

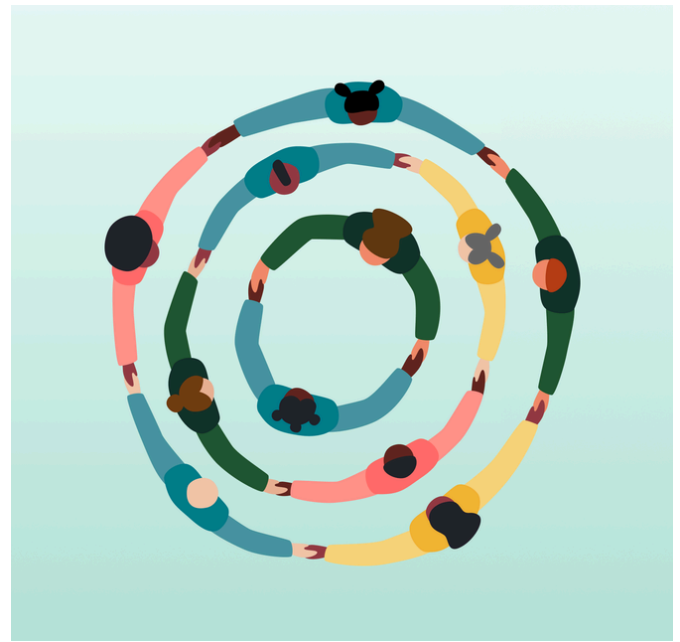
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LISTENING IS HAVING A MOMENT IN PUBLIC HEALTH

But the absence of listening infrastructure
is a fundamental challenge

Claire Wardle
Matthew Kreuter
David Scales
Stefanie Friedhoff
Samantha Toton
Evelyn Pérez -Verdía
Christopher Voegeli

Public health needs better, more sophisticated ways of learning what the public knows, thinks and wants when it comes to health. Having modern community listening infrastructure would help identify emerging threats; appreciate different perspectives, experiences, and values; reveal specific questions and concerns; gauge support for potential solutions; and guide priority-setting and resource allocation for community health efforts. In this paper, we first examine the strengths and limitations of nine approaches to community listening – high-touch interactions, community-planned gatherings, social media monitoring, bounded social media places, internet search trackers, continuous community surveys, polling about health, community sentinels, and expressed needs trackers – and provide examples of how each is currently being used. Next, we draw upon listening systems from other sectors – weather forecasting and intelligence – to understand how multiple streams of listening information can be integrated and analyzed to gain deeper insights with greater confidence. Finally, we propose a set of core functions and guiding principles for a robust and ethical system of community listening for public health. Although community listening efforts for health are growing in number, they are currently piecemeal and not well connected or coordinated. Public health can learn from the listening-to-action systems that have been established in other sectors to build what is needed.



Artwork by Emily Sabens May/WashU Bursky Public Health

In mid-May 2022, infant formula was nearly [out of stock](#) in U.S. stores. Panicked parents went store-to-store, driving long distances and to neighboring towns hoping to find any supply. The federal government invoked the Defense Production Act on May 18th to speed up U.S. manufacturing of formula, and in June began airlifting formula from other countries to the U.S. In July, Congress acted to allow more formula imports, and in October reduced tariffs on bulk infant formula powder (National Academies of Science 2024). It was June 2023, more than a year after the crisis first drew national headlines, before the U.S. supply of infant formula stabilized (Fenske et al. 2026).

And yet there were clear signs of trouble long before the government's emergency response began. In January 2022, [formula-finding groups](#) were forming on Facebook. In February, moms seeking help finding formula were [routinely posting](#) to parent social media groups. Google searches for baby formula [tripled](#) in one week in mid-February. Twitter comments about baby formula turned sharply negative in February and the top sentiments being expressed were “shortage” and “scarce” (Jung et al. 2023). Calls to the 211 helpline seeking baby formula were [up 30%](#) in January, February, and March compared to the same months the prior year.

Across multiple streams of information, the public was expressing a common concern. But multiple signals were missed, and months passed while the crisis deepened before action was taken. In its evaluation of the government response, the FDA's first recommendation was to modernize, improve, and connect data systems to more rapidly process information from multiple sources – including the public – to detect signals of a public health threat (FDA 2022). Although the FDA created a [working group](#) in 2023 to explore such systems, none have yet been implemented.

Around the same time, post-pandemic analyses of the U.S. response to COVID were almost universal in flagging public health for downplaying public concerns about the disruptive impacts of its measures and policies (Fox et al. 2025). These concerns about the impact of closures to businesses, schools, and churches were expressed early in the pandemic (Christensen et al. 2020), echoing sentiments that had been known for at least a decade (Baum et al. 2009).

Mismatches like these between government action and what the public wants can be avoided with better communication, yet formal channels, systems, and processes don't exist for listening and responding to public needs and questions (Kim & Kreps 2020), let alone understanding public receptivity to potential public health actions (Sharfstein & Lurie 2023).

The absence of a robust, sustainable, and community-centered listening infrastructure is a fundamental challenge for public health. Without it, the field will struggle to consistently detect rising public sentiment, understand what people want and believe and why, respond to public questions and concerns rapidly, proactively, and effectively, and build public trust.

Why listening?

Listening is an essential first step to connect community members, authorities and other civic actors for effective collective action. It can help identify emerging threats, appreciate people's perspectives and experiences, reveal specific questions and concerns, gauge support for potential solutions, and guide prioritization of competing community needs and values.

We intentionally use the language of “listening” in this paper and not the public health terminology of “surveillance” or “monitoring” to underscore important differences between them. Community listening is the systematic and ongoing process of gathering, integrating, and interpreting information about communities' needs, questions, concerns, beliefs, experiences, and priorities across multiple sources, with the goal of understanding what matters to communities, building trust, and informing responsive action (Kadariya et al. 2025; Wardle & Scales 2025). Although information from both listening and surveillance should inform the priorities, actions, and approaches of public health, the act of listening seeks, values and respects community perspectives. It makes visible and elevates information and knowledge not typically captured by technical expertise and traditional public health data collection.

