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MEDIA, MEDICINE AND POLITICS IN KASHMIR: A MIXED-METHODS STUDY OF HEALTH COMMUNICATION, FRAMING AND PUBLIC TRUST

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ABSTRACT

Background: In conflict-affected regions, mass media serve as critical lifelines for public health literacy, yet their operational capacity is compromised by structural instability, institutional politicisation, and state-enforced communication blockades. Between August 2019 and December 2021, the Kashmir Valley experienced a unique "compound crisis": the political reorganization and prolonged telecommunications blackout following the abrogation of Article 370, followed immediately by the first and second waves of the COVID-19 pandemic under strict mobile bandwidth throttling (2G). Empirical evidence examining the intersection of media framing, clinical health delivery, and civic trust during this critical triennium remains scarce.

Objective: To examine how public health issues were framed within Kashmiri print and digital media between 2019 and 2021, evaluate how audiences consumed and trusted health information across urban and rural divides under blackout and bandwidth-restricted conditions, and investigate how political pressures and infrastructural blockades conditioned journalistic production and healthcare-seeking behaviors.

Methods: A convergent parallel mixed-methods design (Ntotal = 2, 028) was implemented across three concurrent components: (1) quantitative content analysis of N = 1, 286 health-related news articles published between January 1, 2019, and December 31, 2021, across seven regional and national news outlets circulating in Kashmir, categorized by ownership structure (state-aligned vs. independent) and language (English and Urdu), coded using Krippendorff's alpha ($\alpha \geq 0.83$); (2) a cross-sectional probability survey (N = 720) of adult residents across stratified urban (Srinagar, Budgam) and rural/border districts (Kupwara, Baramulla, Anantnag) fielded in late 2021, evaluating media channel reliance, perceived partisan bias, misinformation susceptibility, and Health Belief Model (HBM) parameters; and (3) semi-structured qualitative interviews (N = 22) with health journalists, senior clinicians, directorate officials, and community health workers, analyzed via reflexive thematic analysis. Strands were integrated through multi-dimensional joint display matrices.

Results: Quantitative content analysis documented an acute agenda-setting distortion: communicable infectious disease reporting (primarily COVID-19) and physical hospital infrastructure dominated news agendas, accounting for 44.17% and 24.81% of coverage, respectively. In contrast, psychiatric

trauma, clinical depression, and anxiety disorders received only 5.91% (n = 76) of total health coverage ($\chi2(6) = 1, 214.3$, $p < 0.001$), despite regional psychiatric morbidity exceeding 45%. Framing of statutory health entitlements particularly the launch of the Ayushman Bharat PM-JAY SEHAT scheme in December 2020 diverged significantly by media ownership: state-aligned outlets framed programs predominantly through "Governance Triumph/Developmental Progress" frames (48.98%), whereas independent outlets emphasized "Accountability/Structural Inadequacy" frames (42.34%; $\chi2(4) = 168.72$, $p < 0.001$, Cramér's $V = 0.362$). Multivariable regression indicated that primary reliance on algorithmic social media and peer-to-peer messaging networks was the strongest positive predictor of misinformation endorsement ($\beta = 0.36$, $p < 0.001$). Perceived partisan bias in media coverage was inversely related to institutional medical trust ($\beta = -0.31$, $p < 0.001$). Controlling for education, income, and device ownership, rural residency more than doubled the odds of reporting severe health information deprivation (OR = 2.58, 95% CI [1.79, 3.72], $p < 0.001$), a deficit heavily magnified by the 550-day communication blackout and 2G throttling (OR = 2.14, $p < 0.001$). Qualitative narratives revealed that the telecommunications blackout crippled emergency telemedicine, blocked clinician access to international clinical trial data, and created an information void that catalyzed vaccine hesitancy.

Conclusions: Between 2019 and 2021, public health communication in Kashmir operated under an acute "epistemic siege," where top-down security measures and digital blockades intersected with bottom-up vernacular rumors to erode institutional trust during a deadly pandemic. Establishing crisis-resilient decentralized offline communication channels and depoliticizing public health infrastructure are vital imperatives for conflict-affected health governance.

Keywords: health communication; media framing; conflict zones; Kashmir; public trust; health misinformation; mental health; agenda-setting; communication blackouts; COVID-19; mixed-methods research

INTRODUCTION

Health communication is inextricably shaped by political, infrastructural, and institutional contexts. In conflict-affected regions, mass media perform a paradoxical function: they serve as vital public lifelines for the dissemination of preventive, prophylactic, and therapeutic guidance, while simultaneously functioning as contested ideological terrains where competing political narratives are waged through public welfare discourse. Between January 2019 and December 2021, the Kashmir Valley experienced an unprecedented, concentrated sequence of sociopolitical and public health shocks:

1. On August 5, 2019, the Government of India revoked the special semi-autonomous status of Jammu and Kashmir under Article 370 of the Constitution, reorganizing the state into two Union Territories. This administrative shift was accompanied by the imposition of strict curfews, widespread preventive detentions, and a total telecommunications shutdown that suspended landline telephony, cellular voice services, broadband internet, and mobile data.
2. Voice connectivity and broadband were only restored in phases in early 2020, while high-speed mobile internet (4G) remained throttled to second-generation (2G) speeds across most districts until February 2021 amounting to an 18-month digital restriction.
3. This infrastructural blockade directly collided with the global COVID-19 pandemic. The Valley confronted the initial outbreak in March 2020 under 2G restrictions, followed by the catastrophic second wave (Delta variant) in the spring of 2021, which overwhelmed regional oxygen reserves and tertiary hospital capacities.
4. Concurrently, in December 2020, the central government rolled out the universal Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) SEHAT scheme in J&K, which was framed alternatively as an emblem of administrative integration and welfare benevolence, or scrutinized as an under-resourced insurance program dependent on fragile digital infrastructure.

Prior academic literature evaluating Kashmiri health communication during this triennium has remained descriptive, fragmented, and disconnected from mass communication theory. Systematic

content data measuring the prioritization of somatic versus psychiatric illnesses are absent; representative audience-level data regarding institutional trust, media diets, and misinformation susceptibility are lacking; and empirical models integrating journalistic production under blackout conditions with public reception have not been operationalized.

This study resolves these gaps by investigating the structural circuit of health communication in Kashmir between 2019 and 2021: linking political-economic and infrastructural constraints on news production, empirical patterns of media content, and civic cognitive, epistemic, and health behavioral outcomes.

