# Region 3 Center for Public Health Preparedness and Response (PHPR)

## Year 1 Intervention Evaluation Report

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**Pillar:** Communication and Community Engagement

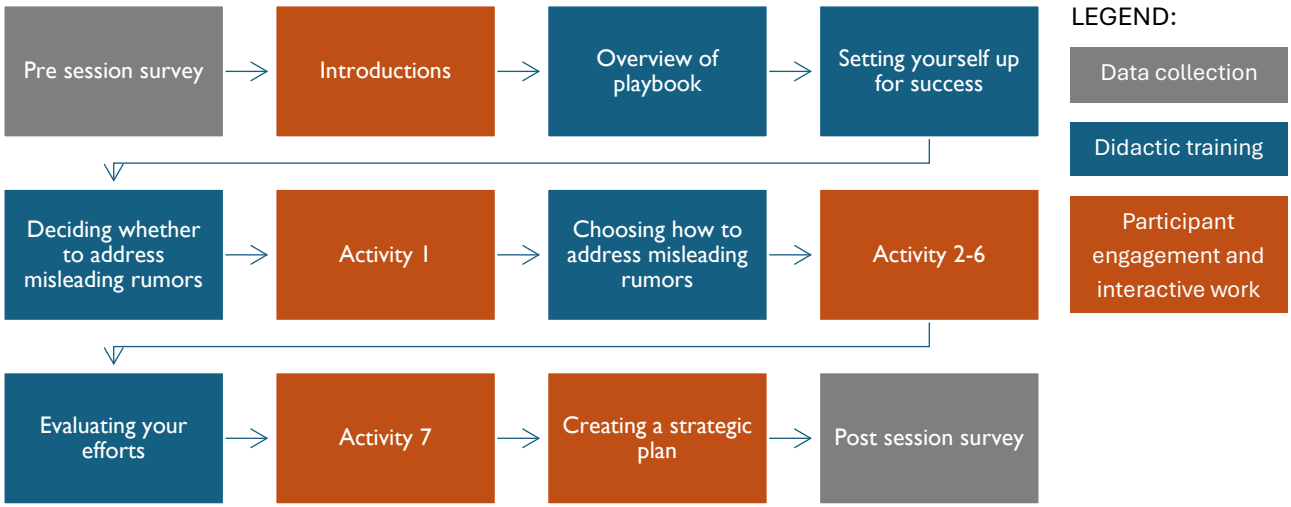
This report discusses findings from the evaluation of a communications intervention implemented in Region 3 during Year 1 of the Region 3 PHPR Center. An Appendix has been provided at the end of the report to show findings from the full sample of sessions and participants (including those outside Region 3).

## INTRODUCTION

**Strategy or Intervention:** Develop a strategic plan to address misleading health rumors

**Intervention Description:** We organized interactive 1.5 hour strategic planning sessions with state and county health department (HD) personnel involved in communications work, where attendees learned how to counter rumors (applying concepts from the Practical Playbook for Addressing Health Rumors) and worked together to develop draft strategic plans to counter at least one rumor that undermines public health preparedness and response in their community. Following each session, participants were asked to finalize their strategic plan(s), which could incorporate a constellation of interventions appropriate for participants' settings, and implement them over the course of 3 months. We provided technical assistance to teams upon request.

Each strategic planning session followed a set format:



**Intervention Implementation:** We implemented eight strategic planning sessions in Region 3 with a total of 99 attendees[1], as shown in Table 1. Details and evaluation results for a broader sample of sessions, including those conducted outside Region 3 (participant n=240) are available in the Appendix (Table 7). We conducted two pilot sessions to test and improve our data collection instruments and session design, one of which was in Region 3 (Howard County, MD). Then, we conducted seven more sessions in Region 3 (MD and VA). Four were topic-specific sessions on measles, highly pathogenic avian influenza, water-borne diseases, and school immunization, another three were HD-specific general sessions for Carroll County (MD), Eastern Shore counties (MD), and City of Philadelphia (PA).

*Table 1. Details about sessions completed to date in Region 3*

| Session | Topic | Participating HDs | # attendees | Mode |
|---|---|---|---|---|
| **1** | General | Howard County, MD **(Pilot)** | 39 | In-person |
| **2** | Measles | MD (Frederick, Dorchester, Worcester, and Washington counties) and VA (Virginia Department of Health, Loudon County, Chesterfield Health District, Central Shenandoah Health District) | 11 | Virtual |
| **3** | Highly pathogenic avian influenza | MD (Harford County) and VA (Virginia Department of Health and Richmond and Henrico Health Districts) | 5 | Virtual |
| **4** | Water-borne diseases | Virginia Department of Health | 3 | Virtual |
| **5** | School immunization | VA (Virginia Department of Health, Chesterfield Health District, Roanoke City & Alleghany Health Districts) | 8 | Virtual |
| **6** | General | Carroll County, MD | 11 | Virtual |
| **7** | General | MD eastern shore counties (Caroline, Dorchester, Kent, Talbot, Queen Anne's) | 7 | In-person |
| **8** | General | City of Philadelphia, PA | 15 | In-person |

We recruited session participants (leadership, communications personnel, PHEP personnel, trainees and/or partners, etc.) in a targeted manner via outreach to local and state HDs in Region 3. Our team worked closely with HD points of contact who identified session participants, coordinated their participation, and supported evaluation. Strategic

[1] Some participants attended multiple strategic planning sessions

planning sessions were well received and consistently involved enthusiastic engagement from participants. Following sessions, we periodically followed-up with participants and points of contact to offer technical assistance with implementing their strategic plans. Participants expressed that operational realities of their role were a barrier to finalizing and implementing their plans; however, they affirmed the value of participating in sessions, using learnings to prompt future action, improvements in their way of thinking about rumor management, and their interest in pursuing technical assistance in the future.