Solving the problems people care about — not just the ones experts think people ought to care about — will be essential in winning back public trust that has been lost in recent years. Understanding, acknowledging and thoughtfully considering all viewpoints on health issues should lead to strategies and solutions with greater public backing. But for community perspectives and priorities to drive public health decision-making, public health officials need better ways to learn what people want.

It is well-documented that public health currently has limited capacity for public communication, including listening (White et al. 2025; Jin et al. 2019; Schoch-Spana et al. 2018; Avery 2017; Davis et al. 2014). Among the many recent recommendations for modernizing public health, one common thread is a call to transform how the field engages with the public. Some of these recommendations are directly relevant to listening, for example: creating systems to continuously track community-driven priorities and preferred solutions; replacing outdated tools with modern methods of checking the community pulse on health issues; identifying and capturing novel data signals about community viewpoints; and engaging in timely, actionable, local listening (Alberti et al. 2026; Niederdeppe et al. 2025; McAlpine et al. 2024; Kadakia & Desalvo 2023; Commonwealth Fund 2022). Today, though, there is no such integrated and coordinated public health listening system and little infrastructure for core listening tasks. Its absence is glaring as public health faces a polycrisis of low trust, diminished capacity, surging misinformation, and public polarization.

Solving the problems people care about — not just the ones experts think people ought to care about — will be essential in winning back public trust

Listening projects are emerging to help fill this gap. We describe some of them below and are encouraged by the range of approaches and partners involved, the innovation and enterprise behind them, and the impact they seem to be having. So far, however, these efforts are piecemeal, not well connected or coordinated. Just as epidemiological surveillance systems merge multiple data streams, so too should community-listening systems. They should integrate and contextualize the information and insights captured across sources, online and offline, using qualitative and quantitative methods, and critically the community should be playing an active co-creation role in the process (Wardle & Scales 2025).

Public health can learn from the information-to-action systems that have been established in other sectors. In these systems, listening is often the first step in a well-established process of gathering information, analyzing it, and sharing it with those who can act on its insights for public good. Weather forecasting and intelligence operations illustrate this process well, with systematic, coordinated, ongoing, multi-layer ways to capture information; advanced methods to integrate and analyze information from across sources and streams; translational teams that generate information products to convey insights gained; and distribution networks to assure those products reach key audiences.

This paper explores how a better coordinated approach to listening could open the door to an integrated public health information-to-action response system like those found at the heart of other public service sectors. We first describe the current landscape of “listening” in public health, identify potential strengths and limitations of different listening approaches and provide examples of each. Next, we consider the need for integrative processes and tools to link potentially complementary listening activities that are currently working in isolation. Finally, we look ahead to designing community listening infrastructure and propose a set of guiding principles that could inform those efforts.

Part 1: Current approaches to community listening for health

In the review of listening approaches that follows, we examine nine types of listening: high-touch interactions, community-planned gatherings, social media monitoring, bounded social media spaces, internet search trackers, continuous community surveys, polling about health, community sentinels, and expressed needs trackers (Table 1).

While this may not be an exhaustive list, we believe it represents the range of listening activities currently being deployed. Although the nine listening approaches are presented as separate categories, they sometimes overlap in practice, such as offering continuous community surveys in a bounded social media space. And while the focus here and examples shared are all pertaining to health, we emphasize that these approaches and the observations we make about them apply equally well to other areas. For example, community listening is also being deployed to counteract public distrust in areas such as election integrity and climate (Wardle & Scales 2025).

The goal of this review is not to identify one “best” approach to listening, but rather to elucidate what each does well. Nor are we suggesting that public health institutions engage in community listening in nine different ways. Many institutions lack the bandwidth or resources to consistently lead even one, which underscores the importance of building shared infrastructure that uses information that is already being collected, rather than duplicating systems within and across communities. We assume that the nine listening approaches provide complementary ways of knowing that when combined have the potential to provide deeper insights about different viewpoints with greater confidence.

1. High-touch interactions

The distinction between “high-tech” and “high-touch” methods of engaging the public is not new (Lavalley 2014). Historically, the methods used in public health to seek community input have been “high-touch,” involving face-to-face interactions with individuals or groups. Town hall meetings, focus group interviews, and advisory boards have been commonly used to elicit information from groups of community members, while in-depth interviews with key informants, stakeholders, and other individuals are also common. Health or communication professionals typically plan and carry out these listening activities, making purposeful decisions about who to include, what topics to address, what questions to ask, and also decide what insights from listening activities warrant prioritization and action.

Strengths of high-touch listening methods include real-time interactions with specific populations, opportunities for community members to exchange and respond to others’ ideas, and the ability to probe community responses in real time. These methods can yield rich, qualitative information and a deeper understanding of communities from the ground up vs. top down.

Table 1. Strengths, limitations, and best uses for nine approaches to community listening for health.

Listening approach	What it captures	Strengths	Limitations	Best uses
1. High-touch interactions Town halls, focus groups, in-depth interviews, advisory boards	Direct discussion	Interactive, exchange of ideas, rich detail	Time, cost, generalizability, institution-driven agendas	Explore issues with specific priority groups
2. Community-planned gatherings Neighborhood meetings, cultural events, issue-specific forums	Community-driven issues, concerns	Reaches people where they gather; builds trust	Institutions' goals may not be central	Learn priorities from community perspective
3. Social-media monitoring Tracking content and reactions across social media platforms	Public online conversation	Fast, inexpensive, timely	Not representative, limited local context, access to data	Flag emerging issues, questions, narratives
4. Bounded social media places Private or invitation-only groups, messaging apps	Discussion among group members	Group-specific issues, language, sensitive topics	Consent and privacy issues, limited access	Gain community-specific insights
5. Internet search trackers Google Trends, search terms	Unprompted information seeking	Large-scale, early signal, standard metrics	Search intent unclear, local utility limited	Detect emerging information needs
6. Continuous community surveys Frequent, recurring check-ins	Snapshot and trend local perspectives	Tracks change, highly adaptable, crisis-ready	Requires sustained staffing, potential for panel bias	Monitor community pulse, identify gaps, rapid response
7. Polling about health Population level surveys	Public opinion, beliefs, attitudes	Generalizable, compares sub-groups, tracks trends	Costly, comparatively slow, limited open-ended input	Estimate prevalence, compare groups, detect time trends
8. Community sentinels Trusted messengers, those with routine direct contact with the public	Reports from trusted local sources	Discussions missed by formal listening, overlooked groups	Subject to sentinels' bias, memory, interpretation	Identify weak signals and local concerns
9. Expressed needs trackers Helplines, call centers, community resource referral hubs	Requests for assistance	Real-world, current, rapid, high volume, hyper local	Captures help-seekers only	Monitor acute material hardship and service needs