1.1 Research Questions

- RQ1: How did Kashmiri newspapers and digital outlets frame critical public health concerns (infectious epidemics, mental healthcare, maternal and child health, and state health insurance schemes) between 2019 and 2021, and how did framing diverge across media ownership structures, formats, and linguistic traditions?
- RQ2: What proportion of public health coverage was allocated to psychiatric morbidity relative to communicable diseases and hospital infrastructure during the 2019–2021 compound crises?
- RQ3: To what extent did media channel dependency, perceived partisan bias, and infrastructural telecommunication access predict health literacy, institutional medical trust, and vaccine attitudes among urban and rural citizens during the 2021 pandemic peak?
- RQ4: How did professional journalists, clinical practitioners, and public health administrators negotiate editorial gatekeeping, regulatory pressures, and the prolonged telecommunications blackout during public health emergencies?

1.2 Hypotheses

- H1: Mental health received a statistically significant smaller proportion of media coverage than communicable infectious diseases and physical infrastructure topics across print and digital platforms between 2019 and 2021.
- H2: The dominant framing of statutory health schemes (e.g., AB-PMJAY SEHAT) differed significantly by media ownership structure, with state-aligned outlets favoring progress/governance frames and independent outlets favoring structural accountability/deficit frames.
- H3: Higher audience reliance on algorithm-driven social media and encrypted messaging platforms as primary sources for health information was positively associated with endorsement of health-related misinformation.
- H4: Public trust in clinical and statutory health institutions was inversely related to perceived partisan bias in regional media health coverage.
- H5: Rural residents reported significantly lower access to verified health advisories and lower institutional health literacy than urban residents during the 2019–2021 crises, controlling for education, household income, and digital device ownership.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 The 2019–2021 Epidemiological Context: Compounded Trauma in Kashmir

Protracted armed conflict alters the social determinants of health by disrupting supply chains, depleting human capital, and exposing civilian populations to chronic psychosomatic distress. In the Kashmir Valley, this structural fragility was compounded during 2019–2021 by back-to-back socio-political and biological lockdowns.

While somatic conditions (e.g., cardiovascular disease, chronic respiratory disorders, and maternal-neonatal complications) remained high, psychiatric illness represented the region's most acute public health vulnerability. In the landmark Kashmir Mental Health Survey (2015) conducted by Médecins Sans Frontières (MSF) in partnership with the Institute of Mental Health and Neurosciences (IMHANS, GMC Srinagar) and the University of Kashmir, clinical screening across all 10 districts revealed that 45% of the adult population (approximately 1.8 million individuals) suffered from significant psychological distress. Probable depression was identified in 41% of adults, probable anxiety in 26%, and probable Post-Traumatic Stress Disorder (PTSD) in 19%, with rural women experiencing the greatest clinical burden (Housen et al., 2017).

Following the August 2019 constitutional revocation, localized clinical surveys documented an acute surge in acute stress reactions, severe panic episodes, and clinical relapses. When the COVID-19 pandemic struck in early 2020, it imposed a secondary layer of isolation, bereavement, and economic shock. Despite this documented psychiatric emergency, regional clinical infrastructure remained heavily biased toward acute somatic medicine, while community psychiatry remained chronically underfunded and stigmatized.

2.2 Health Communication, Misinformation, and Epistemic Fragility

Health communication models establish that targeted public messaging can mitigate epidemic spread, correct behavioral risks, and promote therapeutic compliance, provided that information channels are verified, cultur-ally resonant, and institutionally trusted (Schiavo, 2013; Snyder, 2007; Wright et al., 2012). However, during pandemics, societies frequently encounter an "infodemic" an overabundance of contradictory, unverified, and misleading digital narratives that undermine health literacy.

In conflict zones, epistemic trust the willingness of an individual to accept authoritative claims as truthful and actionable is severely compromised. Decades of political contestation generate deep-seated skepticism toward official state channels. When state authorities are perceived as ideological adversaries, official health advisories are frequently viewed with defensive cynicism. Between 2019 and 2021, this dynamic fueled the rapid diffusion of medical conspiracism across Kashmiri society. Unverified narratives ranging from allegations that the administration exaggerated COVID-19 infection statistics to suppress civil assembly, to viral WhatsApp claims that vaccines induced female infertility or altered DNA circulated through peer-to-peer networks, complicating clinical triage and vaccination campaigns.

2.3 Structural Violence and the 550-Day Digital Siege

The politicisation of health communication was intensified by infrastructural disruptions. Between August 4, 2019, and February 5, 2021, Jammu & Kashmir was subjected to the longest continuous telecommunications blackout and high-speed mobile internet suspension ever recorded in an electoral democracy.

Empirical studies on the clinical and communicative impact of this digital restriction revealed severe operational disruptions:

- Paralysis of Digital Health Entitlements: The central government launched the universal AB-PMJAY SEHAT scheme in J&K on December 26, 2020. However, the registration and validation process required real-time online biometric authentication, uploading of family ration card databases, and digital "Golden Card" generation. Under 2G bandwidth, server timeouts were pervasive, preventing impoverished rural patients from accessing cashless tertiary hospital care.
- Disruption of Clinical Guidelines and Telemedicine: During the first wave of COVID-19 in 2020, Kashmiri clinicians were unable to download large diagnostic datasets, high-resolution CT chest scans, or emerging international critical-care protocols from the WHO and ICMR due to throttled 2G speeds (50–100 kbps). Real-time telemedicine consultations to rural primary health centers collapsed.
- Information Vacuums and Rumor Ecology: Local print newspapers were unable to publish or update web editions for months following August 2019. Journalists operated from a heavily monitored, government-established "Media Facilitation Centre" in Srinagar, queuing for hours to access a handful of monitored internet terminals. This institutional silence created an unprecedented information vacuum that was swiftly filled by localized word-of-mouth rumors and unverified forwarded messages.

2.4 Theoretical Integration

The conceptual architecture of this 2019–2021 investigation integrates four established theoretical models into a unified analytical paradigm:

1. Agenda-Setting Theory (McCombs & Shaw, 1972): Posits that news salience determines public priorities. It operationalizes the longitudinal balance between visible somatic emergencies (COVID-19, oxygen infrastructure) and invisible psychological distress (RQ1, RQ2, H1).
2. Framing Theory (Entman, 1993): Evaluates how news outlets selected and highlighted specific

interpretive angles regarding state welfare programs (AB-PMJAY SEHAT) and pandemic containment, contrasting "administrative benevolence" against "structural collapse" across differing ownership models (RQ1, H2).

