on their own expertise and consult supervisors when unsure, rather than routing every post through a formal review procedure.

For social listening, some PIOs described monitoring public conversation as an important part of their work because it helps them understand what information the public is seeking, how official updates are being received, and whether rumors or misinformation are spreading (P1, P3) (**Theme 2**). For these participants, social listening directly informs what they post and how they frame messages.

Others treated monitoring as a secondary activity relative to producing timely and verified updates (P2, P4, P5, P7). They typically prioritized writing and clearing posts over sustained monitoring. Even when participants saw value in social listening, they reported barriers to doing it systematically, including limited funding or limited experience with specialized monitoring tools (P1, P2, P6, P7). Thus, social listening was either performed manually or achieved with the support of the rumor-control/monitoring unit during large-scale hazards. This variation became more apparent when participants described how monitoring differed between blue sky days and emergencies.

#### On blue sky days.

Participants generally described using the same core platforms on blue sky days as during emergencies, but with a lower posting frequency and less intensive monitoring. Most participants schedule blue-sky posts using tools such as Hootsuite or built-in platform schedulers. Posts are often planned weekly or monthly and reviewed before being scheduled (**Theme 3**). As P2 noted:

P2: Each month, I submit all the posts that I'm going to do for that month, and they're approved, and then I, I post them, we use HootSuite.

**Table 2. PIOs' goals on social media.**

Context	Goals
On Blue Sky Days	Increasing public awareness Improving public relations
During Emergencies	Sharing incident updates Supporting other departments and response operations Providing emotional support and mitigating negative emotions

**Table 3. Themes for PIOs' work practices on social media**

Context	Task	Theme
General	Posting	Theme 1. PIOs typically need content review before posting; larger teams use formal approval workflows, while individual PIOs rely on informal checks.
	Social Listening	Theme 2. PIOs use social listening to monitor public perception; for some, it becomes secondary under time and role constraints.
On Blue Sky Days	Posting	Theme 3. On blue sky days, PIOs pre-plan and schedule posts in advance, typically using scheduling tools or, in some cases, an assistant.
		Theme 4. On blue sky days, PIOs often post or reshare preparedness and prevention information; engagement may be low, but these posts support public awareness.
	Social Listening	Theme 5. On blue sky days, PIOs manually monitor engagement on their accounts to understand community interests and concerns.
During Emergencies	Posting	Theme 6. During emergencies, PIOs post incident updates and actionable information to raise risk awareness and support protective decision-making.
		Theme 7. During emergencies, PIOs in lead departments post key updates, while those of supporting departments amplify these messages by resharing them to reinforce public communication.
		Theme 8. During emergencies, PIOs post content that addresses public anxiety, fear, and mental health concerns.
	Social Listening	Theme 9. During emergencies, PIOs monitor engagement and gather questions across channels to understand affected community needs and guide timely responses and updates.

One exception was that when a PIO does not trust scheduling tools because of previous negative experiences; in these cases, he asks an assistant to handle scheduling the posts (P1):

P1: The person that works for me, she doesn't trust the scheduling feature. Sometimes they don't. And I've experienced the same thing. I'll try to, I'll try to schedule a post on Twitter, X. And it never went through, you know, so some of the platforms themselves have those features built in, but I haven't used them very often.

Several participants suggested that planning ahead helps avoid being purely reactive (P2, P3, P5).

In terms of content, PIOs typically post information pertaining to emergency preparedness or reshare materials from partner agencies such as the Division of Emergency Management (DEM) (**Theme 4**). Their priorities vary seasonally and by agency mandate (flu prevention, wildfire mitigation, etc.). PIOs drew on experience, supervisor's inputs, and departmental content guides, as P2 described maintaining recurring preparedness topics over multiple years:

P2: January, we cover shelter, and shelter, clothing and fire. February we do water.[...] So each month we cover one of these topics. Plus, we sprinkle in other things about making plans, getting kits, being informed, getting involved in your community, other things that, that people would be interested in with emergency preparedness

Participants also mentioned a persistent challenge: public interest in preparedness often rises only after an incident, making prevention messaging harder to sustain, as P6 mentioned that insurance related information was only being sought post-disaster.

For social listening, most PIOs described periodically checking comments and messages they received from the public, and responding as capacity permits (**Theme 5**) on blue sky days. The lower engagement volume makes it more feasible to monitor from mobile devices and write more individualized responses. However, after-hour inquiries often go unanswered until the next workday (P5). On blue sky days, listening was generally limited in scope and focused primarily on comments, direct messages, and other engagement tied to agencies' own accounts, rather than broader monitoring of public conversation, which is more common during emergencies.