As an example, We Are Mas, an intercultural engagement agency in Florida, sought to understand how prescription drug prices in the U.S. shaped the health, finances and daily lives of Hispanic and Latino communities. Over five weeks, the project team engaged 25 Hispanic/ Latino adults through in-depth individual interviews, weekly surveys, and interaction at two group events. [Findings showed](#) that many patients had to choose between paying for medicine or necessities, tried to offset high prices by rationing medications or purchasing prescriptions from other countries, and experienced anxiety and fear about losing access to lifesaving medicines.

However, high-touch interactions can also be time-consuming to organize and have relatively low attendance, especially for in-person events. Attendees tend to be highly motivated by a particular topic and therefore may not represent all perspectives in a community. These methods are often deployed in an ad hoc way rather than systematically and continuously.

In some instances, high-touch approaches can be perceived as paternalistic, for example if community members are not involved in determining what topics warrant discussion, what questions to ask, or how responses are interpreted. In other instances, high-touch approaches can be perceived by community members as performative if the perspectives they share don't seem to go anywhere or change anything. Or when listening activities such as required community health needs assessments ask the same questions year after year, centered around the needs of the organization rather than the needs of the community. The COVID-19 pandemic underscored another potential limitation of high-touch methods when deployed by government officials: in town hall meetings and other similar community gatherings, open-meeting laws may prohibit board members from engaging in back-and-forth dialog, diminishing one of the central advantages of in-person gatherings.

Initiatives to modernize public health practice have called on public health practice organizations to supplement this legacy of high-touch methods with other approaches to listening that can capture information from digital sources more quickly.

Discussions that emerge from a community-set agenda can surface concerns and connections that may be missed when listening begins with a narrowly defined health topic

2. Community-planned gatherings

Community events and meetings where health listening occurs need not be organized only by public health organizations. Many such gatherings are planned and convened by community organizations, including neighborhood meetings, tenant gatherings, cultural events, mutual-aid activities, and forums focused on housing, education, transportation, or public safety, not just health. Because community members or organizations set the agendas for these gatherings, the conversations typically reflect what participants consider important rather than what a specific public health institution or program has decided to ask about. Discussions that emerge from a community-set agenda can surface concerns and connections that may be missed when listening begins with a narrowly defined health topic. Listening at community-planned gatherings also avoids asking community members to attend additional meetings or participate in separate health research activities.

For public health staff, attending community-planned gatherings can be valuable not only for listening, but also building relationships and showing commitment through presence. This depends, however, on listeners being transparent about who they are, why they are attending, and how what they hear may inform policies or programs. Outside listeners attending a community-planned gathering have little control over when gatherings occur, who participates, or what topics are discussed, and the setting may provide limited opportunity to ask follow-up questions. Participants are not necessarily representative of the wider community, and insights gathered across different events may be difficult to compare systematically. Ethical and privacy considerations also matter, particularly when gatherings were not organized with observation or research in mind.

The cultural communications organization We Are Mas frequently connects those seeking to engage with Hispanic and Latino communities to events already happening in the community, emphasizing the importance of listening in the settings and on the topics set by community members. Similarly, social workers in the Texas Department of State Health Services regional offices attend existing community meetings to hear the discussions, questions, and concerns already emerging there, rather than convening separate health-focused sessions. Another example is Danny Parker's [on-the-ground research](#) with unhoused people in Madison, Wisconsin, which is grounded in meeting community members where they are and treating them as partners in the production of knowledge.

Together, these examples suggest that community-planned gatherings can complement more structured listening methods, especially when insights are documented systematically and connected to other listening data and have a clear process for response.

3. Social media monitoring

The appeal of social media monitoring is clear. The amount of user-generated content available online is extraordinary, so multiple streams of content from different social networks can be scanned in real-time, based on search queries, or previously identified accounts. This provides a tantalizing opportunity to monitor discourse in real time to identify information, claims or narratives deemed risky or that are changing in prevalence, thereby triggering a response. For example, building on epidemiologic models of tracking signals over time (Scales et al. 2021), the New York City Department of Health and Mental Hygiene (DOHMH) used hybrid data from social media and community input to track misinformation and disseminate counterinformation during the COVID-19 pandemic. Although these efforts were lauded, they were ended after emergency pandemic funding ran out (Knudsen et al. 2023).

Despite perceived successes such as those at the NYC DOHMH, questions remain about how well these efforts reflect the perspectives of particular communities at any given time. Studies find that a small proportion of social media users account for a large majority of content (Scott 2022), and some groups are underrepresented due to access, language, and/or choosing not to participate (Boatman et al. 2024). Even among social media users, those who post and comment are different from those who don't in important ways (Ridings et al. 2006). Because many social media comments attack and judge the opinions of others (Jenkins & Moreno 2020), many users withhold contradictory opinions to avoid being shamed (Scott 2022). Perhaps most importantly for community listening, social media monitoring typically has not been local or community-focused (Boatman et al. 2024), and can be unreliable in identifying user characteristics, verifying a user's geographic location, and distinguishing bots from humans (Scott 2022).

Combining social media monitoring with other techniques for engaging the public should be complementary

Most significantly, two changes have reshaped social media monitoring over the past three years. One involves [restrictions placed on researchers and practitioners](#) by technology platforms, which have increasingly shut off access by limiting API availability or charging prohibitively for access. Second, research suggests people are moving away from posting in public online spaces, preferring instead small, private communities, such as WhatsApp groups or closed Facebook groups. As boyd argues, social media is becoming parasocial media, characterized by one-sided connections where individuals follow the lives of others who may not know them or feel compelled to follow them back or engage with them (boyd 2026). Therefore, combining social media monitoring with other techniques for engaging the public should be complementary, increasing the diversity of perspectives, and helping offset these biases (Ishizumi et al. 2024).