## EVALUATION PLAN

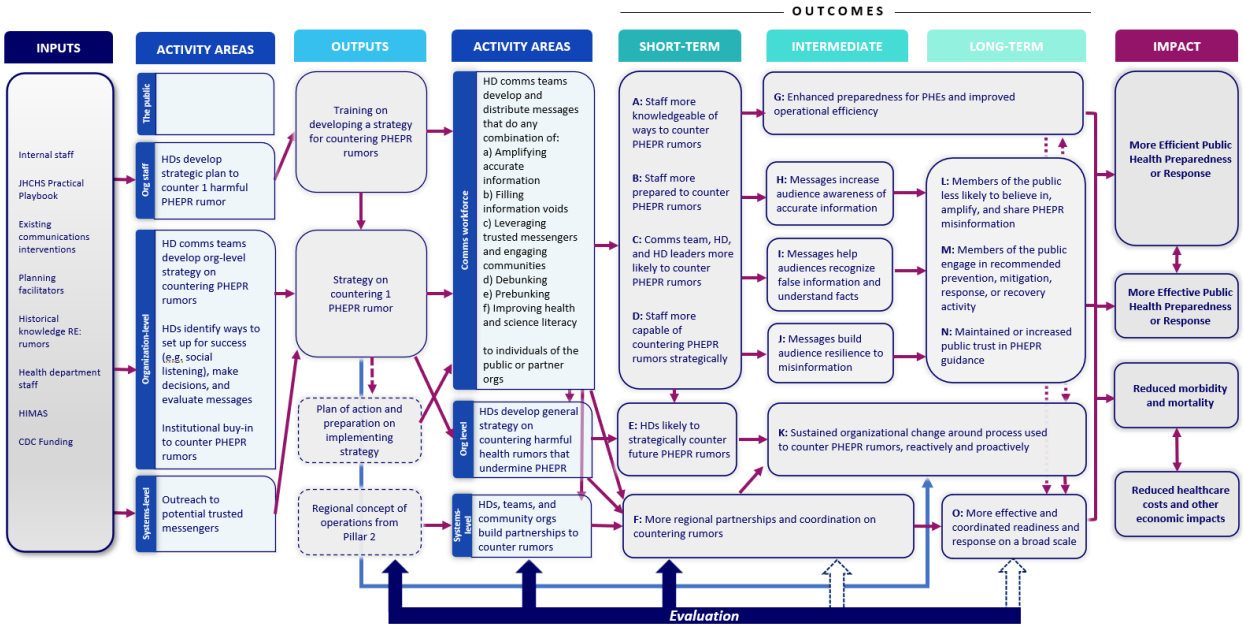
**Intervention Objective:** Develop and pilot an interactive session to help public health practitioners design and implement a strategic plan for countering at least one harmful misleading rumor that undermines public health emergency preparedness and response (PHEPR) during public health emergencies in Region 3. The strategic planning session will equip practitioners in at least two communities with rumor management strategies.

We met this objective by 1) developing and piloting 8 interactive sessions, and 2) equipping practitioners in 19 Region 3 communities (state & local HDs, counties, cities, municipalities, and health districts) with strategies to counter harmful health rumors.

**Evaluation Question:** Does implementing a strategy to address harmful health rumors help improve public health response to harmful health rumors that may hinder PHEPR?

The logic model in Figure 1 was used to guide our evaluation.

*Figure 1. Intervention logic model*



**Evaluation Metrics:** We measured changes to session participants' knowledge, self-assessed capabilities, and behaviors over the course of the intervention. Operational realities of HD personnel's day-to-day work influenced the relevance of these indicators. During the pilot period, we added indicators to more realistically align with participants' ability to counter rumors in their roles, which can be impacted by internal factors like capacity limitations and organizational constraints, and external factors like changes to funding and the public health landscape. Thus, proxy metrics assessing intent and preparedness to counter rumors were prioritized, as shown in Figure 1. Anticipated outcomes from this intervention included:

A. Staff more knowledgeable of ways to counter PHEPR rumors*
B. Staff more prepared to counter PHEPR rumors*
C. Communication team, HD, and HD leaders more likely to counter PHEPR rumors*
D. Staff more capable of countering PHEPR rumors strategically*
E. HDs likely to strategically counter future PHEPR rumors*
F. More regional partnerships and coordination on countering rumors*
G. Enhanced preparedness for public health emergencies (PHEs) and improved operational efficiency*
H. Messages increase audience awareness of accurate information
I. Messages help audiences recognize false information and understand facts
J. Messages build audience resilience to misinformation
K. Sustained organizational change around process used to counter PHEPR rumors, reactively and proactively*
L. Members of the public less likely to believe in, amplify, and share PHEPR misinformation
M. Members of the public engage in recommended prevention, mitigation, response, or recovery activity
N. Maintained or increased public trust in PHEPR guidance
O. More effective and coordinated readiness and response on a broad scale*

** This symbol denotes outcomes measured throughout the intervention and presented in this evaluation report.*

Table 2 details the markers of success we established before commencing intervention-related activities, as well as the progress we have made towards these markers.

*Table 2. Initial markers of success and progress made towards them*

| Success Marker | Progress |
|---|---|
| At least 50% of practitioners who participated in a strategic planning session report | Survey respondents (pre-session n=79, post-session n=67) reported significantly greater capability to counter rumors after participating in a strategic planning session, compared to before the session |

| Success Marker | Progress |
|---|---|
| increased ability to counter rumors | (*Outcome D: Staff more capable of countering PHEPR rumors strategically*) |
| At least 50% of practitioners who participated in a strategic planning session develop messages to counter a harmful public health rumor in their community | Three out of four endline respondents developed messages to counter rumors in their community. (*Outcome D: Staff more capable of countering PHEPR rumors strategically*). Additionally, the majority of post-session survey respondents plan to implement actions to counter rumors in the future. (*Outcome E: HDs more likely to strategically counter future PHEPR rumors* |
| At least 50% of practitioners who participated in a strategic planning session disseminate their message(s) using at least 1 channel/modality | Three out of four endline respondents disseminated messages to counter rumors using at least one channel or modality (*Outcome D: Staff more capable of countering PHEPR rumors strategically*) |

**Data Collection:** We collected data at three time points: 1) prior to each strategic planning session (T1), after each strategic planning session (T2), and 3 months later, to capture any participants' efforts to implement their strategic plans (T3). One week before scheduled sessions, participants were provided a link to the online T1 survey and asked to complete it in advance. We also displayed a QR code for the T1 survey at the beginning of each session and encouraged participants to fill it out. Towards the end of each session, we asked participants to complete the online T2 survey, and sent follow-up reminders to do so via email, often in partnership with our HD points of contact. Paper versions of surveys were used only during our pilot session in Howard County (MD); afterwards, a team member manually digitized these responses for inclusion in data analysis.