**Table 4. Themes for practices PIOs described as effective on social media**

Context	Task	Theme
General	Posting	Theme 10. Limiting shared information to official agencies and NGOs helps preserve credibility and public trust.
		Theme 11. Using multiple platforms can help reach different audiences; depending on the situation, messages may be synchronized, rotated, or tailored by channel.
	Social Listening	Theme 12. Actively engaging with public comments helps build trust and reassure the public that concerns are acknowledged.
On Blue Sky Days	Posting	Theme 13. Reflecting on communication goals and areas for improvement helps refine long-term social media strategies.
During Emergencies	Posting	Theme 14. Transparent and objective incident communication requires preparing likely answers in advance and posting promptly.

### *During emergencies.*

During emergencies, PIOs would share fast-moving updates and protective-action information with photos or videos (**Theme 6**). Some also create dedicated web pages or FAQs to reduce repeated questions and provide a stable reference point. Participants also described posting more frequently than blue sky days.

When the emergency is large-scale, a JIC/JIS would be activated, and PIOs would coordinate communication across agencies: the incident-owning agency leads in posting updates to the public, while supporting agencies reshare and reinforce messages (P1, P2, P4) (**Theme 7**). Participants described similar coordination even without a formal JIC/JIS, with agencies routinely amplifying messages from DEM or other lead agencies (P6).

In addition to simply mirroring and amplifying the lead PIO's updates, several participants also described the importance of posting content to reduce fear and support community well-being, including mental health messages (**Theme 8**). Such posts reassure affected communities that their concerns are recognized and offer emotional support (P3). They also noted responding to comments on these posts showed their responsiveness and increased public trust. As P1 noted, reassurance-oriented content can receive substantial attention from locally affected audiences:

P1: In response to anxiety and fear that was caused by the earthquake we did a post, we did a thread about mental health, you know, mental health and well being and overcoming fear and anxiety and that thread, let's see here, think it was up into the tens of thousands.

Beyond what they posted, most of the participants discussed the importance of monitoring and receiving public questions through multiple channels (social media, email, and other apps) (**Theme 9**), which helps surface community needs and recurring confusion. Compared with blue sky days, participants described listening during emergencies as both more time-sensitive and broader in scope, extending beyond engagement on their own accounts to recurring questions, rumors, and information needs received across channels. However, the workload from multiple channels also increases steeply as incidents escalate, sometimes limiting their ability to reply in time.

### **Practices PIOs described as effective**

This section describes practices that participants presented as effective for communicating with the public in both routine operations and emergencies. Based on these participant-described practices, we identified five themes: three across contexts, one on blue sky days, and one during emergencies (Table 4).

#### *General.*

Participants reported that agency policies and public-sector norms could restrict them to only sharing information from official agencies or NGOs rather than private organizations, both to avoid perceived endorsement and to maintain credibility (**Theme 10**). An exception arises when they have formal outreach collaborations; in these cases, participants described sharing information through external channels such as local news or radio to expand reach (P2).

Beyond source selection, participants also described platform strategy as an important part of effective communication (**Theme 11**). This included both choosing platforms that were better suited to particular audiences and

deciding how consistently messages should be coordinated across platforms. Instagram was often described as more effective for reaching younger audiences than Facebook or X, while older adults were harder to reach online in general.

During urgent situations, several emphasized the need for consistent and synchronized messages to avoid delays or conflicting information and to maintain a continuous “timeline” across channels, as P3 noted:

P3: But it has to be consistent. If you start in the very beginning of the incident, putting it on all three channels, you have to continue throughout the entire longevity of the incident as well to keep that keep that timeline.

In contrast, some preferred to rotate content across platforms rather than duplicating the same post everywhere when there are no active incidents (P1, P2). Others treated platforms differently according to engagement patterns (Flickr for photo stories, Instagram for videos, Facebook for images, X for press conference updates, etc.) (P7).

Taken together, these accounts suggest that participants did not follow a single standardized approach to multi-platform crisis communication. Several also noted that they would expand their platform use overtime if time and resources allowed.

For social listening, participants described active engagement with public comments as an effective way to reinforce trust and show that concerns were heard (P1, P3, P4, P5) (**Theme 12**), which includes answering questions directly and redirecting inquiries to the appropriate agency when needed. When time is limited, participants described making judgment calls about which comments to respond to. Following their own experiences and expertise, they tend to prioritize substantive questions and comments from accounts they perceive as genuine rather than trolling (P7).