3. Health Belief Model (Rosenstock, 1974): Analyzes individual health decision-making (vaccine compliance, hospital presentation) as a function of perceived susceptibility, severity, benefits, and structural barriers (telecommunications blackout, security checkpoints, institutional cynicism) (RQ3, H3, H4, H5).
4. Development and Participatory Communication (Servaes & Malikhao, 2008): Evaluates top-down, centralized bureaucratic public relations versus bottom-up, community-led health communication, guiding practical newsroom and policy recommendations (RQ4).

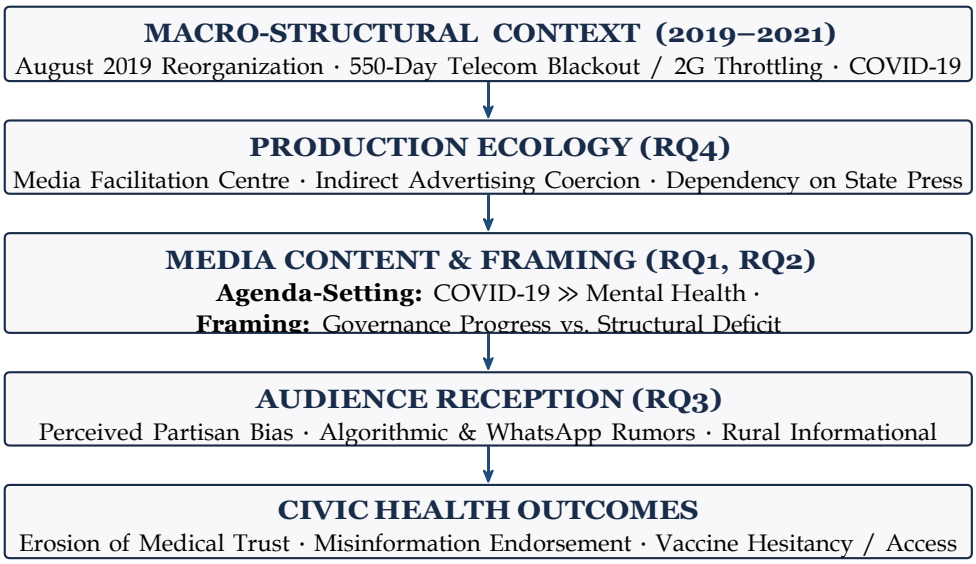


Figure 1: Integrated Conceptual Architecture of Health Communication in Kashmir (2019–2021)

3. METHODOLOGY

3.1 Research Design

This study utilized a convergent parallel mixed-methods design (QUAN + QUAL) (Creswell & Plano Clark, 2018). Quantitative content data, cross-sectional audience survey metrics, and qualitative semi-structured interviews were gathered across the 2019–2021 timeframe and integrated at the interpretation stage using joint display matrices.

3.2 Study Setting and Sampling Stratification

The study was conducted across the Kashmir Valley, stratified into two distinct sociodemographic clusters:

- Urban/Accessible Strata: Srinagar and Budgam districts, characterized by higher literacy, proximity to tertiary referral centers (SKIMS Soura, SMHS Hospital), and earlier restoration of broadband internet.
- Rural/Peripheral/Border Strata: Kupwara, Baramulla, and Anantnag districts, characterized by rugged topography, agrarian economies, fragmented sub-district hospitals (SDHs), chronic medical staff vacancies, and heightened vulnerability to security curfews and local communication blockades.

3.3 Component A: Quantitative Content Analysis

3.3.1 Sampling and Archive Retrieval

The content universe comprised all health-related news articles published between January 1, 2019, and December 31, 2021 across seven prominent regional and national news publications circulating in Kashmir: Greater Kashmir (English, regional private daily; ad-dependent), Rising Kashmir (English, regional private daily; ad-dependent), Kashmir Reader (English, independent private daily), Daily Aftab (Urdu, regional vernacular daily), Daily Excelsior (English, Jammu/Kashmir-wide daily;

state/nationalist-aligned), The Kashmiriyat (English/Urdu, hyper-local independent digital portal), and The Indian Express (J&K Bureau, English, national corporate independent).

A stratified constructed-week sampling strategy was deployed. For each calendar year (2019, 2020, 2021), two constructed weeks were randomly assembled (14 dates per year × 3 years = 42 sampling days per publication; total universe of 294 publication dates). Physical library microfilm archives, bound newspaper volumes, and preserved digital caches were accessed to retrieve coverage during the August–December 2019 blackout.

Articles were harvested using Boolean searches in English and Urdu: ("health" OR "hospital" OR "doctor" OR "COVID-19" OR "coronavirus" OR "mental health" OR "depression" OR "trauma" OR "Ayushman Bharat" OR "SEHAT" OR "oxygen" OR "ventilator" OR "vaccine") and corresponding Urdu terminology.

(صحت, ہسپتال, ڈاکٹر, کورونا, ذہنی صحت, ڈپریشن, آیوشمان بھارت, آکسیجن, ویکسین)

A total of N = 1, 286 discrete articles met the formal inclusion criteria.

3.3.2 Coding Variables and Codebook Construction

The codebook operationalized:

1. Primary Health Topic: Infectious Diseases / COVID-19; Hospital Infrastructure, Staffing & Oxygen Logistics; Statutory Schemes (AB-PMJAY SEHAT); Maternal, Neonatal & Pediatric Health; Psychiatric
1. / Mental Health & Trauma; Non-Communicable Diseases; Alternative Medicine (AYUSH); Other.
2. Dominant Frame (Entman, 1993): Success / Governance Progress; Accountability / Structural Failure; Human Interest / Somatic Suffering; Economic Hardship; Conflict Context / Securitization Barriers.
3. Primary Sourcing: State / Bureaucratic Authorities; Clinicians / Medical Specialists; Academic / Epidemiological Researchers; Patients and Families; NGOs; Anonymous / Unattributed.
4. Editorial Tone: Favorable/Positive, Neutral/Balanced, Critical/Negative.
5. Structural Prominence: Page 1 Lead, Inside Page, Editorial Page; Word Count; Accompanying Visual/Infographic Assets.
6. Infrastructural Mentions: Explicit references to telecommunication blackouts, 2G throttling, curfews, or checkpoint travel barriers affecting patient outcomes.