T1 and T2 surveys used a mix of single choice (often for Likert scale-like questions), multiple choice, and open text questions, allowing for both qualitative and quantitative responses. For T3 endline data collection, we conducted 1-hour informational interviews with four HD points of contact who coordinated their colleagues' participation in strategic planning sessions.

**Data Analysis**: We used a mixed-methods approach that combined quantitative & qualitative surveys (hosted on Microsoft Forms) with qualitative interviews. Survey data were exported from Microsoft Forms and cleaned in Microsoft Excel, including recoding categorical responses where appropriate. We calculated descriptive statistics by including frequency counts of categorical variables and noting the proportion of total responses each category comprised. Because survey items were primarily ordinal, we applied nonparametric methods to avoid assumptions of normality and used the Wilcoxon rank-sum test to compare T1 and T2 distributions. We treated responses as independent since

respondents were not matched across time points. We report medians with interquartile ranges (IQRs) for central tendency and variability. We analyzed these data in Stata SE 17.0. We conducted a rapid review and analysis of qualitative data collected at T1, T2, and T3, identifying key emergent themes to provide insight into process monitoring and the extent to which the intervention contributed to outcomes shown in Figure 1. Together, these methods allowed us to capture both measurable changes in knowledge and behaviors (intended and actual), as well as contextual lessons on implementation.

## FINDINGS

Preliminary findings are organized by short-, medium-, and long-term outcomes shown in our evaluation logic model (Figure 1). Overall, this analysis shows that participants who engaged in the evaluation:

- Showed clear gains in their knowledge of approaches to counter harmful rumors
- Gained new knowledge or skills, with a large proportion explicitly attributing these gains to the intervention
- Felt more prepared to counter rumors after the intervention generally and to implement common rumor management approaches
- Were highly likely to counter harmful health rumors and planned to implement multiple approaches in the future
- Showed clear gains in their capability to implement rumor management strategies
- Learned practical and effective technical strategies to manage rumors, with some translating intention to action
- Actively want to pursue partnerships and joint communication strategies
- Became more confident about managing rumors during crises, including feeling more prepared to encounter them and more empowered to streamline operations
- Showed strong interest in using their learnings to spur and sustain organizational change around better rumor management
- For intention to turn into action and sustained behavior change, several operational and institutional barriers will need to be addressed

Qualitative findings are largely similar between the Region 3 respondent sample and the full sample of all respondents included in the Appendix.

### *Respondent profile*

T1 and T2 responses captured insights from public health practitioners from one state HD and 18 counties, cities/municipalities, and health districts across three states (Table 3). The response rate was at 79.8% at T1 and 67.7% at T2. Between T1 and T2, the sample decreased from 79 to 67 respondents, reflecting a sample change of 15.2%.

*Table 3. Distribution of responses by city, county, or HD in Region 3 (T1 & T2)*

| | T1 Survey (N = 79)* | | T2 Survey (N = 67)* | |
|---|---|---|---|---|
| Region Represented | Freq. | Percent (%) * | Freq. | Percent (%)* |
| Caroline MD | 1 | 1.27 | 1 | 1.49 |
| Carroll MD | 6 | 7.59 | 4 | 5.97 |
| Cecil MD | 2 | 2.53 | 2 | 2.99 |
| Central Shenandoah Health District VA | 1 | 1.27 | - | - |
| Chesterfield Health District VA | 1 | 1.27 | 1 | 1.49 |
| City of Philadelphia PA | 10 | 12.66 | 7 | 10.45 |
| Dorchester MD | 2 | 2.53 | 2 | 2.99 |
| Frederick MD | 1 | 1.27 | 1 | 1.49 |
| Harford MD | 1 | 1.27 | 2 | 2.99 |
| Henrico VA/City of Richmond VA | 1 | 1.27 | - | - |
| Howard MD | 39 | 49.37 | 39 | 58.21 |
| Kent MD | 2 | 2.53 | 1 | 1.49 |
| Loudoun VA | 2 | 2.53 | - | - |
| Queen Anne's MD | 1 | 1.27 | 1 | 1.49 |
| Roanoke City/Alleghany Health District VA | 1 | 1.27 | - | - |
| State of Virginia | 3 | 3.80 | 4 | 5.97 |
| Talbot MD | 3 | 3.80 | 2 | 2.99 |
| Washington MD | 1 | 1.27 | - | - |
| Worcester MD | 1 | 1.27 | - | - |

** Excludes missing values*

The broader sample (total participants n =240; T1 survey respondents n = 136; T2 survey respondents n = 109, Appendix Table 8) includes public health practitioners representing six state HDs and 41 counties, cities/municipalities, and health districts across eleven states. In contrast, the Region 3 sample draws from a smaller, more geographically concentrated set of jurisdictions, reflecting its regional focus while showing similar respondent retention across timepoints.

### *Defining the problem*

**Rumors undermine PHEPR:** Throughout our sessions, participants affirmed that misleading and harmful health rumors undermined their ability to prepare for and respond to emergencies. The majority (87.5%) of T1 respondents reported that harmful health rumors undermine public health preparedness and response. Respondents shared that rumors undermine PHEPR by: occupying time and attention that distract from other more urgent tasks; exacerbating fatigue and burnout among personnel who are constantly dealing with rumors; and eroding trust in public health, which makes it more difficult for

practitioners to implement impactful public health programming and disseminate guidance that communities follow/ use to inform personal decision-making.