#### *On blue sky days.*

On blue sky days, participants described that periodic reflection on communication goals and areas of improvement was an effective way to refine their long-term social media strategies (**Theme 13**). For example, one participant, who was in their first year as a PIO (P4), described setting the communication goal of relationship-building with partner departments and becoming a trusted contact for public communication strongly benefits their long-term communication. This indicates that participants did not evaluate effectiveness only in terms of immediate information sharing, but also in terms of whether their communication was strengthening trust, visibility, and working relationships over time.

#### *During emergencies.*

During emergencies, participants described transparency and objectivity in incident communication as especially important, while noting that communication strategies might also change over the life cycle of an incident (**Theme 14**). At the early stage, they focused on confirming information and anticipating likely public questions before posting, sometimes waiting briefly for additional details from partner departments. P4 described how such delays can sometimes be interpreted as withholding by the public:

P4: Because those questions came in so fast. And if you let them sit for a little while, I mean, it could be like 15-20 minutes, that is too long for them, you may think that the city is hiding stuff.

As incidents unfolded, the participants described aiming to provide continuing updates and to clearly distinguish what is known from what remains uncertain, while communicating what response actions are underway (P3). Some also described creating templates or reusable materials based on past incidents to speed up future communication (P2, P4).

### **Needs and challenges**

Participants described a set of constraints that shape what they can do on social media in both routine work and emergencies. We identified ten themes related to needs and challenges: nine across contexts and one specific to emergency situations (Table 5).

**Table 5. Themes for PIOs' needs and challenges on social media**

Context	Task	Theme
General	Posting	Theme 15. PIOs often lack official social media guidelines (e.g., a written handbook); while establishing guidelines is important, it is viewed as less urgent than day-to-day public communication.
		Theme 16. PIOs face persistent time constraints because social media management is only one part of their broader responsibilities.
		Theme 17. PIOs struggle with managing negative opinions and hostile interactions on social media.
		Theme 18. State restrictions on certain platforms (e.g., TikTok) can make it harder for PIOs to reach audiences on those channels and may affect how official communication is perceived.
		Theme 19. PIOs view growing reach and followers as important, but increased visibility can also cause backlash and unwanted engagement.
		Theme 20. PIOs find it difficult to keep pace with the fast-changing social media landscape.
		Theme 21. PIOs face barriers to hiring dedicated social media staff or adopting assistive tools due to legislative processes and organizational regulations.
		Theme 22. PIOs consider AI support more acceptable for bounded, back-end tasks than for generating public-facing messages.
	Social Listening	Theme 23. PIOs face challenges automating social listening and want improved ways to monitor issues such as misinformation, trolling, public perception, and evolving community needs.
During Emergencies	Posting	Theme 24. During emergencies, PIOs report that regulatory compliance (e.g., HIPAA) adds verification and review steps, which can delay public updates.

### General.

Most of the participants reported that their agencies do not have written social media guidelines or a formal handbook (**Theme 15**). P7 was an exception, describing directives from the Department of Defense and the National Guard Bureau. For the rest, they relied on informal norms shaped by prior experience and supervisor feedback. Participants noted that the development of formal guidance requires coordination between departments and is often deprioritized compared to immediate needs in public communication.

In addition to the time constraints for creating official guidelines, many participants also lacked time to do consistent social media work due to concurrent responsibilities such as administrative tasks, events, and public outreach (**Theme 16**). As a result, some posted less frequently or relied more on resharing content from partner agencies rather than creating original content (P6).

Participants also reported the challenges they faced when sharing information with the public, including negative reactions from the public regardless of message quality or intent (**Theme 17**). Several pointed to the COVID-19 period as an intensifying polarization around risk communication and protective actions (P5), including criticism shaped by a broader politically polarized environment. Participants described the challenge of interpreting these reactions while still maintaining an objective tone in public communication.

Participants also reported the challenges in reaching the audience on specific platforms due to policy restrictions (**Theme 18**). Restrictions on certain platforms can create communication gaps when public attention shifts to those channels, making authoritative updates harder to find and potentially reducing the perceived accessibility of official communication.

On the platforms participants have access to, they also described a tension between expanding their audience and managing the additional attention that comes with greater visibility (**Theme 19**). Some noted that limited time and resources made it difficult to expand their reach (P2, P4). As a result, official accounts still reached only a small portion of the local population (P4). Others described how heightened outreach and repeated preventive messages during COVID-19 coincided with more hostile or inappropriate comments (P5), making public engagement feel more difficult or more exposed to backlash.

In addition, as platforms change, participants also described difficulty keeping up with changes in platform features, norms, and perceived reliability (**Theme 20**). Some reduced activity on particular platforms due to concerns about bot activity or reduced confidence that posts were reaching the intended public. These experiences varied between agencies and shaped the channels PIOs prioritized.