3.3.3 Inter-Coder Reliability

Two independent, bilingual (English and Urdu) post-graduate coders analyzed an initial training sample of n = 150 non-study items. Following codebook refinement, a random 20% subsample of the study corpus (n = 258) was double-coded. Inter-coder reliability was assessed using Krippendorff's alpha (α): Primary Health Topic (α = 0.92), Dominant Frame (α = 0.85), Primary Sourcing (α = 0.88), Editorial Tone (α = 0.83), Structural Prominence (α = 0.97), and Infrastructural Mentions (α = 0.90). All coefficients comfortably exceeded the standard threshold of $\alpha \geq 0.80$ (Krippendorff, 2018).

3.4 Component B: Cross-Sectional Audience Survey

3.4.1 Sampling Framework and Sample Size

The survey targeted adults (≥ 18 years) residing in the Kashmir Valley. Fieldwork was executed between August and November 2021, capturing public responses immediately following the devastating COVID-19 second wave, the partial rollout of vaccines, and the restoration of 4G mobile internet in early 2021.

A multi-stage, stratified cluster sampling strategy was implemented across five districts: Srinagar and Budgam (Urban, n = 350) and Kupwara, Baramulla, and Anantnag (Rural, n = 370). Within each district, municipal wards (urban) or community blocks (rural) were randomly selected, followed by settlement sampling via probability-proportional-to-size (PPS). Households were chosen using a standardized random-walk interval (k = 5), and individual respondents were identified via the Kish grid method.

Power analysis using G*Power 3.1 indicated that a minimum sample of N = 520 was required to detect small-to-medium effect sizes (f 2 = 0.05) in multivariable regression with 10 predictors (α =

0.05, power $1 - \beta = 0.90$). Factoring in rural non-response, the target was set to N = 800. Fieldwork yielded N = 720 complete, verified survey interviews (response rate: 90.0%).

3.4.2 Instrument Design and Psychometric Validation

The survey instrument was adapted from validated inventories (WHO Behavioral Insights, Pew HINTS), translated and back-translated across English, Kashmiri, and Urdu, and pilot-tested on n = 30 respondents. Scales included:

1. Media Channel Dependency: Daily frequency and reliance on print newspapers, broadcast television, algorithmic social media feeds, and encrypted instant messaging for health updates (5-point Likert scale).
2. Perceived Partisan Media Bias Scale: A 4-item scale assessing whether respondents viewed regional health coverage as objective public reporting or state-managed political public relations ($\alpha = 0.87$).
3. Misinformation Belief Scale (MBS): An 8-item battery presenting falsified claims widespread during the 2020–2021 pandemic (e.g., vaccine infertility rumors, herbal cures neutralizing pulmonary distress, 5G virus transmission, state data fabrication; 5-point scale from 1 = Definitely False to 5 = Definitely True; cumulative index 8–40; $\alpha = 0.85$).
4. Institutional Health Trust Index (IHTI): A 6-item scale adapted from Hall et al. (2001) assessing public trust in primary health centers, tertiary hospitals (SKIMS/SMHS), clinicians, and the Directorate of Health Services Kashmir (DHSK) (range: 6–30; $\alpha = 0.89$).
5. Health Belief Model (HBM) Subscales: Validated batteries measuring Perceived Susceptibility to COVID-19 ($\alpha = 0.81$), Perceived Severity ($\alpha = 0.83$), Perceived Benefits of Vaccination ($\alpha = 0.86$), and Perceived Structural Barriers ($\alpha = 0.84$).
6. Sociodemographics: Age, gender, education, monthly household income, geographic residence, broad-band access, and personal history of medical disruption during the 2019–2021 telecommunications shutdown.

Confirmatory Factor Analysis (CFA) verified adequate structural construct validity ($\chi 2/df = 2.08$, RMSEA = 0.039, CFI = 0.962, TLI = 0.954, SRMR = 0.036).

3.5 Component C: Semi-Structured Qualitative Interviews

Purposive, maximum-variation sampling was used to recruit N = 22 key informants across four sectors:

- Health Journalists & Editors (n = 7; J01–J07): Beat reporters and editors active during the 2019–2021 blackout and COVID waves.
- Clinical Specialists & Doctors (n = 6; C01–C06): Senior consultants in Pulmonology, Internal Medicine, Psychiatry (IMHANS), and Community Medicine across SKIMS, SMHS, and rural SDHs.
- Public Health Administrators (n = 4; O01–O04): Senior officials within DHSK, National Health Mission (NHM), and District CMOs.
- Community Health Workers & NGO Leads (n = 5; N01–N05): District ASHA facilitators and mental health outreach personnel.

Interviews were conducted until theoretical saturation was reached (Braun & Clarke, 2006). Audio recordings were transcribed verbatim, translated where necessary, and analyzed using Reflexive Thematic Analysis in NVivo 14. Trustworthiness was ensured via member-checking, peer debriefing, and an audit trail (Lincoln & Guba, 1985).

3.6 Data Integration Strategy

Integration was achieved using structured Joint Display Matrices (Guetterman, Fetters, & Creswell, 2015), directly comparing quantitative content findings, survey statistical associations, and qualitative interview themes to identify points of convergence, complementarity, and divergence.

3.7 Research Ethics and Safety

The protocol was approved by the Institutional Review Board of the Islamic University of Science & Technology (Protocol Ref: IUST/IRB/HREC/2021/008). Voluntary informed consent was documented; survey responses were fully anonymized; qualitative transcripts were stored on encrypted offline drives (AES-256); and clinical distress protocols with referral pathways to the

IMHANS helpline were instituted.

4. RESULTS

4.1 Content Analysis Findings (RQ1, RQ2; Testing H1, H2)

A total of N = 1, 286 health-related articles published between 2019 and 2021 were analyzed. Table 1 outlines the distribution of health news topics.