**Participants encounter many challenging rumors:** Intervention participants encountered the following types of rumors that undermined PHEPR in their communities:

- Doubting the safety and efficacy of approved treatments and interventions (e.g., sunscreen, vaccines)
- Promoting the uptake of unapproved treatments and interventions for untested benefits (e.g., raw milk, Kratom)
- Downplaying the seriousness and risks of infectious diseases, especially for vulnerable populations like children or older adults
- Concerns about the targeting of some ethnic groups during public health emergencies
- Public health-related conspiracies and rumors that undermine trust in public health
- Attributing public health issues to unproved causes, often overwhelming the information space and making it difficult for people to discern between fact and fiction (e.g., theories on causes of water contamination)

**Varied capabilities pre-intervention:** T1 responses illustrated stark variations in participants' experience with countering rumors in the past, specifically in the three months preceding participation in sessions. Around two-thirds (67.5%) of T1 respondents had not used structured approaches to counter rumors and over half (55.1%) reported that they had not distributed a message to counter a harmful health rumor. Those that did distribute messages reported engaging in health and science literacy education, partnering with trusted messengers, amplifying accurate health information, and debunking. Over a quarter of T1 respondents (29.1%) had not used any listed messaging channels in the past three months. Those who used these channels reported using social media (49.4%), in-person events (33.6%), partner outreach (15.2%), websites (26.6%), traditional media (16.5%) and/or virtual events (7.6%). Only 43.0% reported using more than one channel. These findings illustrate a substantial gap in capacity and experience with strategically countering rumors, thereby strengthening the case for implementing this intervention in their HD.

These pre-intervention capabilities were similarly limited in both the Region 3 and full samples, though the gap was slightly more pronounced in the full sample; a higher share of respondents reported not using structured approaches to counter rumors (76.3% vs. 67.5% in Region 3). Patterns of channel use and reliance on single communication channels were broadly similar across samples, underscoring consistent capacity gaps.

***Findings by outcome***

**Outcome A: Staff more knowledgeable of ways to counter PHEPR rumors**

**Gains in knowledge on countering rumors:** At T1 and T2, we assessed whether participants know how to implement approaches to counter harmful health rumors, specifically six that we discussed during our strategic planning sessions: amplifying accurate information, filling information voids, leveraging trusted messengers, refuting false claims, improving health literacy, and prebunking/inoculating. The proportion of respondents who responded "I don't know" to one or more of these approaches decreased from 3.8% at T1 to 0% at T2, reflecting gains in knowledge of implementing approaches to counter harmful rumors. A decrease was also observed in the full sample, from 11.0% at T1 to 0.9% at T2.

**Some knowledge gains attributable to the intervention:** All T2 respondents reported that they gained at least some new knowledge or skills. Nearly all (98.5%) attributed at least part of their learning to the intervention. This finding suggests that the session prompted knowledge growth for all participants.

Similarly, in the full sample, nearly all (99.1%) T2 respondents reported gaining at least some new knowledge or skills and most (98.2%) attributed at least part of that learning to the intervention.

**Learnings from sessions:** At T2, respondents noted that the intervention improved their knowledge of effective strategies to address misleading and harmful health rumors. Many noted that the intervention was especially helpful in learning about and working through the technical aspects of identifying a rumor and developing a message to counter it effectively, including learning about moral reframing, tailoring messages to an audience, selecting an action approach, choosing appropriate channels to disseminate messages, building relationships with trusted messengers, and not repeating inaccurate information when disseminating a message.

**Outcome B: Staff more prepared to counter PHEPR rumors**

**Gains in preparedness to counter rumors:** Respondents reported greater agreement with the statement "If I detected a harmful health rumor right now, I would feel prepared to counter the rumor" at T2 compared to T1 ($z=-7.74$, Wilcoxon rank-sum $p<0.001$). The z statistic represents the magnitude and direction of change between T1 and T2, where larger values indicate stronger evidence of change, and negative values indicate higher preparedness at T2. This is comparable to agreement reported in the full sample ($z=-7.93$, Wilcoxon rank-sum $p<0.001$).

**More prepared to implement rumor management approaches:** We assessed participants' preparedness to counter harmful health rumors using six approaches: amplifying accurate information, filling information voids, leveraging trusted messengers, refuting false claims, improving health literacy, and prebunking/inoculating. Across all six approaches, individuals reported significantly greater preparedness to implement them at T2 compared to T1 (see Table 4). Median preparedness scores increased from 2 ("Neutral/Unprepared") to 3 ("Prepared") for most approaches, while preparedness for amplifying accurate information remained high; Wilcoxon rank-sum tests confirmed statistically significant differences for all approaches ($p < 0.001$). The largest shift was observed for prebunking and inoculating ($z = -6.68$), reflecting the strongest evidence of improvement.

*Table 4. Preparedness to implement approaches to counter harmful health rumors in Region 3 (T1 & T2)*

| Which of the following approaches do you know how to implement & how prepared do you feel? | T1 Survey Median [IQR] | T2 Survey Median [IQR] | Z-Statistic | P-Value |
|---|---|---|---|---|
| Amplifying accurate information | 3 [2-3] | 3[3-3] | -4.48 | <0.001 |
| Filling information voids | 2 [2-3] | 3[3-3] | -5.56 | <0.001 |
| Leveraging trusted messengers & engaging communities | 2 [2-3] | 3[3-3] | -4.28 | <0.001 |
| Refuting, fact-checking, or debunking | 2 [2-3] | 3[2-3] | -2.85 | <0.001 |
| Improving health & science literacy | 2 [2-3] | 3[3-3] | -4.974 | <0.001 |
| Prebunking and inoculating | 2[1-2] | 3[2-3] | -6.68 | <0.001 |

In the full sample, preparedness to implement all six rumor-engagement approaches increased significantly from T1 to T2 (all $p < 0.001$), with median scores shifting from "Neutral/Unprepared" to "Prepared" (Appendix Table 9), mirroring the Region 3 pattern but with slightly larger effect sizes, particularly for prebunking and inoculating ($z = -8.53$).

**Outcome C: Comms team, HD, and HD leaders more likely to counter PHEPR rumors**

**Very likely to counter rumors:** We hypothesized that participating in strategic planning sessions would prompt an increase in respondents' likelihood of countering rumors if they were to detect a harmful health rumor. Region 3 participants were very likely to counter rumors at T1 and this likelihood remained high at T2, as shown in Table 5. Preparedness

ratings for the likelihood of responding to harmful rumors do not differ significantly between T1 and T2 (all $p > 0.05$). Median responses stayed stable, typically at 1 ("somewhat likely") or 2 ("very likely").