To help reduce the strain on limited capacity, several participants expressed a desire to hire staff dedicated to managing social media but also emphasized that adding personnel is challenging (**Theme 21**). Participants described the process as slow and uncertain, often requiring new role definitions, approval for additional full-time equivalent (FTE), and long waiting periods (P7).

None of the participants reported using generative AI at the time of the interviews, but they also mentioned that there were no policies explicitly prohibiting it (**Theme 22**). However, P2 worried that relying on AI for message writing could dilute the professional judgment and human presence that they viewed as central to crisis communication.

A challenge many participants face was specific to social listening, with most PIOs describing social listening as largely manual, or only supported intermittently through rumor control or monitoring functions when a Joint Information Center (JIC) is activated (**Theme 23**). Participants noted that monitoring is often keyword-driven and incident-specific, requiring ongoing adjustment to what people are actually saying. They also emphasized that while crisis informatics research offers classification schemes and ontologies for social media, those approaches are not always available in real time or in forms that fit their workflows. More broadly, participants described a gap between research progress and what they have access to during emergencies.

#### *During emergencies.*

Participants described how regulations could shape emergency communication, especially when sharing incident-related updates (**Theme 24**). For example, HIPAA can restrict what public health PIOs can disclose without consent, limiting their ability to answer some questions during outbreaks. Participants emphasized that these constraints are necessary to protect privacy and maintain trust, but can also slow or narrow what information is communicated.

Taken together, these themes highlight the constraints that shape PIOs' social media work and inform the design considerations discussed in the next section and in the Discussion.

## DESIGN CONSIDERATIONS

The findings point to several places where tool support could reduce workload and make important practices easier to sustain. In this section, we translate those findings into a set of design considerations grounded in PIOs' reported goals, work practices, participant-described effective practices, and challenges (**Themes 1–24**). Rather than proposing a complete or validated system, we outline modular directions for support, some of which resemble extensions of existing social media management tools, while others are more exploratory and would require further design, implementation, and evaluation.

### **On blue sky days.**

Table 6 summarizes the design considerations that support PIOs' goals for using social media on blue sky days, namely increasing public awareness and improving public relations.

On blue sky days, PIOs described using social media to keep emergency preparedness information visible and reinforce official accounts as reliable sources (**Themes 3, 4**). Related content is often planned in advance and draws on recurring materials, such as content guides and locally relevant resources. This points to two useful forms of support for blue-sky communication. **Scheduling pre-planning** could support recurring preparedness content, while **resource linking (links/docs)** could help PIOs reuse local materials such as FAQs, partner resources, and preparedness pages.

**Table 6. Design considerations that support goals for using social media on blue sky days.**

<b>Goal for using social media</b>	<b>Design considerations</b>
Increasing public awareness	Scheduling & pre-planning
	Resource linking (links/docs)
Improving public relations	AI-assisted after-hours replies

**Table 7. Design considerations that support goals for using social media during emergencies.**

Goal for using social media	Design considerations
Sharing incident updates	Keyword/hashtag suggestion
	Near-real-time classification or ranking
	Completeness & Q&A check
	Genuine-user filtering
	Message clustering
Supporting other departments and response operations	Priority account following
	Time-bounded cross-platform pinning
Providing emotional support and mitigating negative emotions	Perception & sentiment monitoring

Participants also described relationship-building as an ongoing objective, but noted that engagement is difficult to sustain when comments or messages arrive after hours (**Theme 5**). One possible design direction is **AI-assisted after-hours replies**: a bounded after-hours acknowledgment function that is clearly labeled as automated, limited to routine inquiries, and indicates when a PIO will follow up. This would require careful evaluation to ensure that it supports responsiveness without displacing human judgment or creating unrealistic expectations of immediacy.

### During emergencies.

Table 7 summarizes design considerations that respond to three emergency-period goals described by participants: sharing incident updates, supporting other departments and response operations, and providing emotional support to affected communities. These considerations fall into three broad areas: identifying and organizing incoming information, preparing and coordinating public updates, and supporting perception-aware communication. Some of these design considerations, such as **Priority account following** and **Time-bounded cross-platform pinning**, are more closely aligned with capabilities already available in existing social media management tools. **Perception sentiment monitoring** is more mixed: sentiment analysis is already available in some existing tools, but perception-focused monitoring remains less developed and more exploratory. In contrast, although prior research has developed approaches for **Near-real-time classification or ranking**, such support does not yet appear to be widely available in tools that participants are aware of.