4. Bounded Social Media Places

Malhotra (2025) argues that rather than simply talking about social media 'platforms,' we should distinguish between Bounded Social Media Places (BSMP) – where private or invitation-only groups interact – and Public Social Media Places (PSMP). This is increasingly useful because, as noted in the previous section, research suggests that active posting on public social media places has declined in the US (Törnberg 2025). Notably those who score higher on affective polarization measures are more likely to post publicly, resulting in the situation described by the authors in the following way: "As casual users disengage and polarized partisans remain vocal, the online public sphere grows smaller, sharper, and more ideologically extreme."

Bounded Social Media Places include WhatsApp, Telegram, Signal, Discord Servers, and closed groups on Facebook and usage of these sites has not seen the same declines in the number of people actively posting. As a result, these spaces can be exceptionally important for understanding questions, concerns and rumors circulating within a community. For example during Hurricane Harvey, which made landfall in Texas in August 2017, the local Chinese community connected via WeChat to help inform their response. A study found that as a result, the Chinese community in Houston displayed greater resilience than other ethnic and racial communities and hypothesized that WeChat played a critical role in the aftermath of the disaster for that particular community (Chu et al. 2021).

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These spaces can be very useful for understanding how a community is talking about a particular issue or concern in a natural setting, including the slang or colloquial expressions its members use when discussing the issue (Maíz-Arévalo 2024; Smith 2021). Academic researchers, journalists, and public health practitioners have noted the importance of these spaces for tracking rumors (Wardle & Dotto 2020) or sensitive issues that are less likely to be shared publicly (Oladeji et al. 2024).

Listening in these spaces requires important ethical considerations. For some, active pre-informed consent from a closed online community is critical before joining and ‘monitoring’ the conversations. For others, who worry that this could change the dynamics of the group, they ‘lurk’ but keep names and identifying information hidden during any subsequent reporting on what they found (Adjin-Tettey & Garman 2023). Others have set up tiplines within these spaces to encourage the community to flag anything that might be relevant (e.g. election misinformation tiplines on WhatsApp). The different ethical challenges posed by this research are clear. Researchers have documented some of the key ethical questions including understanding whether the size of the group suggests that users don’t expect privacy or anonymity or whether the researcher has to ‘stretch the truth’ in order to pass group membership checks, but the specific characteristics of different groups means there is no one-size-fits-all research ethics policy (Barbosa & Milan 2019; Sehat et al. 2021).

Some of the most compelling examples of listening to BSMP are happening with community journalists. One is the Houston Chronicle building a relationship and partnering with the moderators of Black Houston, a local Facebook group with over 150,000 members. In a [write-up](#) about the partnership, a Houston Chronicle journalist explained why they initiated the relationship: “It’s the same way you would have community outreach, traditionally in a newsroom, by going to the public library or a local church. In this case, it’s going to an online community with a digital space.” Similarly, [Conecta Arizona](#) brings together a local journalism team with a WhatsApp online community for daily coffee hours that engage the community in dialog on health, politics and other topics. Journalists listen to and participate in the [conversations](#) and learn what people want and need, and what worries them.

Another is the outlet DocumentedNY that provides information for immigrants in New York City. In order to both listen to, and reach their audiences, they have journalists embedded in local WeChat, WhatsApp and NextDoor communities, where they are building relationships with the community and explicitly asking what the community would like information about (Rios, 2023).

5. Internet search trackers

Unprompted search history serves as a behavioral signal, providing an opportunity to capture real-time behavioral insights. Since Google dominates global search traffic, its normalized Relative Search Volume (RSV)—scaled from 0 to 100 to adjust for regional population and traffic—remains the standard metric (Alibudbud 2023; Hölzl et al. 2025; Rushendran & Chitra 2025). In the Robert Koch Institute’s national infodemic management framework, Google Trends is one of 16 core data sources integrated for web-based social listening and public health surveillance. While social media platforms track what people are saying, the framework uses Google Trends to analyze what people are seeking (Boender et al. 2023, Mangono et al. 2021).

Google Trends is one of 16 core data sources integrated for web-based social listening and public health surveillance

Inherent validity and reliability challenges complicate the use of search tracking data. A primary obstacle is the ambiguity of user intent, i.e., what does a spike in the frequency of a search term actually mean? Research has highlighted how the news cycle can influence spikes in search terms. For example, Cervellin et al. (2017) compared ten years of Google Trends data in the Parma Province of Northern Italy with emergency department admissions in Italy, and found no correlation for common conditions, but rare conditions saw massive search spikes driven by intensive news coverage.

Reliability of search terms is also compromised by sampling variance. Google Trends calculates RSV from daily random samples, meaning that the daily sample Google analyzes for the same historical time period will change depending on the date of download. This creates potential for yielding random geographic anomalies (Rovetta 2021). Google Trends’ limited utility for understanding hyperlocal trends, especially in smaller population centers or rural areas, is further exacerbated by the digital divide. Low-income, older, and rural populations with restricted digital access are systematically underrepresented (Hölzl et al. 2025; Mangono et al. 2021).

Those shortcomings highlight the importance of scientific rigor when incorporating Google Trends as a social listening tool. A systematic review of 360 social science studies revealed that only about 1% performed necessary rigor checks. To mitigate these limitations, researchers have identified several data-refinement techniques including downloading queries over several consecutive days and analyzing their averages to suppress download-day anomalies (Rovetta 2021), reconstructing true variations through use of both low-volume terms and stable baselines (DiGrazia 2017), creating a shared relative scale for keyword comparisons, and applying weighting techniques to reconstruct daily high-frequency datasets (Caporin & Poli 2017).

Listening approaches that consider text data, such as internet search terms, increasingly use Large Language Models (LLMs). LLMs can automate large-scale text processing, summarization, and qualitative thematic coding (Deiner et al. 2024). For example, the open-source “NCDs Listener” tool integrates Google Gemini 2.0 Flash to synthesize complex patient-experience narratives from Facebook and Reddit comments, with integrated features intended to prevent LLM hallucinations (Thippimanporn et al. 2025).