*Table 5. Respondent likelihood of responding to rumors in Region 3 (T1 & T2)*

| Suppose you detected a rumor, how likely are the following entities likely to respond? | T1 Survey Median [IQR] | T2 Survey Median [IQR] | Z-Statistic | P-Value |
|---|---|---|---|---|
| You | 2 [1-2] | 2 [1-2] | -1.33 | 0.212 |
| The team you work most closely with on the issue | 2 [1-2] | 2 [1-2] | -0.543 | 0.587 |
| Your organization | 1 [1-2] | 1 [1-2] | -0.754 | 0.501 |
| Your organization's leaders | 1[1-2] | 1[1-2] | 0.459 | 0.646 |

In the full sample, respondents' perceived likelihood of responding to rumors remained unchanged from T1 to T2 (Appendix Table 10), mirroring the R3 pattern and indicating no significant shift in perceived responsibility or response expectations over time.

**Several barriers hinder translation of intention to action:** T1 respondents reported that there were instances where they wanted to respond to a rumor but faced insurmountable barriers such as feeling overwhelmed, adapting to a shifting public health landscape, and uncertainty regarding the potential consequences of responding to the rumor. These barriers constrained their ability to move from intention to actual action. Throughout the intervention, respondents stated that their likelihood to respond to a rumor would depend on the severity of the rumor, including the topic, scale and location in which it is spreading, and who is spreading it. Respondents consistently noted that leadership buy-in would influence whether they respond to a harmful rumor; a T3 respondent shared that cumbersome institutional approval processes and top-down bureaucracy was one of the biggest reasons they were unable to respond to a rumor.

In the full sample, T2 respondents also reported that the likelihood of responding to a rumor would depend on whether they possess subject matter expertise relevant to the rumor of concern, and whether they have enough time and resources to respond.

**Outcome D: Staff more capable of countering PHEPR rumors strategically**

**More capable of countering rumors strategically:** We assessed participants self-reported capabilities related to countering harmful health rumors using recommended strategies from strategic planning sessions. Respondents reported significantly greater capability across all rumor response skills at T2 compared to T1 (all Wilcoxon rank-sum $p<0.001$), as shown in Table 6. They were asked for their level of agreement with several

capability statements; median ratings increased from 1 ("Disagree/Undecided") to 2 ("Agree") across most items, including feeling prepared to counter rumors, deciding whether to counter it, identifying which approach to use, tailoring rumor management approaches to context, and more. The strongest evidence of change was observed in developing a strategic plan (z=-5.83) and identifying which approach to use to counter the rumor (-5.75).

*Table 6. Self-reported capability of countering harmful health rumors using session strategies in Region 3 (T1 & T2)*

| Agreement with capability statement: "If I detected a harmful health rumor right now, I would…" | T1 Survey Median [IQR] | T2 Survey Median [IQR] | Z-Statistic | P-Value |
|---|---|---|---|---|
| "…feel prepared to counter the rumor" | 1 [0-2] | 2 [2-2] | -6.72 | <0.001 |
| "…be able to quickly decide whether to counter the rumor" | 1 [1-2] | 2 [2-2] | -4.84 | <0.001 |
| "…be able to identify a priority audience" | 2 [1-2] | 2 [2-2] | -3.70 | <0.001 |
| "…be able to identify at least one communication goal" | 2 [1-2] | 2 [2-2] | -4.56 | <0.001 |
| "…be able to identify which approach(es) to use to counter the rumor" | 1 [1-2] | 2 [1-2] | -5.75 | <0.001 |
| "…feel prepared to tailor my action approach based on the context" | 1 [1-2] | 2 [2-2] | -5.50 | <0.001 |
| "…be able to develop and disseminate messages to counter the rumor" | 1 [1-2] | 2 [2-2] | -4.33 | <0.001 |
| "…be able to develop a strategic plan to counter the rumor" | 1 [1-1] | 2 [1-2] | -5.83 | <0.001 |
| "…feel prepared to evaluate the implementation or impact of my efforts to counter the rumor" | 1 [1-2] | 2 [1-2] | -5.49 | <0.001 |

In the full sample, self-reported strategic capability increased significantly across all assessed skills from T1 to T2 (all $p < 0.001$, Appendix Table 11), with median agreement shifting from "Disagree/Undecided" to "Agree" and slightly larger effect sizes than those observed in Region 3.

**Action implementation after sessions:** After participating in strategic planning sessions, all four T3 respondents' teams implemented actions to counter rumors in their communities. These actions included:

- Disseminated harm reduction messaging addressing common misconceptions, provided accurate information on routine vaccination, and debunked myths related to firearm safety, using session tools and learnings for quality control in some cases. One of their programs used session learnings to develop stronger, more tailored messages during Pride.
- Disseminated messages to socialize recent changes in the process their HD uses to declare harmful algal blooms, proactively sharing accurate information, educating the public on how algal blooms are measured, and prebunking predictable rumors. They intend to use session learnings to refine this campaign and maximize its impact next summer.
- Proactively created messages to debunk common rumors that they anticipate detecting in the coming year, as well as to provide accurate information around these topics.
- Amplified accurate information from credible nongovernmental sources about emerging, time-sensitive topics like changes in vaccination eligibility and vaccine schedules. This team wanted to develop prebunking and debunking messages, but lengthy message development and institutional approval processes rendered these messages outdated by the time they could disseminate them.

**Outcome E: HDs likely to strategically counter future PHEPR rumors**

**Approaches for countering future rumors:** After each strategic planning session, we asked participants about the approaches they plan to implement to counter harmful health rumors that emerge in the future. Over half of T2 respondents (67.2%) reported plans to amplify accurate information, as well as other actions like filling information voids (59.7%), leveraging trusted messengers (56.7%), improving health and science literacy (47.8%), and prebunking or inoculating (41.8%). Fewer respondents planned to refute, fact-check, or debunk claims directly (29.9%). Amplifying accurate information and filling information voids are less resource-intense approaches, which would make them ideal candidates for implementation in a resource-constrained public health setting. Additionally, several participants already had experience with engaging their communities and leveraging trusted messengers, making this collaborative approach appealing to implement.