For emergency communication, participants described the need to quickly locate relevant public information, identify repeated questions, and distinguish meaningful engagement from noise in order to produce clear, timely updates (**Themes 6, 9, 12, 23**). **Keyword/hashtag suggestion**, grounded in crisis lexicons (Olteanu et al., 2014) and incident-specific term extraction (Stewart et al., 2020), would help reduce the overhead of monitoring when time is scarce. **Near-real-time classification or ranking** of posts by information type (Alam et al., 2018, 2021; Purohit et al., 2020) and filtering content by genuine users (**Genuine-user filtering**) would help PIOs prioritize meaningful questions and concerns. In addition, **Message clustering** would be useful for grouping similar questions while preserving each message's platform and source. Before posting, **Completeness & Q&A check** could help flag missing key details and highlight likely follow-up questions (**Theme 14**), supporting clearer and more timely updates. Several of these considerations build on existing crisis informatics work.

To support other departments and response operations (**Theme 7**), participants described amplifying messages from incident-owning agencies and key collaborators. The ability to prioritize content by specific accounts (**Priority account following**) would help track updates from designated accounts or response partners. In addition, the ability to pin high-priority content across platforms for a specified time window (**Time-bounded cross-platform pinning**) could help ensure that the most important and active information remains emphasized during fast-moving incidents. These considerations are closer to extensions of existing posting and coordination workflows than to entirely new communication systems.

Finally, to provide emotional support and mitigate negative emotions (**Theme 8**), participants described using social media to acknowledge public fear, anxiety, and frustration and to adjust messages based on how the situation was being interpreted. **Perception & sentiment monitoring** could help identify emerging concerns among affected audiences and determine when public reassurance or information clarification may be needed. Such support could draw on stance and opinion mining (AlDayel & Magdy, 2021; Küçük & Can, 2022) and lexicon-based approaches to emotional and cognitive language (Pennebaker et al., 2007, 2015), while presenting results in forms that are understandable and usable to practitioners.

Several of these considerations, especially those involving real-time automation or natural language processing (NLP)-based monitoring, would require further prototyping and evaluation in practice.

**Table 8. Design considerations useful across contexts.**

<b>Design considerations</b>
Review request routing
Automated content checks
Cross-platform posting
External-platform publishing
Configurable platform integration
Multi-target monitoring (needs/misinfo/trolls/perception)

### General.

Beyond blue sky days and active incidents, participants also described recurring needs across contexts (Table 8). First, posting often involves some form of internal check or approval (**Theme 1**). Thus the ability to direct drafts to the appropriate reviewer(s) (**Review request routing**) and a first-pass check for common issues such as missing details or possible policy conflicts in the message before human review (**Automated content checks**) would support the review process. Consistent with **Theme 22**, these considerations are intended to keep PIOs in control of public-facing wording while using bounded automation to reduce overhead in review workflows.

Second, participants repeatedly described the practical challenge of maintaining reach across multiple platforms while adapting to local policies and platform constraints (**Themes 11, 18, 20**). The ability to manage content across platforms (**Cross-platform posting, External-platform publishing, and Configurable platform integration**) would help agencies coordinate posting across selected platforms, extend reach when direct access is limited, and adapt platform use to local policy and organizational context.

Finally, participants described social listening as involving multiple targets, including misinformation, trolling, public perception, and community needs, yet lacked automation that works in fast-moving situations (**Themes 2, 9, 23**). This suggests the need for **Multi-target monitoring (needs/misinformation/trolls/perception)**. Such support would require integrating multiple NLP and machine-learning approaches and iterating with practitioners to ensure that outputs match operational use (Alam et al., 2018, 2021; Purohit et al., 2020; Wang & Kogan, 2025a, 2025b). If developed and evaluated successfully, it could help make social listening more sustainable before and after posting by surfacing rumors, information gaps, and changing public concerns (FEMA, 2020).

## DISCUSSION

Social media has become an essential part of how public agencies communicate, both on blue sky days and during emergencies, but prior work has paid less attention to blue-sky day communication. It has also given less sustained attention to perception-focused social listening and to PIOs' crisis communication across emergency management and other government agencies. Through our interview findings and the resulting design considerations, we explored how PIOs in the Mountain West use social media for crisis communication across several types of government agencies. Our findings suggest that while PIOs share core responsibilities, how they inform the public, support operations, listen to concerns, and offer reassurance varies with agency mandate, available time, and available support. The remainder of this section considers what these findings imply for understanding PIO roles across agencies, for making social listening more operationally feasible, and for identifying bounded forms of automation that align with PIOs' constraints.

### Different responsibilities of PIOs in crisis communication

PIOs held different roles within their agencies, and these differences shaped how they used social media for crisis communication. For some participants, PIO duties were only one of their concurrent responsibilities. With limited time, they prioritized timely and accurate updates and did relatively little social listening. Their posts were typically guided by departmental content guides, information from partner agencies, or informal rules built from prior incidents. For these PIOs, social media functioned primarily as a channel to ensure that credible information reached the public.