Table 1: Distribution of Health News Coverage by Topic Area (2019–2021)

Primary Health Topic	Total Items (n)	Share of Coverage	Inside Pages (n)	Front-Page	Visuals (%)
Communicable Diseases / COVID-19	568	44.17%	352	216	71.8%
				(38.0%)	
Hospital Infrastructure, Staffing & Oxygen Logistics	319	24.81%	238	81	44.5%
				(25.4%)	
Statutory Schemes (AB-PMJAY SEHAT / Health Cards)	147	11.43%	111	36	53.1%
				(24.5%)	
Maternal, Neonatal & Pediatric Health	105	8.16%	92	13	27.6%
				(12.4%)	
Psychiatric / Mental Health & Trauma	76	5.91%	71	5	14.5%
				(6.6%)	
Non-Communicable Diseases (Cancer/Diabetes)	48	3.73%	45	3	12.5%
				(6.3%)	
Alternative Systems / AYUSH	23	1.79%	21	2	21.7%
				(8.7%)	
Total	1,286	100.00%	930	356	51.2%
				(27.7%)	

As shown in Table 1, coverage reflected an intense preoccupation with the biological emergency of the pandemic and tangible physical infrastructure. Communicable diseases accounted for 44.17% of all news items, peaking during the 2020 initial lockdowns and the spring 2021 Delta wave. Infrastructure reporting (oxygen generation plants, ventilator availability, isolation bed tallies) represented 24.81%.

Conversely, psychiatric morbidity, clinical depression, anxiety, and conflict-related trauma accounted for only 5.91% (n = 76) of total health reporting across the three-year period. A chi-square goodness-of-fit test confirmed that this topical disparity was statistically significant ($\chi2(6) = 1, 214.3, p < 0.001$). Furthermore, mental health articles were rarely given front-page prominence (6.6% of mental health items vs. 38.0% of COVID-19 items; $\chi2(1) = 31.42$, $p < 0.001$) and infrequently included photographic or graphic assets (14.5%). Hypothesis 1 (H1) is strongly supported.

Table 2: Cross-Tabulation of Dominant Frame by Outlet Ownership Structure (2019–2021)

Dominant Framing Dimension	State-Aligned Outlets (n = 539)	Independent	Total (N = 1, 286)
Success / Governance Progress	264 (48.98%)	114 (15.26%)	378 (29.39%)
Accountability / Structural Inadequacy	68 (12.62%)	316 (42.30%)	384 (29.86%)
Human Interest / Somatic Suffering	108 (20.04%)	188 (25.17%)	296 (23.02%)
Conflict Context / Securitization	42 (7.79%)	84 (11.24%)	126 (9.80%)

Barriers			
Economic Hardship / Medical Costs	57 (10.58%)	45 (6.02%)	102 (7.93%)
Total	539 (100.0%)	747 (100.0%)	1,286 (100.0%)
$\chi2(4) = 168.72$, $p < 0.001$, Cramér's V = 0.362.			

Table 2 highlights substantial structural divergence in framing across ownership models. State-aligned and institutional publications predominantly employed a Success and Governance Progress frame (48.98%),
heralding administrative responsiveness, rapid oxygen plant installations, and the December 2020 launch of the AB-PMJAY SEHAT scheme as historic milestones.
In sharp contrast, independent regional publications favored an Accountability and Structural Inadequacy frame (42.30%), highlighting ventilator malfunctions in peripheral hospitals, acute oxygen cylinder shortages in rural clinics, and portal failures that prevented impoverished citizens from accessing cashless treatment under the SEHAT scheme due to 2G internet restrictions. A chi-square test confirmed a statistically significant association between outlet ownership and framing ($\chi2(4) = 168.72$, $p < 0.001$, Cramér's V = 0.362). Hypothesis 2 (H2) is strongly supported.

4.2 Audience Survey Findings (RQ3; Testing H3, H4, H5)

Table 3: Socio-Demographic Profile of Survey Respondents (N = 720)

Sociodemographic Dimension	**Full Sample**	**Urban Strata**	**Rural Strata**
	(N = 720)	**(n = 350)**	**(n = 370)**
Gender			
Male	380 (52.78%)	182 (52.00%)	198 (53.51%)
Female	340 (47.22%)	168 (48.00%)	172 (46.49%)
Age Category			
18–29 years	258 (35.83%)	130 (37.14%)	128 (34.59%)
30–49 years	308 (42.78%)	152 (43.43%)	156 (42.16%)
50+ years	154 (21.39%)	68 (19.43%)	86 (23.24%)
Educational Attainment			
Primary or Less / Non-literate	138 (19.17%)	38 (10.86%)	100 (27.03%)***
Secondary School Completion	264 (36.67%)	120 (34.29%)	144 (38.92%)
Undergraduate Degree	214 (29.72%)	126 (36.00%)	88 (23.78%)***
Postgraduate / Professional	104 (14.44%)	66 (18.86%)	38 (10.27%)**
Monthly Household Income (INR)			
< 15, 000 (Low Income)	244 (33.89%)	78 (22.29%)	166 (44.86%)***
15, 000–40, 000 (Middle Income)	328 (45.56%)	174 (49.71%)	154 (41.62%)
> 40, 000 (Upper Income)	148 (20.56%)	98 (28.00%)	50 (13.51%)***
Digital Infrastructure			
Fixed Broadband Connection (Fiber/DSL)	198 (27.50%)	154 (44.00%)	44 (11.89%)***
Mobile Cellular Only (2G/4G)	522 (72.50%)	196 (56.00%)	326 (88.11%)***

Asterisks denote significant differences between urban and rural strata: ** $p < 0.01$, *** $p < 0.001$.

Table 3 illustrates significant structural disparities: rural respondents had lower educational attainment ($\chi2 = 33.14$, $p < 0.001$), lower household incomes ($\chi2 = 41.52$, $p < 0.001$), and overwhelming reliance on mobile data alone (88.11%). Rural populations were thus hit hardest when mobile data was throttled to 2G or suspended entirely.

Table 4: Primary Health Information Source by Residence (Late 2021)

Primary Information Channel	Full Sample	Urban	Rural	Difference
	(N = 720)	(n = 350)	(n = 370)	Test (z, p)
Social Media Feeds (FB/X/Instagram)	238 (33.06%)	134 (38.29%)	104 (28.11%)	z = 2.92, p =
				0.003
Instant Messaging (WhatsApp/Telegram)	186 (25.83%)	78 (22.29%)	108 (29.19%)	z = −2.16, p =
				0.031
Print Newspapers (English / Urdu)	114 (15.83%)	74 (21.14%)	40 (10.81%)	z = 3.84, p <
				0.001
Broadcast Television (DD / Satellite)	92 (12.78%)	34 (9.71%)	58 (15.68%)	z = −2.39, p =
				0.017
Interpersonal (Elders / Mosque / Family)	62 (8.61%)	14 (4.00%)	48 (12.97%)	z = −4.38, p <
				0.001
Official Government Portals / DHSK	28 (3.89%)	16 (4.57%)	12 (3.24%)	z = 0.94, p =
				0.347

Table 4 indicates that digital channels (social media feeds and instant messaging) constituted 58.89% (n = 424) of primary health information sources across the Kashmir Valley during 2021. Rural populations relied significantly more on encrypted messaging groups (29.19%) and word-of-mouth interpersonal sources (12.97%) than urban cohorts (22.29% and 4.00%, respectively; $p < 0.001$). Verified official institutional websites were accessed as primary sources by fewer than 4% of respondents.