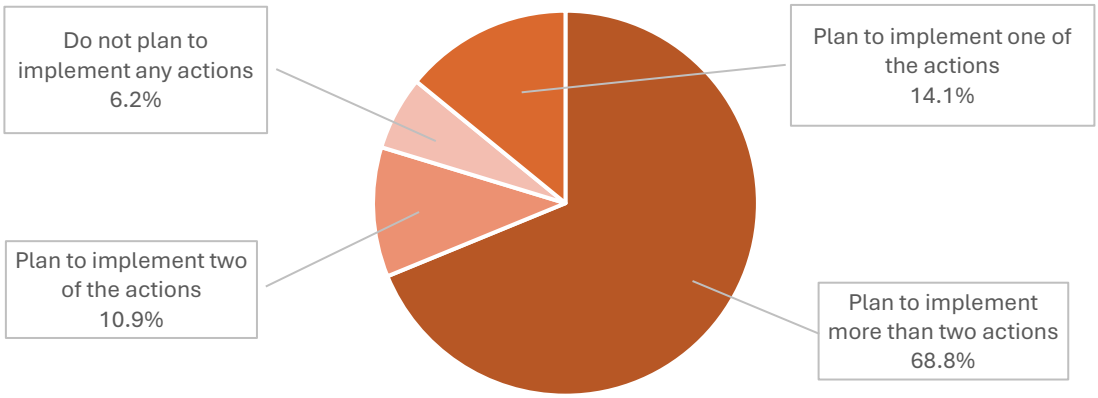
In the full sample, intended approaches for countering future rumors followed the same overall pattern as Region 3, with the greatest emphasis on amplifying accurate information

and filling information voids, though reported plans to implement most approaches were slightly lower than in the Region 3 sample.

**Interest in implementing multiple approaches:** The majority of T2 respondents (93.5%) plan to implement actions to counter harmful health rumors in the future. Over two thirds of T2 respondents (68.75%) reported plans to implement more than two rumor management approaches. Smaller proportions of respondents planned to implement one (14.06%) or two actions (10.94%), while 6.25% reported no plans to implement new actions, as shown in Figure 2.

In the full sample (Appendix Figure 3), most T2 respondents planned to implement at least one action to counter future rumors, though fewer reported plans to implement multiple approaches compared with Region 3, indicating similarly high engagement but more modest breadth of planned action.

*Figure 2. Number of actions respondents plan to implement in the future (T2)*




T2 respondents indicated that additional time and practice to review intervention materials would help them better integrate these tools into their communications strategies in the future and support translation of intention to action. They also emphasized the importance of leadership support, increased collaboration with trusted messengers, and enhanced resources (e.g., funding, personnel, time) to increase their capacity and likelihood of effectively responding to future rumors.

In the full sample, T2 respondents indicated that strategizing pre-work activities (i.e., activities to conduct before making the decision to respond to a rumor) as an organization and increasing coordination across units, sections and divisions would help them respond to future rumors more effectively.

**Outcome F: More regional partnerships and coordination on countering rumors**

**Interest in pursuing strategic partnerships:** Beyond the six approaches to counter harmful health rumors discussed in the intervention, one T2 respondent reported feeling prepared to collaborate with state and local health communications partners. T3 respondents desire greater regional partnerships and joint communication strategies to strengthen rumor management in the future, especially with state agencies, community partners, local service and health care providers, faith-based organizations, community-based organizations. They expressed an interest in doing so to avoid siloed responses, maintain community trust, ensure consistent messaging, share resources, coordinate cross-border response, and amplify messages in settings where non-HD personnel would be more trusted. They shared that greater synergy between states and local entities could help ensure that state-level guidance and local implementation are aligned. One HD demonstrated this intervention's potential for increasing regional partnership and collaboration before the strategic planning session even took place, by proactively gauging nearby counties' interest in the intervention and coordinating their attendance to an in-person session. Following the strategic planning session, one HD began coordinating with local health districts to issue joint social media messaging and another is exploring partnerships with academic institutions.

**Outcome G: Enhanced preparedness for PHEs and improved operational efficiency**

**Greater confidence managing rumors during crises:** T3 respondents shared that participation in the intervention helped them feel more prepared for future emergencies. They felt less overwhelmed, more empowered to tackle future PHPR challenges where rumors come up, more confident addressing rumors in bite sized pieces, prepared to streamline their operations, better able to guide rumor management coordination during public health emergencies, more prepared to make rapid decisions about which rumors to counter, and more confident thinking proactively about rumors that may undermine their HD's ability to prepare for and respond to emergencies.

**Outcome K: Sustained organizational change around process used to counter PHEPR rumors, reactively and proactively**

**Strong interest in strengthening organizational rumor management processes:** T3 respondents were enthusiastic to explore organizational change around countering rumors and shared next steps they were either interested in or actively pursuing. They want to revise social media policies to incorporate guidance from strategic planning sessions, implement more proactive messaging, train future health communications personnel using session learnings, reliably develop evidence-informed rumor management messages to

share with local health districts, streamline rumor management strategies among communications personnel in their HD and related agencies, and create standard operating protocols and toolkits for effective health communication. One HD hopes to update their departmental communications plans annually and include more rumor management protocols, hoping to formalize rumor mitigation and get leadership buy-in to manage rumors regularly. Another HD conducted multiple post-session follow-ups with communications personnel across domains beyond PHEPR to gauge how they might integrate intervention learnings into their rumor management practices; this use case indicates applicability of this intervention beyond PHEPR and organization-wide interest in rumor management.

**Developed anticipatory protocols:** A few months after participating in the intervention, one T3 respondent – who is also the sole communications staffer for their HD – developed an anticipatory rumor management plan for their organization, which includes practical guidance on: conducting risk assessments and planning around common rumor scenarios; building simple and sustainable systems for rumor monitoring, response, escalation, and subsequent coordination; and proactively communicating/ building trust before event escalation. The plan is designed with other HDs in mind that may also have 1-2 communications staff. The respondent used learnings from this intervention to develop it, choosing components that worked for their unique setting and could be executed realistically, given competing demands of their time and resources. This initiative illustrates how interventions participants could – and have – translated learnings into concrete, organization-wide rumor management plans that are grounded, sustainable, and scalable.

**Outcome O: More effective and coordinated readiness and response on a broad scale**

**Interested in pursuing more synergy and joint messaging:** T3 respondents expressed feeling hopeful that improving their or their team's ability to counter harmful health rumors would make it easier for their HD to prepare for and respond to emergencies in the future. They seemed interested in using session learnings to spur more joint message creation and dissemination with other departments and state or local agencies, thereby promoting more synergy between different levels of public health programming. They were also interested in coordinating consistent messaging with local partners and working collaboratively in a unified manner with other communicators and HD personnel. One HD participates in risk communications exercises every two years with a broader group of personnel and hopes that future integration of rumor management practices will strengthen intra-organization communication and coordination. Such coordination mechanisms could promote more effective PHPR at state, county, and city levels.