In contrast, the participants whose primary responsibility was to serve as the agency's PIO described a wider set of practices. In addition to disseminating updates, they routinely checked public conversations before and after posting to understand information needs, emerging concerns, and gaps or misunderstandings. This listening shaped both what they posted and how they framed it, because they could ground messages in what people were already asking and saying. In general, these patterns suggest that role structure and available time strongly influence

whether social media use remains largely one-way or supports more two-way listening-informed communication. More broadly, these patterns suggest that whether social listening becomes part of routine crisis communication depends not only on individual priorities, but also on how agencies define the PIO role and allocate time and personnel to communication tasks. Because our study is based on a small multi-agency sample rather than a formal comparative setting, we treat these differences as indications of variation in practice across agency contexts rather than as definitive cross-agency comparisons.

### **Social listening and public perception as under-supported work**

These role-based differences help explain why social listening, although widely valued, remains difficult to sustain in practice. Several PIOs in our study described social listening as important for communicating effectively but rarely framed it as a primary objective of social media use. Instead, they described it as work they do when time allows, to surface information that may not reach them through formal channels. In practice, their listening focused on multiple information types including misinformation, trolling, questions and needs from the public, and cues about how people perceive events and react to official updates. These signals can directly shape posting by helping PIOs decide what to address, how to frame messages, and when additional clarification is needed. Our findings also suggest that this challenge is not uniform across contexts: on blue sky days, listening was usually narrower and tied to agencies' own accounts, whereas during emergencies participants described a broader need to monitor questions, rumors, and information needs across channels.

Within this broader set of signals, public perception is particularly consequential because it reflects how communication is received and whether messages are building or eroding trust. Some participants learned about perception through a Joint Information Center (JIC), in which monitoring staff could provide summarization. Others relied primarily on what they could observe in their own accounts, such as comments and other engagements, as a partial proxy. However, participants also noted that these online signals were often difficult to use as direct indicators of the perception of the affected population, because it was not always possible to distinguish posts by people in the affected area from those by broader online audiences.

As a result, a full understanding of public perception often requires listening beyond a single account's followers and attending more directly to posts from affected communities. However, doing so requires sustained social listening, which participants often lacked the time, tools, or technical support to carry out systematically, especially during high-tempo incidents. Together, these accounts suggest that perception-focused listening remains important in principle, but difficult to operationalize in day-to-day practice.

### **Blue-sky communication as under-examined work**

Much crisis informatics research emphasizes social media use during emergencies and in the immediate aftermath of disasters. Our interviews suggest this emphasis captures only part of PIOs' work. Participants described a substantial share of their routine social media labor occurring on "blue sky" days, when there is no active incident. In these periods, they focus on preparedness communication and on maintaining relationships with their communities—work they often viewed as foundational, because it shapes whether residents know where to look for credible information and how they interpret guidance once a crisis begins. These accounts suggest that blue-sky communication is not separate from crisis communication, but part of the longer-term work that makes emergency communication more credible when incidents occur.

At the same time, blue-sky communication presents distinct challenges. PIOs speak to wide audiences, many of whom avoid thinking about emergencies until they feel an immediate risk. Several participants noted that interest in preparedness often spikes only after a damaging event, when preventive messaging is no longer actionable in the same way. These accounts suggest that long-term preparedness messaging and relationship-building, which is central to PIOs' practice, remain comparatively under-examined in crisis informatics, even though they plausibly influence the effectiveness of emergency-time communication. Design support for crisis communication should therefore address not only high-tempo incident periods but also the slower, sustained work of planning, scheduling, and maintaining visibility on blue-sky days.

### **Attitudes towards evolving technologies and AI**

Participants distinguished between workflow technologies that reduce overhead and generative systems that might shape public-facing language. This distinction is important because commercial social media management platforms increasingly incorporate AI-assisted capabilities, including post drafting/refinement and sentiment-oriented listening or analytics. Hootsuite, for example, currently advertises AI-assisted writing and refinement tools such

as OwlyWriter AI/OwlyGPT, alongside sentiment analysis and social listening capabilities (Hootsuite, 2026a, 2026b). Yet our interviews suggest that the practical question for PIOs is not simply whether AI exists in current platforms, but which forms of automation fit crisis communication work without undermining professional judgment, accountability, and message ownership.