LLMs have been shown to select topics and conduct inductive thematic analysis of large social media datasets consistent with expert human selections. However, LLMs have also failed to replicate the depth and nuanced interpretation of human experts and have shown significant test-retest variation across identical prompts on web-based interfaces (Deiner et al. 2024). LLMs also facilitate the rapid, automated dissemination of plausible-sounding information and low-credibility advice (De Angelis et al. 2023; Loru et al. 2025). While this overabundance of synthetic information can saturate digital feeds, it creates an unprecedented, as-yet-unresolved methodological challenge for researchers trying to detect and adjust for resulting search surges in search-tracking databases.

6. Continuous community surveys

With proper infrastructure in place, community listening can be continuous. Having a regular cadence of touchpoints with community members, such as weekly check-ins or surveys, has many advantages. For organizations doing the listening, continuous surveys can track how community perspectives change over time and, if the cadence is frequent enough, identify emerging issues early on. Topics of inquiry can be constantly adapted to keep pace with the dynamic nature of health issues affecting any community at any time.

Having a regular cadence of touchpoints with community members, such as weekly check-ins or surveys, has many advantages

Also, once a continuous listening infrastructure is established, it can be deployed rapidly in a crisis, and can help evaluate the reach and impact of community-wide health efforts (Olagoke et al. 2026).

For the community members who respond to continuous surveys, evidence suggests they learn about health information, appreciate the opportunity to share their opinions, and feel like they are contributing to their community (Kreuter et al. under review). Positive experiences like these have been linked to greater retention in longitudinal online survey panels (Lugtig 2014), a key consideration for feasibility. One potential limitation of continuous community surveys – and other listening approaches – is that they require dedicated staffing to generate questions, process and analyze community responses, and ideally respond in a timely fashion.

iHeard, a weekly health monitoring and response system, illustrates this approach (Johnson et al. 2023). Launched in 2021 in St. Louis, MO, iHeard has administered weekly mobile phone surveys to 200 St. Louisans every Saturday for 265 consecutive weeks. Surveys assess what community members are hearing about health, what they know and don’t know, what questions and concerns they have, and what health issues they feel are most pressing in their community. Within 36 hours of each survey closing, findings are shared widely with community organizations through a dashboard, alerts and social media assets.

iHeard has helped communities identify population sub-groups with greater exposure to and belief in health misinformation (Weng et al. 2024), understand how community members regulate their protective behaviors as infectious disease outbreaks rise and fall (O’Connell et al. 2024), and gauge support for local public health actions (Kreuter et al. 2025). In addition, community opinions and knowledge gaps identified by iHeard’s weekly surveys have [helped influence](#) decisions on local health policies, government response to weather emergencies, and availability of clinical services.

Based on the success of iHeard in St. Louis, it was adopted in seven other states from 2023 to 2025. An evaluation found that across those states, iHeard's listening infrastructure could be quickly established and launched (< 3 months), operated nearly uninterrupted, and achieve a high response rate (83%) to weekly surveys, including open-ended questions (Kreuter et al. under review). Over 95% of local iHeard panel members reported that they would participate again (or continue participation). In June 2026, a national version of iHeard – iHeard USA – launched. [Project Stethoscope](#) uses a similar approach to listen to and learn from subscribers to a health-focused newsletter.

7. Polling about health

In the U.S., scientific polling to gauge public opinion about health issues goes back at least 90 years (Erskine 1975). Polling methods have evolved over time (Kennedy et al. 2023), but the objective is largely unchanged: to understand public beliefs and opinions about an issue, including how and why they may shift over time, by surveying a subset of the public. One traditional strength of scientific polling over other listening approaches is that these subsets are drawn using random sampling methods and weighting that maximize the generalizability of findings to the underlying population from which they were drawn. This quality also allows for comparison of opinions across different population sub-groups. Recent reviews have questioned whether these methods can still deliver the generalizability they once did because of declining response rates and underestimated sampling error (Bailey 2023; Prosser & Mellon 2018).

Some long-standing health issues, such as healthcare access have been subject to recurring polls for decades, which can reveal shifting trends in public responses (Blendon & Benson 2001). Similarly, polls have tracked public opinions about health emergencies such as HIV/AIDS or the COVID-19 pandemic, and emerging health-related challenges such as vaccine hesitancy and trust in science and government health agencies from their earliest stages, providing unique and valuable insights about how public sentiment evolves alongside related historical events such as policy changes or disease outbreaks. Because the number of polling organizations is growing – having doubled since 2000 according to [some estimates](#) – health-related polls are increasingly available as a source of community listening information.

Polling organizations increasingly ask open-ended questions and report results faster, making them potentially more useful in today's hyper-instant information environment

Historically, the trade-offs of polling have included the financial costs of sampling and survey administration, a less frequent and/or intermittent polling schedule, longer time to process and report findings, and typically not asking open-ended questions, the responses to which often provide useful information and context. However, polling organizations increasingly ask open-ended questions and report results faster, making them potentially more useful in today's hyper-instant information environment. In the case of polling on health topics and issues, most major polling organizations list health or health care as a [standing topic](#), and some have established dedicated units for health-specific polling, such as KFF's [Health Tracking Poll](#) and the Annenberg [Science and Health Panel](#).

8. Community sentinels

In every community, there are people whose routine roles and relationships bring them into direct contact with many members of the community, such as teachers, faith leaders, social-service providers, librarians, civil society leaders, community health workers, and small-business owners. They are often described as trusted messengers and considered essential partners in many health initiatives. As informal information hubs, they are also uniquely positioned to notice recurring issues, questions, concerns, rumors, and information gaps within their communities.

The community sentinel approach to listening borrows from sentinel surveillance, in which a limited number of deliberately selected sources report regularly on specified events or conditions. What distinguishes community sentinel listening from one-off listening is its structured, recurring nature: sentinels share what they encounter at regular intervals through a short reporting form, text message, hotline, digital tracker, or group check-in. In some community sentinel models, only decision-makers analyze and share the information; in others, answers, resources, or changes in services flow back through the same community relationships.