Table 5: Multivariable Regression Models: Misinformation Belief, Institutional Trust, and Access Deficits (2021)

Predictor Variables	**Model 1: Misinfo (OLS) B (SE), β, p**	**Model 2: Trust (OLS) B (SE), β, p**	**Model 3: Inadequate Access Logistic OR (95% CI), p**
Intercept	15.12 (1.18), p < 0.001	22.18 (1.08), p < 0.001	0.38 (0.18–0.78), p = 0.009
Primary Source: Social Media	4.38 (0.51), β = 0.36, p < 0.001	−1.24 (0.47), β = −0.12, p = 0.008	1.48 (0.98–2.24), p = 0.062
Primary Source: Messaging (WhatsApp)	3.52 (0.55), β = 0.27, p < 0.001	−1.08 (0.50), β = −0.10, p = 0.031	1.32 (0.84–2.08), p = 0.228
Perceived Partisan Media Bias	0.74 (0.24), β = 0.11, p = 0.002	−2.08 (0.22), β = −0.31, p < 0.001	1.22 (0.99–1.48), p = 0.058
Rural Residence (Ref: Urban)	0.92 (0.40), β = 0.09, p = 0.022	−0.52 (0.37), β = −0.05, p = 0.162	2.58 (1.79–3.72), p < 0.001
Educational Attainment	−1.96 (0.26), β = −0.28, p < 0.001	0.92 (0.24), β = 0.15, p < 0.001	0.58 (0.46–0.74), p < 0.001
Household Income Bracket	−0.48 (0.19), β = −0.09, p = 0.012	0.58 (0.18), β = 0.12, p = 0.001	0.74 (0.60–0.92), p = 0.007
Fixed Broadband Access	−0.94 (0.38),	0.38 (0.36), β = 0.04,	0.42 (0.27–0.66),

	β = −0.08, p = 0.014	p = 0.292	p < 0.001
History of Blackout Medical Disruption	1.28 (0.41),	−1.82 (0.38),	2.14 (1.46–3.12),
	β = 0.12, p = 0.002	β = −0.18,	p < 0.001
		p < 0.001	
Age	0.02 (0.01), β = 0.04,	0.01 (0.01), β = 0.02,	1.01 (0.99–1.02),
	p = 0.248	p = 0.442	p = 0.268
Gender (Female)	0.38 (0.34), β = 0.03,	−0.26 (0.32),	1.16 (0.82–1.64),
	p = 0.264	β = −0.03, p = 0.418	p = 0.398
Model Diagnostics	R2 = 0.368, F =	R2 = 0.316, F =	Nagelkerke R2 =
	37.84, p < 0.001	29.62, p < 0.001	0.268, p < 0.001

Table 5 provides empirical confirmation of the research hypotheses:

- Misinformation Vulnerability (Model 1): Primary reliance on algorithmic social media (β = 0.36, p < 0.001) and encrypted messaging (β = 0.27, p < 0.001) strongly predicted endorsement of pandemic related misinformation. Higher educational attainment served as a significant cognitive protective factor (β = −0.28, p < 0.001). Hypothesis 3 (H3) is supported.
- Erosion of Medical Trust (Model 2): Perceived partisan bias in media health coverage was the single strongest negative predictor of institutional medical trust (β = −0.31, p < 0.001). Having experienced personal medical disruption during the 2019–2021 telecommunications blackout also exerted a significant negative effect on institutional trust (β = −0.18, p < 0.001). Hypothesis 4 (H4) is supported.
- Informational Marginalisation (Model 3): Controlling for socioeconomic status, rural residency more than doubled the odds of experiencing severe health information deficits (OR = 2.58, 95% CI [1.79, 3.72], p < 0.001). Direct exposure to blackout-related medical disruption doubled these odds (OR = 2.14, p < 0.001). Hypothesis 5 (H5) is supported.

4.3 Qualitative Thematic Findings (RQ4)

Reflexive thematic analysis of the N = 22 key informant interviews yielded five overarching themes:

4.3.1 Theme 1: Editorial Coercion, State Surveillance, and Self-Censorship (2019–2021)

Journalists recalled that during the 2019 security lockdown and the 2020–2021 pandemic waves, health reporting was placed under strict surveillance. The distribution of state advertising was used to discourage reporting on hospital deficits or oxygen supply issues.

"Between the abrogation in 2019 and the Delta wave in 2021, independent health reporting in Srinagar was treated almost as a public order offense. In mid-2020, we had to queue for hours at the government's Media Facilitation Centre just to send a single story. If you investigated the true status of oxygen plants or highlighted the breakdown of rural dialysis units, the Directorate would call your editor. We were forced to rely on curated official handouts to survive." Participant J03, Senior Print Reporter, Srinagar

4.3.2 Theme 2: The 550-Day Digital Siege as Infrastructural Violence

Clinicians and public health officers characterized the 2019–2021 communication blackout and 2G mobile internet restrictions as forms of structural violence that crippled medical triage and clinical education.

"When COVID-19 arrived in March 2020, we were trapped on 2G internet. I could not download a 15-page PDF containing updated WHO mechanical ventilation protocols. It would take an hour, only to time out. Our resident doctors could not participate in national webinars or review chest CT scans sent from district hospitals. In rural Kupwara, when someone developed respiratory distress, their family could not reach an emergency ambulance because lines were dead. This was not an inconvenience; it cost lives." Participant C01, Senior Pulmonologist, GMC Srinagar

4.3.3 Theme 3: The Enforced Taboo on Conflict-Related Mental Illness

Psychiatrists and community NGO workers noted that the persistent marginalisation of psychiatric distress in the news was driven by political self-preservation.