Participants were most cautious about systems that would draft or shape public-facing messages on their behalf. One PIO described message creation as a core professional responsibility and worried that AI-written content could weaken the human presence and accountability behind public trust. At the time of our interviews, none of the participants reported using generative AI in routine communication work, even when they did not identify a specific policy prohibiting it, suggesting that perceived risks, not only formal rules, shape technology adoption. At the same time, this caution was not absolute. Some participants were more open to narrowly scoped, clearly labeled automation for routine situations, especially when it did not replace human judgment over substantive public communication.

Taken together, these accounts support a bounded view of appropriate AI use in crisis communication. Participants overall were more comfortable with AI for background support—such as monitoring, prioritization, summarizing questions for review, or flagging possible issues—than with systems that generate public-facing language. More broadly, this suggests that the central design question is not how much AI to introduce into public-sector communication, but how to constrain automation so that it reduces workload while preserving human control over what the agency says publicly.

### Design directions for bounded automation

This study points to a modular approach to tool support for posting, social listening, and cross-agency coordination that does not replace PIO judgment. Rather than a single monolithic system, the implications of this study suggest bounded forms of automation that can be adopted incrementally and configured to fit different agency mandates, staffing levels, and policy environments. This aligns with participants' preference for back-end support that reduces overhead while keeping public-facing communication under human control (**Theme 22**).

One design direction is tighter workflow integration across channels. Many of the considerations identified in this paper, such as **Cross-platform posting**, **Priority account following**, **Time-bounded cross-platform pinning**, and **Review request routing**, are best understood as extensions of existing social media management and coordination workflows rather than entirely new systems. In practice, this implies support for acting across established accounts, routing content for review when approvals are required, and maintaining logs of what was posted or shared, by whom, and where. Where platform use is restricted on agency devices, such support would need to be developed with agency IT and policy teams so that it supports compliance rather than working around it. More broadly, the key design question is not whether automation can be added to social media management tools, but which forms of automation fit PIO workflows without weakening accountability for public-facing communication.

A second design direction is bounded decision support that helps PIOs manage information overload without shifting communication authority away from them. Several considerations, such as **Keyword/hashtag suggestion**, **Near-real-time classification or ranking**, and **Automated content checks**, are most defensible when framed as support for noticing, organizing, and reviewing information rather than generating public-facing language. These bounded roles also imply the need for human oversight, transparent logs, and explicit approval points to reduce risks associated with automated support. In this sense, automation can help PIOs prioritize signals, prepare more complete updates, and streamline review, while leaving message ownership and publication decisions with the agency.

This points to a bounded model of automation in crisis communication. More routine and back-end uses—such as monitoring support, grouping recurring questions, checking drafts against existing guidance, or clearly labeled acknowledgments of routine after-hours inquiries—appear more compatible with participants' concerns than systems that draft or decide public-facing messages on behalf of the agency. Keeping automation in this bounded role would require governance mechanisms as well as technical design, including transparent logs, explicit human approval points before publication, and role-based permissions that prevent autonomous posting. A practical deployment strategy would therefore begin with these bounded, review-first functions and only later expand based on local governance practices and operational experience.

Finally, bounded automation will only be useful if it fits into PIOs' daily work rather than adding another layer of coordination burden. Even when implemented as separate components behind the scenes, such support should be organized around common tasks—preparing an update, routing it for review, posting or resharing it, and monitoring public response—so that tools align with existing workflows instead of competing with them.

## Conclusion

Returning to our research questions, this study shows that PIOs use social media not only to share incident updates, but also to build public awareness, support partner agencies, provide reassurance, and maintain relationships with their communities across blue sky days and emergencies. It also shows that social listening is valued but unevenly sustained in practice: participants described using it to monitor questions, rumors, misinformation, public needs, and reactions to official messaging, yet this work was often constrained by limited time, staffing, tools, and organizational support. Finally, public perception emerged as an important but under-supported part of social media work. Participants viewed it as consequential for trust, reassurance, and message adjustment, but often lacked systematic ways to monitor it beyond engagement on their own accounts or limited support from rumor-control or monitoring units.

Taken together, these findings suggest that crisis communication on social media is shaped not only by the immediate demands of emergencies, but also by role structure, agency context, and the slower work of blue-sky communication. They further suggest that useful tool support should focus on bounded automation that helps PIOs manage monitoring, review, coordination, and information overload while preserving human control over public-facing communication.

## Limitations

This study explores how PIOs use social media for crisis communication and uses these accounts to derive design considerations for possible tool support. Like any qualitative study, it has several limitations.

First, the number of participants is small. Despite collaborating with a local PIO to distribute the recruitment flyer, many PIOs had limited availability, and several interested individuals were unable to participate because of changing obligations. As a result, our findings reflect the perspectives of seven participants and should be interpreted as exploratory rather than representative. Our recruitment approach may also introduce selection effects, as participants who volunteered may have been more engaged with professional networks or social media work than others.