Sentinels can often provide more than the content of a question or rumor: they may understand why it resonates, what values, experiences or fears sit behind it

Because sentinels encounter people in settings where questions naturally arise, they can provide access to conversations that are difficult to capture through polls, public social media, or other formal listening approaches where the topics of inquiry are predetermined. This can be particularly valuable in communities where information circulates in bounded social media spaces, in languages poorly covered by digital monitoring tools, or primarily through face-to-face relationships. Sentinels can often provide more than the content of a question or rumor: they may understand why it resonates, what values, experiences or fears sit behind it, which groups are discussing it, and what sources people trust.

Building on existing roles and relationships can also make sentinel networks faster and less costly to operate than repeated qualitative studies. With continuous reporting, these networks can identify changes over time or detect weak signals before they become visible through other sources. Models that share insights back to sentinels and invest in co-creating useful information responses that can help break down existing information hierarchies. This allows a more integrated system of learning and responding, strengthening the capacity of individuals and local organizations to answer questions and build resilience to information disorder, demonstrating to residents that their concerns have been heard, and meeting ongoing community information needs.

These strengths also create the method's principal limitations. Sentinel networks are purposely assembled, not randomly sampled, and their reports should not be interpreted as estimates of how common a belief or concern is across an entire population. Who is selected as a sentinel determines what the system can see and hear: pediatricians hear primarily from families who have access to and seek clinical care; community health workers may hear disproportionately from people connected to services; faith leaders hear from those who participate in their congregations. Reports are also filtered through each sentinel's memory, judgment, relationships, and understanding of what the listening organization considers important.

Regular reporting can burden people whose primary responsibilities lie elsewhere; participants can feel overwhelmed by the number and range of questions they begin noticing. Ethical questions can arise when sentinels report conversations that community members did not know would inform a listening system. As such, sentinels should be organized and led by local organizations who are in relationship with residents, know the history of their community and how people have interacted with systems and institutions, and can share insights and findings back with sentinels on a regular basis. Diverse recruitment, appropriate compensation, clear privacy practices, training and support, and a visible response to what is reported are central to the model.

In Portugal during the COVID-19 pandemic, the nation's health ministry applied this model by working with trusted messengers and micro-influencers across the nation, from firefighters, scout leaders and representatives of university societies to municipality leaders and teachers, to act as "[listening posts](#)" and information sharers, creating a fluent system of multidirectional information sharing that directly impacted the distribution of resources and information. In 2023, the Information Futures Lab piloted a version focused on Hispanic and Latino communities in South Florida, combining in-person events for relationship and community building with weekly surveys to capture what 25 trusted messengers were hearing in their communities. The project yielded novel knowledge, such as what information needs rise to the top across all issue areas, and highlighted that only 19% of people's questions and concerns were related to rumors and misinformation (Friedhoff & Perez-Verdia 2026).

A more recent example is Children's Hospital of Philadelphia (CHOP), which, in an effort to listen deeply and address health information challenges, invites top pediatricians to use an online tracker to share what they are hearing from their patients. Each month, CHOP responds to trending questions and concerns from the tracker on the [Pediatric Health Chat](#) website they created. Similarly, in a number of African countries where WhatsApp is very popular, different pilots have been rolled out (Agbor et al. 2021; [Bowles et al. 2020](#); [Winters et al. 2021](#)) including a recent project in Cameroon where health care workers monitored their own WhatsApp channels with the goal of developing capacity to respond to health-related misinformation via those same sentinels (Titanji et al. under review).

9. Expressed needs trackers

In many communities, helplines and call centers routinely capture health-related needs by fielding requests for assistance from community members and providing referrals, services, or counseling that could help address the requests. These systems, originally called “information and referral systems” (Levinson 2002) but now more commonly known as “community resource referral systems” (Cartier et al. 2020), can be staffed by trained specialists who interact directly with callers in real time, listening to their needs and trying to identify available local resources that could help. A wide range of helplines have been established to serve the general public, but also populations with specialized needs such as veterans, older adults, and those experiencing particular challenges with gambling, substance use, mental health, suicide and other crises. Systems vary in the extent to which they code callers’ requests into categories and make the data available publicly (Hall et al. 2012), but in some cases aggregated, de-identified data summarizing requests within a community can be accessed within a day.

A major advantage of this kind of community listening is the inherent validity of the data. The requests received are literal calls for help, unsolicited statements of need being directly expressed by a community member. As it relates to health, requests to community resource referral systems have been found to be strongly associated with a range of health outcomes (Purnell et al. 2012; Pirkis et al. 2016; Garg et al. 2021). Nationally and in many communities, the volume of needs requests captured by these organizations is considerable, calls are time- and date-stamped and classified into need categories to help detect rising threats in a community and often can be examined at a hyper-local level, geographically.

Some helplines have also captured callers’ open-ended responses. For example, when Washington 211 became the state’s [designated helpline](#) for COVID-19 information during the pandemic, their operators entered text notes about each call to better understand what people needed. These notes identified technology access and transportation as barriers to vaccination and found a high volume of unanswered questions from small business owners about safety guidelines. This example also illustrates why helpline operators are considered excellent candidates for community sentinel roles.

A major advantage of this kind of community listening is the inherent validity of the data

Another advantage of “listening” through expressed needs trackers is that many helplines are used primarily by those in crisis or experiencing acute material hardship (Kreuter et al. 2021). These users are disproportionately from lower-SES or other groups (e.g., older adults) whose voices aren’t always captured using other listening approaches (Kreuter 2012). However, this also makes information from expressed needs trackers less generalizable to community-wide samples.

[211 Counts](#) is an example of a widely used expressed needs tracker. Every day, over 40,000 Americans dial 2-1-1 seeking help with basic needs like food, rent, utility bills, or transportation. 211 connects them to nearby service providers that may be able to help. Each request is coded using an extensive taxonomy of needs and linked to the caller’s ZIP code. 211 Counts then makes these expressed needs available on over 100 local and statewide data dashboards. Users can examine needs in their communities by ZIP code, school district, and legislative district, seeing time trends and high-need places.

Listening to expressed needs through 211 Counts detected surges in requests for food, toilet paper, and rent assistance during different phases of the COVID-19 pandemic (Kreuter et al. 2020-A), a rapid rise in food assistance requests when the 2025 federal government shutdown threatened to delay SNAP benefits (Kreuter & Garg 2025), and [early warning signs](#) of the 2008 housing mortgage crisis. It revealed public responses to pandemic-era policies such as [eviction moratoriums](#) and [utility disconnection bans](#), and [other COVID impacts](#), and has been used to understand how economic conditions affect local populations (Summers-Gabr & Rogers 2026) and to assess the capacity of local safety net systems to address community members’ needs (Kreuter et al. 2020-B).