"The MSF survey proved that over 40% of our people suffered from depression, and after August 2019, our outpatient clinics at IMHANS were flooded with severe panic attacks, somatic conversions, and relapses. But the media cannot report the true causes. To report why a 22-year-old youth in Baramulla has developed crippling PTSD requires discussing curfews, detentions, night raids, and internet blackouts. Because journalists cannot safely discuss those root causes, they reduce mental health to occasional human-interest stories about suicide on bridge railings." Participant C04, Consultant Psychiatrist, IMHANS

4.3.4 Theme 4: Institutional Distrust and the Turn to Vernacular Conspiracism

Health administrators and community facilitators explained that the political events of August 2019 deepened public cynicism toward subsequent state-led health programs.

" When we initiated the COVID-19 vaccination drive in early 2021, we were met with intense resistance. People asked: 'The government stripped our statehood, shut down our internet, and closed our schools for a year; why are they suddenly dispatching teams to our doorsteps to inject us with a vaccine?' Because official institutions were distrusted, people believed forwarded audio notes on WhatsApp warning that the vaccines caused infertility. We spent more time fighting political paranoia than clinical hesitancy." Participant N02, District ASHA Facilitator, Anantnag

4.3.5 Theme 5: The Failure of Technocentric Systems in the Rural Periphery

Frontline health workers noted that national welfare programs launched in 2020–2021 failed in rural Kashmir because they relied on digital infrastructure that was inaccessible during the blackout.

"The SEHAT insurance scheme launched in late 2020 was a great entitlement on paper. But to register a golden card, a villager needed high-speed internet for biometric OTPs. In border areas like Kupwara, with no broadband and mobile internet restricted to 2G, the portal simply spun in circles. Poor patients had to hire private cabs to travel to internet cafes in Srinagar just to validate their cards. Technocentric health policies cannot work in a digital blackout." Participant N05, Rural NGO Health Coordinator, Kupwara

4.4 Mixed-Methods Integration

Table 6: Multi-Dimensional Joint Display Matrix of Integrated Findings (2019–2021)

Research Do-main	Component A: Content Analysis	Component B: Audience Survey	Component C: Qualitative Interviews	Meta-Inference & Evaluative Synthesis
Framing of State Health Schemes (RQ1, H2)	State-aligned outlets framed schemes as Success/Progress (49.0%), while independent outlets framed them as Structural Inadequacy (42.3%; $p < 0.001$).	Perceived partisan bias was high ($M = 3.91/5$) and negatively predicted institutional medical trust ($\beta = -0.31$, $p < 0.001$).	Editors described relying on official press releases to avoid losing state advertising revenues.	Convergence: Content polarization mirrored structural economic pressures. Partisan framing undermined public credibility, leaving audiences skeptical of health welfare announcements.
Mental Health vs. Somatic Agenda (RQ2, H1)	Mental health represented only 5.91% of coverage, versus 44.17% for	71.2% of respondents re-ported heightened psychological	Clinicians explained that reporting on trauma was suppressed	Complementarity: The quantitative agenda-setting gap is explained by political

	infectious diseases ($p < 0.001$); front-page share was 6.6%.	distress during 2019–2021, yet only 9.4% used media for mental health advice.	because exploring its causes touched political sensitivities.	constraints: journalists avoided mental health reporting to circumvent politically sensitive conflict stressors.
Trust, Misi n-formation & Digital Net-works (RQ3 , H3, H4)	Only 4.2% of news items contained explicit scientific debunking of viral health rumors.	Social media ($\beta = 0.36$) and messaging apps ($\beta = 0.27$) strongly predicted belief in COVID-19/vaccine misinformation.	Health workers described being unable to counter rapid rumors over WhatsApp due to official communication vacuums.	Convergence: The lack of proactive scientific debunking in legacy media left audiences reliant on informal digital feeds, accelerating the spread of health misinformation.
Blackouts, Throttling & Access Gaps (RQ4, H5)	Structural blackouts were mentioned in only 9.8% of news items, primarily in in-dependent digital portals.	Rural residents had higher odds of information deficits (OR = 2.58), exacerbated by blackout disruption (OR = 2.14).	Clinicians reported that 2G throttling halted ICU protocol downloads and telemedicine, while rural card registration failed.	Expansion: Official news coverage minimized the impact of the telecommunications shutdown, even while those blockades severely disrupted frontline clinical delivery and patient care.

5. DISCUSSION

5.1 Agenda-Setting Fractures: The Suppression of Invisible Wounds (2019–2021)

The empirical content data demonstrate an acute agenda-setting distortion in Kashmiri journalism during 2019–2021. Despite clinical evidence that the cumulative stress of the August 2019 lockdown and the 2020–2021 pandemic waves escalated psychiatric distress past the 45% baseline documented by MSF (2015), mental health received less than 6% of total health coverage.

Under classic Agenda-Setting Theory (McCombs & Shaw, 1972), the issues emphasized by mass media become the priorities of the public and policymaking agendas. By centering somatic infection rates, hospital capacity figures, and infrastructure developments while largely ignoring psychiatric trauma, regional media normalized psychological suffering as an unaddressed, privatized struggle.

The qualitative data clarify the structural causes of this silence: journalists did not ignore mental health out of professional indifference, but because investigating the etiology of psychiatric trauma in Kashmir required documenting security curfews, detentions, family separations, and the communications shutdown. Silence functioned as an editorial survival mechanism under state surveillance.

5.2 Framing Bifurcation and the Depoliticisation Failure

The findings reveal deep polarization in the framing of public health governance. When the universal AB-PMJAY SEHAT scheme was launched in December 2020, coverage bifurcated along ownership lines. State-aligned outlets framed the initiative through "Governance Progress" narratives, emphasizing administrative modernization and universal health coverage. Conversely, independent regional outlets adopted "Structural Inadequacy" frames, detailing how 2G mobile internet throttled the online registration portal and prevented impoverished families from validating their digital

insurance cards.

Entman's (1993) framing paradigm highlights those frames diagnose causes, make moral judgments, and prescribe remedies. In a deeply polarized conflict setting, this split undermined the perceived neutrality of public health. When citizens perceived state health announcements as political public relations, they reacted with defensive cynicism. Survey results confirmed that perceived partisan bias was the single strongest negative predictor of institutional medical trust ($\beta = -0.31$).

5.3 Infodemic Dynamics under the 550-Day Digital Siege

The cross-sectional survey indicates that over 58% of respondents relied primarily on algorithmic social media feeds and encrypted messaging platforms for health advice during 2021. Primary reliance on these channels was the strongest predictor of belief in health misinformation ($\beta = 0.36$), contributing directly to vaccine hesitancy and reliance on unverified home remedies.