***Process evaluation***

**Participants appreciated the intervention**: At T2 and T3, respondents stated that the materials provided (i.e., PowerPoint, Strategy and Implementation Guide, and Countering Rumors Strategy Worksheet) and resources shared were especially helpful in developing strategies to counter rumors within their teams. Short form materials were noted at T2 and T3 as helpful supplements to the Practical Playbook for Addressing Health Rumors. T3 respondents mentioned that the actionable steps provided as part of the intervention helped to make countering rumors a more concrete and achievable task. Moreover, at T2, respondents reported gaining valuable insights from others attending the strategic planning sessions. Both T2 and T3 respondents further emphasized that they appreciated the ability to collaborate with colleagues and engage with our team in real time during the strategic planning session.

In the full sample, T2 and T3 respondents noted that the intervention provided them with a valuable framework for addressing rumors, which they could implement within their organization.

**They suggested the following improvements**: T2 respondents suggested including a list of current rumors, along with examples of past successes and challenges in addressing them. Respondents also mentioned that extending the duration of the strategic planning sessions could be helpful, particularly in working through denser concepts. At T3, one respondent expressed interest in short modules, decision maps, or “train-the-trainer” guidance that make the intervention materials more practical and easier to apply. Another respondent suggested assigning all jurisdictions participating in the intervention a standardized task with a shared deliverable, so as to compare how different teams address the same issue.

Additional outcomes from Figure 1 may be evaluated in the future but are not included in this analysis due to the timeline of this intervention.

## DISCUSSION

Findings from this evaluation affirm the value of building HD personnel capacity to counter harmful health rumors, particularly those that undermine their ability to prepare for and respond to public health emergencies. Our Region 3 PHPR Center team learned valuable lessons from supporting implementation of this rumor management intervention, such as:

1. **There is a strong need for practical strategies to manage rumors:** A varied array of public health practitioners expressed enthusiasm to learn about rumor management: Project Information Officers, communications personnel, public health nurses, program staff, and others who were looking for ways to effectively and strategically counter rumors. During strategic planning sessions, participants valued the opportunity to learn from each other, discuss challenging experiences with trying to manage misleading or harmful rumors, and take-home practical tools to apply to their day-to-day operations. Several regions and organizations outside of Region 3 have requested technical assistance with implementing this intervention as part of their workstreams or adapting this intervention to their settings, highlighting its applicability and relevance beyond our region.

2. **Operational realities prompted necessary adaptations:** Our team iteratively improved the quality and delivery of this intervention to make it increasingly flexible, adaptable, scalable, and practical. For instance, HD personnel frequently discussed the overwhelming nature of their increasing responsibilities, prompting us to set more realistic expectations and benchmarks. Participants were enthusiastic about developing strategies to counter harmful health rumors; however, the shifting public health landscape combined with limited time and resources required them to reconsider how willing or able they were to address PHPR rumors.

3. **The intervention elevates promising practices in rumor management:** Public health communications professionals often tackle multiple types of rumors as part of their day-to-day operations, finding that some messaging campaigns meet communication goals better than others. During sessions, participants frequently shared learnings from their own efforts, highlighting what has been the most effective for them in their settings. Such peer engagement allowed the intervention to elevate practical experiences that have been implemented. It reinforced helpful strategies participants already use and introduced them to new ones. The context-specific nature of rumors and priority audiences means that tailored messaging may be more successful than "one and done" or "one size fits all" approaches; peer-to-peer learning helps practitioners understand how evidence-informed and promising strategies can be customized and adapted practically across varied settings.

## APPENDIX

This report summarizes findings specific to respondents from Region 3, though a broader sample of respondents participated in the intervention and its evaluation. This Appendix details responses from the full sample of respondents.

Overall, we conducted eleven strategic planning sessions with 240 total attendees, with some participating in multiple sessions (Table 7)

*Table 7. Details about all sessions completed to date*

| Session | Topic | Participating HDs | # attendees | Mode |
|---|---|---|---|---|
| **1** | General | Howard County, MD **(Pilot)** | 39 | In-person |
| **2** | General | Seattle, WA **(Pilot)** | 27 | In-person |
| **3** | Measles | MD (Frederick, Dorchester, Worcester, and Washington counties) and VA (Virginia Department of Health, Loudon County, Chesterfield Health District, Central Shenandoah Health District) | 11 | Virtual |
| **4** | Highly pathogenic avian influenza | MD (Harford County) and VA (Virginia Department of Health and Richmond and Henrico Health Districts) | 5 | Virtual |
| **5** | Water-borne diseases | Virginia Department of Health | 3 | Virtual |
| **6** | School immunization | VA (Virginia Department of Health, Chesterfield Health District, Roanoke City & Alleghany Health Districts) | 8 | Virtual |
| **7** | General | Carroll County, MD | 11 | Virtual |
| **8** | General | MD eastern shore counties (Caroline, Dorchester, Kent, Talbot, Queen Anne's) | 7 | In-person |
| **9** | General | City of Philadelphia, PA | 15 | In-person |
| **10** | General | Minnesota Department of Health | 94 | Virtual |
| **11** | General | Attendees at Public Health & Disasters Conference 2026, hosted by the Rocky Mountains & High Plains Center for Emergency Public Health at the University of Utah's Division of Public Health | 20 | In-person |