Part 2: Combining insights from multiple streams of community listening about health

From the examples above, it's clear that different listening approaches capture different information in different ways from different populations. The approaches vary along many dimensions. How local is the listening? Who is represented and who is not? How current is the information? How deep or superficial is the information? What is the scale of listening (i.e., how many people are contributing information)? What kind of information is being captured (e.g., needs, questions, opinions, behavior)? To what degree is the information health-related (e.g., on a continuum from health-centric to health-adjacent)? And are there established links between the information collected and consequential outcomes such as health-related decisions or behaviors? Practical differences also matter, such as the cost of executing different approaches or the availability of the information they produce.

One hallmark of information-to-action systems is their ability to process and integrate different types of information from different sources into analyses that yield deeper, actionable insights with greater confidence. For example, while it's impossible to know exactly what sources of information are available to intelligence services that monitor potential threats, we know that U.S. intelligence gathering is supported by [18 government agencies](#) contributing unique information such as military intelligence, event analysis, satellite imagery, cybersecurity assessments, crime investigation, human-source intelligence, and more. Even more secretive is how these streams of information are organized and analyzed to identify potential threats, and the thresholds for acting to protect U.S. interests. Media portrayals of teams of analysts staring at multiple screens in darkened rooms provide a mental image of how information from modern surveillance, or listening, is examined in an intelligence context.

The listening system for weather forecasting is more transparent. "Listening" in this context includes some human-source information from weather spotters on the ground but mostly relies on monitoring conditions in the physical environment. The National Weather Service collects information from multiple data sources, including satellites that continuously monitor the Earth's atmosphere, temperature and surface, along with ocean buoys, weather balloons, stream gauges, wind speed devices, aircraft and Doppler radar.

One hallmark of information-to-action systems is their ability to process and integrate different types of information from different sources

For example, according to [their website](#), the National Weather Service's Nexrad (Next Generation Radar) is a network of 159 Doppler radar stations that scans weather data in two million locations. These sources feed statistical models to generate actionable information, most visible as severe weather watches and warnings, and forecasts of upcoming weather conditions – both notably localized to give them meaning at a community level and delivered by trusted human meteorologists. These information products provide societal benefits not only to the public, but also to businesses such as airlines, and other government agencies such as the military.

[Global disease surveillance](#) also relies on multiple data sources. The Integrated Disease Surveillance approach model accesses different data streams: some are 'indicator'-based, structured data such as an uptick in the number of visits to doctors' offices for specific symptoms, or lab results. Others are 'event'-based, such as Google search data, or reports circulating on social media. Reports coming directly from the community also help create a more nuanced understanding of what might be happening. Other examples include [wastewater surveillance systems](#) that combine multiple data sources to understand how exposure to disease agents is occurring within a community or even at the block level, or the [CDC's Respiratory Virus Tracking](#) system that regulates ER visits with positive lab results alongside wastewater surveillance.

All of these examples share a general process of collecting information, processing it for analysis (including integrating multiple streams of information), analyzing it, summarizing the insights gained and recommendations, and sharing them with various audiences that can act upon them. This sequence provides a roadmap for creating a similar community listening system for health.

Although public health currently has no such system to integrate various streams of health information from the public, smaller-scale examples provide a glimpse of what may be possible. One example of layering information from different listening approaches and sources occurred during the COVID-19 pandemic. A small team within the U.S. Centers for Disease Control and Prevention (CDC) created a multi-stream health information monitoring system to understand different U.S. information ecosystems, focusing on rumors as well as questions and concerns that were circulating. Via thirty-four bi-weekly reports called the State of Vaccine Confidence, the team systematically monitored a variety of data streams (Kolís et al. 2024). These included social media listening (using keywords, search strings and lists of accounts talking about the virus), messages left on CDC’s national helpline, CDC-INFO, comments left on the CDC’s own social media accounts, traffic to CDC webpages, requests from journalists, as well as insights from third-party monitoring organizations. Together, these data streams helped CDC and its federal agency partners prioritize research and programmatic efforts, as well as their communication priorities for public information.

Combining streams of listening information about health may also improve its accuracy

Research suggests that combining streams of listening information about health may also improve its accuracy. For example, Google Flu Trends, an internet search tracking system designed to predict influenza, was initially heralded as a success before significant flaws led to its suspension (Lazer et al. 2014). Google Flu Trends’ problem stemmed from using generalized query data that required researchers to assume a search for “influenza” meant someone was ill rather than something else, such writing a school report. However, such systems are responsive to improvements based on source data. Systems leveraging experts as sentinels can improve sensitivity and specificity at lower data quantities (Santillana et al. 2014), suggesting improved accuracy at lower cost. Hence, combining information from internet search trackers with observations from community sentinels improves our level of confidence that we understand public beliefs or concerns about a health issue.

Part 3: Guiding principles for designing community listening infrastructure

A grand vision for community listening infrastructure in public health would likely include a robust set of listening sources generating a constant flow of local and national information captured using different listening approaches; a process for integrating information from across these streams; modern methods to analyze the information and gain deeper insights; networks to share the information widely across the health information ecosystem to inform decisions, priorities, and discourse; and a governance framework to ensure all of these activities are conducted ethically and with community participation.

To increase the likelihood of achieving that vision, listening efforts should be designed to adhere to certain guiding principles. With no set of principles yet established or agreed upon, we offer some initial suggestions, building on (but not strictly adhering to) knowledge gleaned and lessons learned from the development of structurally similar systems in epidemiology and public health. In addition, ethical principles for community listening can be drawn from research on ethical aspects of epidemiological data gathering and response (Klingler et al. 2017), and WHO [guidance](#) on ethical principles of social listening in emergency settings. We summarize some of those principles below and in Table 2.

Before building a community listening system, teams must make foundational choices that carry risk. Just as important is ensuring that the basic preconditions for successful listening systems are actually in place; proceeding without them jeopardizes the system’s viability from the outset. The framework chosen to guide public health surveillance shapes the recommendations that follow.