These informational vulnerabilities were heavily shaped by geographic and infrastructural inequities. Rural populations faced compounding disadvantages: lower literacy, higher poverty, and overwhelming reliance on mobile data alone (88.11%). Controlling for demographic covariates, rural residency more than doubled the odds of reporting severe health information deprivation (OR = 2.58). Experiencing personal medical disruptions during the telecommunications shutdown further eroded institutional trust ($\beta = -0.18$) and doubled the likelihood of health information deficits (OR = 2.14). By severing telephone and internet networks, the state dismantled the informational infrastructure needed for disease tracking and telemedicine, creating a vacuum that was rapidly filled by panic, rumor, and unverified digital narratives.

5.4 The 2019–2021 Epistemic Siege Framework

Synthesizing these findings across production, content, and reception yields the Epistemic Siege Framework
(Figure 2).

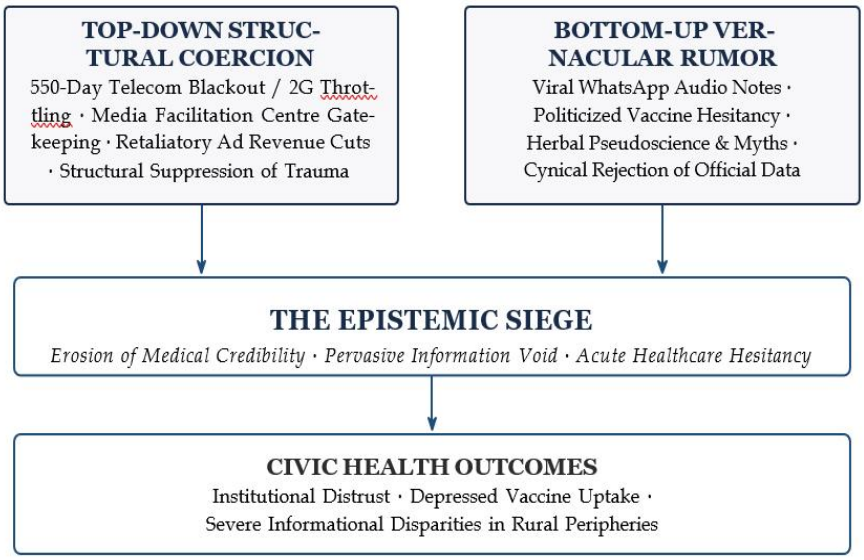


Figure 2: The Epistemic Siege Framework in Conflict-Affected Health Communication (2019–2021)

In a conflict zone facing a biological emergency, public health communication is caught between two converging pressures:

- Top-down structural coercion, where state authorities enforce security-driven information control, surveil newsrooms, and restrict digital infrastructure; and
- Bottom-up vernacular rumors, where an alienated population turns to encrypted peer networks for health guidance.
- These dynamic damages epistemic trust, leading citizens to distrust official public health advisories and health systems.

5.5 Policy and Practical Implications

The lessons of the 2019–2021 compound crises suggest several practical reforms:

1. Crisis-Resilient Decentralized Offline Infrastructure: Health systems must not rely entirely on high-speed internet portals in regions vulnerable to telecommunication cuts. Authorities should establish low-power community FM radio broadcasts, terrestrial paper bulletins at primary health centers, and equip Accredited Social Health Activists (ASHAs) with offline reference tools.
2. Depoliticizing Public Health Portals: Social welfare and health insurance programs (e.g., ABPMJAY SEHAT) must include offline verification and paper-based contingency registration so that systemic healthcare access is preserved during connectivity disruptions.
3. Institutionalizing Independent Multilingual Fact-Checking: Academic and medical institutions (SKIMS, GMC Srinagar) should establish non-governmental, independent verification channels in Kashmiri and Urdu to counter misinformation on messaging platforms.
4. Adopting Trauma-Informed Mental Health Reporting: News organizations should implement trauma-informed editorial guidelines that move beyond sensationalized reporting on suicide toward regular coverage of psychiatric distress, accompanied by accessible support hotlines (e.g., Tele-MANAS).

6. LIMITATIONS

Several methodological boundaries apply to this 2019–2021 study: (1) The total communication blackout between August and October 2019 caused interruptions in physical newspaper printing and led to the loss of digital news archives, requiring reliance on physical print collections and microfilms; (2) Survey fieldwork was conducted in late 2021; respondents' recollections of experiences during late 2019 and early 2020 may have been subject to retrospective recall bias; (3) In a heavily monitored political environment, respondents may have exercised caution when answering survey items regarding state authorities and perceived partisan bias; and (4) The sample was drawn exclusively from the Kashmir Valley and cannot be generalized directly to Jammu or Ladakh, which experienced different socio-political, infrastructural, and epidemiological conditions during 2019–2021.

7. CONCLUSION

Between 2019 and 2021, the Kashmir Valley navigated a compound crisis at the intersection of political restructuring, infrastructural disruption, and a global pandemic. By integrating longitudinal content analysis (N = 1, 286), representative audience survey data (N = 720), and key informant qualitative interviews (N = 22), this study provides an empirical account of health communication under conflict conditions.

The findings demonstrate that health communication in Kashmir operated within an epistemic siege. News agendas prioritized somatic infection and infrastructure while marginalizing pervasive psychiatric distress. Framing split along ownership lines, turning universal health entitlements into ideological battlegrounds and eroding institutional trust. The 550-day telecommunications blackout and 2G mobile internet throttling disabled telemedicine, disrupted digital insurance enrollment, and created an information vacuum that accelerated the spread of health misinformation.

These findings highlight those clinical resources alone cannot safeguard public health in conflict zones without reliable, trusted communication channels. Ensuring public health resilience requires offline-accessible information networks, depoliticized health communication, trauma-informed journalism, and the protection of basic telecommunications infrastructure during health crises.

DECLARATIONS

- Ethics Approval: All procedures conformed to the Declaration of Helsinki.
- Informed Consent: Informed consent was obtained from all individual survey respondents and interview participants.
- Data Availability: Qualitative transcripts are restricted to protect participant confidentiality.
- Funding Statement: This study received no external public or commercial grant support.

- Conflict of Interest: The author declares no financial or professional conflicts of interest.
- Author Contributions: S.A.M. conceived the design, executed data collection and statistical analysis, and authored the manuscript.

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