

**Science vs. Sensationalism:
A Case Study of Science Communication in Raw Milk Mass Media Coverage**

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The detection of H5N1 in dairy cows marks the first-known instance of Avian Influenza infecting cattle (FDA, 2025), a development with significant implications for both public health, public understanding, and agricultural policy. This unprecedented event has intensified debates over raw milk safety, regulation, and public perception. Although scientific consensus warns against unpasteurized dairy consumption due to potential health risks (Ablan et al., 2024; Angulo et al., 2009; Claeys et al., 2013; Lucey, 2015; Vranješ et al., 2015), media narratives influence consumer understanding and decision-making. Thus, framing of raw milk consumption in the media is critical as it not only shapes public opinion on food safety but also impacts food policy, risk perception, and trust in regulatory agencies. In the age of digital media, the spread of misinformation and the influence of non-expert voices can amplify confusion around food safety. Our study examined how the mass media framed raw milk during 2024-2025 and presented mis- and disinformation and described the role of source credibility in shaping public discourse. Our research aligns with the AAAE research agenda, particularly in advancing public knowledge of agriculture, food and natural resources systems, examining social dynamics in human and life sciences, fostering healthy living, and promoting personal responsibility and safety in AFNR systems. By analyzing how the media framed the consumption of raw milk in the last year, our study contributes to a broader understanding of effective science communication in agricultural contexts.

Theoretical Framework

Our study applied framing theory (Entman, 1993) and risk perception theory (Slovic, 1987) to examine media narratives related to raw milk safety in 2024 and 2025. Framing theory explains how information presentation shapes perceptions, attitudes, and decision-making, and risk perception theory explores how individuals and groups assess risks beyond statistical probabilities. The two theoretical frameworks provide insight into how media language, source selection, and contextual cues emphasize or minimize risk. Additionally, science communication models (e.g., Burns et al., 2003) guide the evaluation of fact-based versus ideologically driven narratives. Research on misinformation and public perception (e.g., Settle et al., 2023) highlights the increasing influence of social media and alternative health advocates in shaping food safety dialogue, debates, and information dissemination.

Method

A qualitative content analysis was conducted on 22 news articles from ABC, CNN, NPR, CBS, FSN, Newsweek, and FDA press releases. We collected the articles using tailored Google searches with the keyword of *raw milk*. Articles were published between March 2024 and February 2025, capturing media coverage from the initial detection of H5N1 in dairy cows through ongoing regulatory discussions. Only mass media sources were selected to analyze how mainstream news outlets framed raw milk during this period. Articles were coded for framing strategies, including public health, consumer choice, health benefits, or a matter of government regulation. Multi-researcher thematic coding was employed as a measure of triangulation to ensure trustworthiness. Additionally, misinformation levels and sensationalist language were

assessed to determine how media narratives shaped risk perception. The analysis examined source credibility by evaluating whether articles cited scientific authorities, government agencies, or influencers. Machine learning techniques like text mining/topic modeling were also employed to identify the topics and themes based on the top 50 most frequently used words.

Results and Discussion

Our analysis revealed most mainstream news outlets, including ABC, NPR, AP, and FSN, framed raw milk as a public health risk, reinforcing CDC and FDA warnings. The most frequent words were *sick, disease, bacteria, risk, virus, infected, contaminated, pathogens, recalled, harmful, symptoms, influenza, foodborne, safety, illnesses, salmonella, and e-coli*. Public health risk framing and fear-based narratives were emphasized. Some articles, particularly from CBS, Food & Wine, and LA Times, framed raw milk as a consumer choice issue, emphasizing personal freedom rather than health concerns, consistent with Regusci et al.'s (2022) findings. Influencer-driven content promoted raw milk as a natural health product, often without scientific evidence, and frequently challenged regulatory restrictions as government overreach. Words like *benefit, health, and product* highlighted the health-related claims. Sensationalist language was most prevalent in Food & Wine and CBS coverage with frequently used words such as *pets* and *cats* paired with *infection* and *death*. Neutral reporting was observed in FDA, NPR, and ABC News. Government and scientific sources were primarily cited in fact-based reporting evident with words like *experts, university, research, and officials*, while influencer-driven articles relied on alternative health advocates, which contributed to the spread of mis- and disinformation about raw milk benefits. Our findings support prior research on food safety crises, indicating negative coverage and fear-based narratives often dominate public discourse (Irlbeck et al., 2014). When comparing to a plant-based milk framing study (Regusci et al., 2022) highlights how consumer-driven narratives can override scientific consensus, particularly when food choices are linked to personal values. Our study reinforces findings of Settle et al. (2023), indicating digital media platforms and influencers play a significant role in shaping public trust in food safety messaging.

Conclusions and Recommendations

Our study identified key communication strategies used by the mass media: public health framing, fear-based narratives, consumer choice framing, health benefit framing, sensationalist narratives, and the use of scientific framing. Findings indicate consumer choice framing reflects public distrust in science communication. Given the parallels between raw milk and other food safety controversies, policymakers should explore ways to strengthen public trust in food science. The growing influence of online health influencers (Settle et al., 2023) emphasizes the need for science communicators to engage trusted community figures who can translate scientific findings into accessible messaging for skeptical audiences. Research on past food crises, such as the 2008 Salmonella outbreak, confirms that media framing plays a crucial role in public compliance with health regulations (Irlbeck et al., 2014). Understanding framing strategies can help public health agencies refine messaging during food safety crises. Future research should examine the effects of algorithm-driven media exposure on public perceptions of food safety, particularly when scientific messaging conflicts with popular narratives. The prevalence of misinformation in certain news sources emphasizes the need for more proactive engagement from public health agencies to counteract misleading narratives before they gain traction.

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