Issues in system design and implementation

Once the groundwork is set, attention turns to deciding which specific community listening system to build. This requires weighing competing priorities and constraints and understanding who will use the system’s outputs and how. Adequate design is its own challenge, requiring careful attention to how the system will function in practice rather than just in theory. For example, how will different streams of listening information coming from different sources be accessed in a timely manner, and what incentives will those collecting the listening information have to prioritize sharing it?

Table 2. Key principles and justifications for designing and implementing a community listening system.

Principle	Justification
Listening must have a clear purpose and objective, developed in partnership with participants	If community listening has value, we should be able to evaluate and track it, holding listening efforts accountable if they do not meet stated objectives.
Those being “listened to” must be actively involved in co-creating the system	Listening without consent and participation is surveillance. The inherent power inequality between listeners and those sharing information has no place in an equity-focused program.
Listening should focus not only on needs but solutions	The U.S. Preventive Services Task Force (USPSTF) recommends certain screening activities only when they are implemented in situations where accurate diagnosis, treatment and follow-up can be offered. Similarly, community listening efforts should include responsible, community-informed plans for response when activation thresholds are triggered. Moreover, community listening can and should invite community members to help shape possible solutions, expressing their questions, concerns, and preferences.
Listening must include mechanisms to monitor both continuous and episodic hazards	The corrosiveness of some harmful information is immediate (e.g. child sexual abuse material); corrosive narratives can also erode trust over longer timescales. Listening efforts must have detection and response mechanisms to address both and support structures should be in place to support the mental health of those ‘doing’ the listening.
Listening efforts should avoid redundancy and duplication	During the pandemic, many listening systems were established, but overlap in data collection, display, and analysis was common, effectively putting them in competition for funding. Economies of scale can only result from consolidating redundant efforts.
Listening efforts should be cross-disciplinary	The sharing and information flow dynamics of one topic (e.g. vaccines or peptides) may be similar to other non-health topics (e.g. election-related disinformation or climate misinformation). This allows community listening systems for such topics to share the same back-end even if the user interface is customized to specific topics. Cooperation across disciplines enables economies of scale and helps build listening infrastructure in flexible, agile ways that increase sustainability.
Listening efforts should prioritize interoperability	Listening systems should make it as easy as possible to combine information from different approaches to get a fuller understanding.
Listening efforts should have stakeholder-driven feedback mechanisms	Insights from listening should trigger action when it is indicated. Relevant stakeholder communities should periodically review the action threshold for interventions and the interventions themselves.
Established community listening efforts should contribute to a common listening system	Current listening efforts provide an outstanding initial base of information, but are largely piecemeal, boutique-like efforts, focused on different issues in different populations. A listening system should allow both individual listening projects and a larger listening system to thrive.

Even a well-designed system faces real risks once implementation begins: the process of building and operating a listening system introduces its own set of hazards that can compromise its effectiveness or integrity. For example, how can you ensure that analysis and interpretation of listening information are not biased by those designing and carrying out the tasks, and benefit from the insights of those from whom the information originated?

Issues in data collection and analysis

The choice of listening approaches carries its own risks, because overreliance on any single approach can introduce bias, leave gaps, or have unintended consequences. A particular concern is failing to adequately account for the perspectives of all groups, particularly those that have been historically underrepresented, mischaracterized, or disproportionately burdened by listening efforts, or excluded from consultation about analysis and action resulting from listening. Community listening may also yield insufficient information to meaningfully guide public health action, creating the risk of establishing a listening system without benefit. In other listening and surveillance systems, such as intelligence, a key part of the analysis phase is identifying gaps in information and feeding that back into the system to drive further listening efforts to fill the gaps. Running alongside all of this is the need to protect individual autonomy and the right to privacy throughout the processes of listening, integrating, and analyzing information.

Issues in reporting, sharing, and using listening information for action

Privacy and confidentiality concerns are ever-present in all approaches to community listening and arguably intensify once listening moves into reporting and sharing. Individuals or communities are also put at risk when labeled as suffering from particular health issues, especially if communities' assets receive comparatively less attention. Such labeling can inflict real harm or restrict freedoms, even when the intent is protective. Finally, there is the risk of the opposite failure: collecting and reporting data but not adequately using it, forgoing the public health benefits the entire system was meant to deliver. One recent study illustrates both concerns. A survey of diverse communities across multiple states found that although support for wastewater monitoring was high, some respondents worried that wastewater data might be "used against certain neighborhoods," while others feared that it might be used to justify neglecting underserved communities (Kreuter et al. 2026).

Conclusion

Public health lacks and needs modern, sophisticated community listening infrastructure. There are many community listening approaches to draw upon, each with their own strengths and limitations and all currently being used to listen to the public about health-related issues. Collectively, these approaches and the information they yield are complementary. However, current listening efforts are poorly coordinated, and there is even less integration and analysis of the information being captured. As a result, public health is missing opportunities to strengthen its responsiveness to community needs. Collecting, processing, and analyzing multiple streams of information are hallmarks of listening systems established in other sectors, which can serve as models for what public health needs.

This paper is an initial attempt to make the case for building community listening infrastructure in public health and to propose a set of core functions and guiding principles to inform its design and implementation. It is undoubtedly incomplete. We invite others to help flesh out, refine and even challenge these ideas, in the spirit of collective problem solving. We are less interested in this as conceptual exercise than as a design and implementation challenge. We welcome partners who share this interest.

Contributors

Claire Wardle is Associate Professor, Department of Communication, Cornell University; Matthew Kreuter is the Kahn Family Professor of Public Health, WashU Bursky School of Public Health; David Scales is Clinical Assistant Professor of Medicine, Cornell University; Stefanie Friedhoff is Professor of the Practice and Co-Founder of the Information Futures Lab, Brown University School of Public Health; Samantha Totoni is a postdoctoral associate, Department of Communication, University of Pittsburgh; Evelyn Perez-Verdia is President and Chief of Strategy, We Are Mas, LLC; Christopher Voegeli is Distinguished Visiting Scholar at the Annenberg School for Communication at the University of Pennsylvania.

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