Second, the study focused on PIOs working in the Mountain West. The themes and design considerations we identify are shaped by this regional hazard context and may not transfer directly to regions with different hazard profiles or communication environments. Extending this work would require examining whether these patterns hold, or need adaptation, in other geographic settings.

Third, participants held PIO roles across different agencies, and our analysis centers the priorities and constraints of public-facing communication work. Other emergency management roles, such as operational response or field coordination, may prioritize different information types and may place less emphasis on perception- or engagement-oriented needs. Although the study includes participants from multiple agencies, it is not designed as a formal comparative analysis across agency types; rather, the multi-agency sample is intended to surface variation in practice across agency contexts.

Fourth, our data come from interviews, which capture participants' accounts of their practices rather than direct observation of day-to-day workflows. In addition, the transcripts were coded by a single researcher. Although the coding process included iterative codebook refinement and supervisory review, the absence of independent double-coding may have limited the consistency checks available in the analysis. Future work could triangulate these findings with additional data sources, such as content analysis of posts, workflow artifacts, or observational studies.

Finally, interviews were conducted between late 2023 and early 2024. Given rapid shifts in platform policies, social media management tools, and attitudes toward AI-supported communication, these findings represent a snapshot during an early stage of adoption and debate. Future work could revisit these questions through longitudinal studies and participatory prototyping with PIOs.

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## APPENDIX A: INTERVIEW PROTOCOLS

The interview guide was organized into two sections (General Task and Social Media), which together covered three substantive areas: (1) role and primary duties, (2) collaboration with other practitioners, and (3) social media use for crisis communication.

### General Task

- [*Role/duties*] Are you a public information officer?
- [*Role/duties*] What is the primary duty of your work (AS a PIO)?
  - Write notes on different parts and what we are interested in.
- [*Role/duties*] Could you walk through your daily duty? On a regular basis AND during an emergency (incident)?
  - Be prepared for more details from this part.
- [*Role/duties*] What kind of emergencies or local incidents have you dealt with?
- [*Collaboration*] What organizations or agencies do you work with for your work as a PIO on a regular basis? What about during an emergency or local incident?
  - Other agencies? First responders? Institutions? Volunteers (VOST)? VOAD? (Joint Information Centers (JIC)? Emergency Operations Center (EOC)? Other?) Media?
  - Do you receive information from them? What kind? Do you receive information from other people? Why did you decide to work with them? Do you trust their information?
  - Do you share information with them?
- [*Collaboration*] Do you work with regular people who are not public officials or part of the government? (volunteers?)
  - Do you receive information from regular people? How do you decide whether the information can be trusted?

## Social Media

- [Social media use] Do you use social media platforms in your work as a PIO?
  - What is your primary goal with social media or what do you want to achieve with the use of social media?
  - If you are using social media platforms, what are the major platforms you use for your work?
  - Do you use social media to communicate with the public or for internal use within the government?
  - Do you use social media platforms differently on a regular basis and during an incident?
  - Do you have a specific handbook or guideline for your work in terms of using social media?
  - What are the major challenges you are facing using social media?
    - \* Different choices of platforms
    - \* Information overload
    - \* Rumor control
    - \* Technical issues
    - \* A lack of a whole community approach to messaging
    - \* Capacity issues
  - Do you use media for receiving information OR posting content OR both?
    - \* If trying to get information from the public, what information are you seeking?
    - \* Do you do more in the preparation period? Planning? Or in the Response or Recovery period?
    - \* Public perception OR operational information OR both OR anything else
    - \* What happens to questions brought up by people on social media
  - Do you use any tools to assist your work on social media?
    - \* If so, what tools are you using for different aspects of your work with social media (posting, getting information)? What are the challenges you face using those tools?
    - \* What are the major challenges?
  - Do you see a change in social media usage? Any signals from colleagues? Collaborators? Public?
    - \* Does this affect your perception/trust of social media platforms?
    - \* You might hear about the rules of Twitter API change. Official channels cannot produce automated messaging. Rules also change for verified users. Does that affect your trust? Are you going to change your usage of social media?
    - \* Do you think this would affect regular people? If so, how? Why do you think so?
    - \* API change due Facebook-Cambridge Analytica data scandal in 2018.
- [Social media use] If not social media, why not?
  - In your work, how often do you interact with the public?
  - What about other government or non-government organizations?
  - What are the major issues?
  - Do you use traditional media?
    - \* If so, how do you announce information to the public?
    - \* How do you get information from the public?
  - Are you interested in other ways to communicate with the public? Why OR Why not?