*Table 8. Distribution of responses by city, county, or HD across the full sample (T1 & T2)*

| | T1 Survey (N = 135)* | | T2 Survey (N = 109)* | |
|---|---|---|---|---|
| Region Represented | Freq. | Percent (%) * | Freq. | Percent (%)* |
| Ada County ID | 1 | 0.74 | 1 | 0.93 |
| Anchorage Municipality AK | 2 | 1.48 | 2 | 1.85 |
| Benton & Linn Counties OR | 3 | 2.22 | 3 | 2.78 |
| Benton WA | 1 | 0.74 | - | - |
| Caroline County MD | 1 | 0.74 | 1 | 0.93 |
| Carroll County MD | 6 | 4.44 | 4 | 3.70 |
| Cecil County MD | 2 | 1.48 | 2 | 1.85 |
| Central Shenandoah Health District VA | 1 | 0.74 | - | - |
| Chesterfield Health District VA | 1 | 0.74 | 1 | 0.93 |
| City of Philadelphia PA | 10 | 7.87 | 7 | 6.48 |
| Coos County OR | 1 | 0.41 | 1 | 0.93 |
| Deschutes County OR | 2 | 1.48 | 1 | 0.93 |
| Dorchester County MD | 2 | 1.48 | 2 | 1.85 |
| Eastern Region MT | 1 | 0.74 | - | - |
| Frederick County MD | 1 | 0.74 | 1 | 0.93 |
| Grays Harbor County WA | 1 | 0.74 | 1 | 0.93 |
| Harford County MD | 1 | 0.74 | 2 | 1.85 |
| Health District 7 ID | 1 | 0.74 | - | - |
| Hennepin MN | 1 | 0.74 | 1 | 0.93 |
| Henrico County & Richmond VA | 1 | 0.74 | - | - |
| Howard County MD | 39 | 28.87 | 39 | 36.11 |
| Kent County MD | 2 | 1.48 | 1 | 0.93 |
| King County WA | 3 | 2.22 | 2 | 1.85 |
| Kitsap County WA | - | - | 1 | 0.93 |
| Loudoun County VA | 2 | 1.48 | - | - |
| Marion County OR | 1 | 0.74 | 1 | 0.93 |
| Missoula MT | 1 | 0.74 | | 0.93 |
| Pierce County WA | 1 | 0.74 | 1 | 0.93 |
| Queen Anne's County MD | 1 | 0.74 | 1 | 0.93 |
| Ramsey County MN | 2 | 1.48 | 1 | 0.93 |
| Roanoke City & Alleghany Health Districts VA | 1 | 0.74 | - | - |
| Salt Lake County UT | 2 | 1.48 | - | - |
| Skagit County WA | 1 | 0.74 | 1 | 0.93 |
| Spokane County WA | 1 | 0.74 | - | - |
| State of California | 1 | 0.74 | - | - |
| State of Minnesota | 18 | 13.3 | 12 | 11.11 |
| State of Montana | 1 | 0.74 | - | - |

| | T1 Survey (N = 135)* | | T2 Survey (N = 109)* | |
|---|---|---|---|---|
| Region Represented | Freq. | Percent (%) * | Freq. | Percent (%)* |
| State of Oregon | - | - | 1 | 0.93 |
| State of Virginia | 3 | 2.22 | 4 | 3.70 |
| State of Washington | 2 | 1.48 | 4 | 3.70 |
| Talbot County MD | 3 | 2.22 | 2 | 1.85 |
| Uinta WY | 1 | 0.74 | 1 | 0.93 |
| Walla Walla County WA | - | - | 1 | 0.93 |
| Washington County MD | 1 | 0.74 | - | - |
| Washington County OR | 5 | 3.70 | 4 | 3.70 |
| Washington & Yamhill Counties OR | 1 | 0.74 | - | - |
| Worcester County MD | 1 | 0.74 | - | - |

**Excludes missing values*

*Table 9. Preparedness to implement approaches to counter harmful health rumors across the full sample (T1 & T2)*

| Which of the following approaches do you know how to implement & how prepared do you feel? | T1 Survey Median [IQR] | T2 Survey Median [IQR] | Z-Statistic | P-Value |
|---|---|---|---|---|
| Amplifying accurate information | 3 [2-3] | 3[3-3] | -5.42 | <0.001 |
| Filling information voids | 2 [2-3] | 3[3-3] | -7.20 | <0.001 |
| Leveraging trusted messengers & engaging communities | 2 [2-3] | 3[3-3] | -5.94 | <0.001 |
| Refuting, fact-checking, or debunking | 2 [2-3] | 3[2-3] | -4.87 | <0.001 |
| Improving health & science literacy | 2 [2-3] | 3[2-3] | -5.45 | <0.001 |
| Prebunking and inoculating | 2[1-2] | 3[2-3] | -8.53 | <0.001 |

*Table 10. Respondent likelihood of responding to rumors across the full sample (T1 & T2)*

| Suppose you detected a rumor, how likely are the following entities likely to respond? | T1 Survey Median [IQR] | T2 Survey Median [IQR] | Z-Statistic | P-Value |
|---|---|---|---|---|
| You | 2 [1-2] | 2 [1-2] | -0.82 | 0.411 |
| The team you work most closely with on the issue | 1 [1-2] | 1 [1.5-2] | -0.94 | 0.350 |
| Your organization | 1 [1-2] | 1 [1-2] | -1.54 | 0.124 |
| Your organization's leaders | 1[1-2] | 1[1-2] | 0.181 | 0.856 |

*Table 11. Self-reported capability of countering harmful health rumors using session strategies across the full sample (T1 & T2)*

| Agreement with capability statement: "If I detected a harmful health rumor right now, I would…" | T1 Survey Median [IQR] | T2 Survey Median [IQR] | Z-Statistic | P-Value |
|---|---|---|---|---|
| "…feel prepared to counter the rumor" | 1 [0-2] | 2 [1-2] | -7.93 | <0.001 |
| "…be able to quickly decide whether to counter the rumor" | 1 [1-2] | 2 [2-2] | -5.61 | <0.001 |
| "…be able to identify a priority audience" | 2 [1-2] | 2 [2-2] | -5.11 | <0.001 |
| "…be able to identify at least one communication goal" | 2 [1-2] | 2 [2-2] | -5.25 | <0.001 |
| "…be able to identify which approach(es) to use to counter the rumor" | 1 [1-2] | 2 [1-2] | -6.85 | <0.001 |
| "…feel prepared to tailor my action approach based on the context" | 1 [1-2] | 2 [2-2] | -6.45 | <0.001 |
| "…be able to develop and disseminate messages to counter the rumor" | 1 [1-2] | 2 [1-2] | -4.91 | <0.001 |
| "…be able to develop a strategic plan to counter the rumor" | 1 [1-1] | 2 [1-2] | -6.64 | <0.001 |
| "…feel prepared to evaluate the implementation or impact of my efforts to counter the rumor" | 1 [0-2] | 2 [1-2] | -6.80 | <0.001 |

*Figure 3. Number of actions respondents plan to implement in the future across the full sample (T2)*