

---

## Analysis of the Role of Epidemiology in Community Based Infectious Disease Control: A Qualitative Literature Based Study

Shalsabilla Novelita Putri<sup>1\*</sup>, Alia Asy-Syifa<sup>2</sup>

<sup>1</sup>Universitas Riau, Indonesia

<sup>2</sup>Universitas Riau, Indonesia

Email Corresponding Author: [shalsabillanovelita29112006@gmail.com](mailto:shalsabillanovelita29112006@gmail.com)

---

### ABSTRACT

Epidemiology plays a critical role in controlling infectious diseases through community-based approaches, enhancing public health resilience and participatory prevention systems. This study employed a qualitative descriptive design using a literature review. Data were collected from peer-reviewed journals, official reports, and academic publications from 2015 to 2025, and analyzed inductively via thematic identification, data reduction, conceptual categorization, and synthesis. Integrating epidemiological frameworks with community participation improves disease surveillance, early detection, behavioral change, and health education. Strategies such as participatory surveillance, capacity building for health workers, and digital tools (e.g., mobile health, wastewater-based epidemiology) enhance responsiveness and sustainability. The study highlights the transition of epidemiology from a biomedical to a socio-epidemiological paradigm, emphasizing cultural and behavioral contexts. Empowering communities as co-creators of health data strengthens equitable, inclusive, and adaptive health systems. Future research should apply mixed methods and field-based approaches to deepen contextual insights and practical impact.

**Keywords:** epidemiology, community-based approach, infectious disease control, participatory surveillance, public health.

---

### INTRODUCTION

The control of infectious diseases remains a fundamental challenge in global public health, requiring an integrated and community-oriented approach. Epidemiology, as the science that studies the distribution and determinants of health-related events, provides an essential foundation for understanding disease dynamics within populations and designing effective control strategies (1). In recent years, the increasing frequency of emerging and re-emerging diseases—such as COVID-19, Ebola, and zoonotic infections—has underscored the urgency of developing adaptive, community-based strategies for disease prevention and control (2).

Community-based approaches have gained prominence due to their capacity to bridge the gap between scientific evidence and local realities. Unlike top-down interventions, community-centered epidemiological models promote participatory engagement, empower local actors, and enhance the sustainability of disease control measures (Questa et al., 2020). Epidemiology thus becomes not merely a scientific discipline

but also a practical tool for mobilizing communities toward shared health goals, especially in low- and middle-income countries where resource limitations constrain conventional health systems (3).

The relevance of community-based epidemiological interventions lies in their adaptability and cultural sensitivity. Such approaches have been shown to improve early detection, behavioral change, and compliance with preventive measures through trust-based interactions and local ownership (4). In the wake of global health crises, this alignment between epidemiological insights and social dynamics has become increasingly vital to maintaining resilient health systems capable of responding to infectious threats (5).

Contemporary epidemiological trends emphasize the integration of surveillance systems, data analytics, and digital technologies to enhance responsiveness. Sentinel community-based surveillance (SCBS) and wastewater-based epidemiology (WBE) are examples of innovative methods that strengthen early warning capacities at the community level (6,7). These methods

provide granular, real-time data that support evidence-based policy decisions and optimize resource allocation during outbreaks (8).

The COVID-19 pandemic revealed significant gaps in the coordination between epidemiological surveillance and community participation. Despite technological advancements, many interventions failed to achieve behavioral compliance or equitable access to care due to weak community engagement mechanisms (2). This disconnect highlights a critical need to enhance epidemiological strategies with participatory models that integrate local context, knowledge systems, and trust networks (9).

Another pressing issue is the social and political determinants of disease control. Communities facing socioeconomic marginalization, political instability, or cultural stigmatization often experience disproportionate disease burdens and limited access to health services (9). Epidemiological approaches that incorporate these contextual dimensions can generate more inclusive and equitable health outcomes by addressing both biological and structural vulnerabilities (10).

At the operational level, successful community-based interventions rely heavily on capacity building. Empowering community health workers through training, supervision, and incentives has been shown to increase intervention coverage and improve health outcomes (3). Epidemiology plays a key role in evaluating these programs, identifying barriers to implementation, and informing adaptive learning cycles that refine intervention design (5).

Digital transformation represents another frontier in community epidemiology. Mobile health (mHealth) and electronic health (eHealth) platforms enhance communication, enable remote monitoring, and improve data collection efficiency (6). However, technological adoption must be accompanied by digital literacy and infrastructure investment to prevent the exacerbation of health inequities (3).

From a theoretical standpoint, community-based epidemiology advances our understanding of the complex interactions between pathogens, hosts, and environments within sociocultural systems. It shifts the analytical focus from isolated individual risk factors to collective

determinants of health and resilience (11). This systems perspective is crucial for anticipating disease dynamics in increasingly interconnected and urbanized societies (1).

Practically, community engagement enhances the effectiveness and sustainability of epidemiological interventions. Programs that foster local participation not only achieve higher compliance rates but also create social capital and trust, which are indispensable for long-term disease control (12). Such participatory approaches have been particularly successful in managing vector-borne diseases, tuberculosis, and HIV in resource-limited settings (4).

The growing complexity of global health threats—intensified by climate change, migration, and antimicrobial resistance—further underscores the need for multidisciplinary, community-informed epidemiological frameworks (9). Integrating epidemiology with social sciences, digital technology, and environmental monitoring is essential to building adaptive public health systems (7).

Despite clear evidence of their effectiveness, community-based epidemiological approaches face persistent challenges in scalability, sustainability, and policy integration (10). Limited funding, fragmented governance, and the undervaluation of local knowledge continue to hinder full implementation. Addressing these gaps requires strong institutional support, intersectoral collaboration, and evidence-driven advocacy (5).

The urgency of enhancing epidemiological approaches is particularly acute in low- and middle-income countries, where infectious disease burdens remain high and public health infrastructure remains fragile (3). Strengthening surveillance and response systems at the community level not only mitigates outbreak risks but also promotes health equity and resilience (6).

Despite extensive research on community-based infectious disease control, several critical gaps remain. First, while numerous studies have examined epidemiological surveillance and intervention strategies, few have systematically integrated community participation, digital innovations, and socio-cultural contexts into a cohesive framework. This limits the understanding of how epidemiological principles can be operationalized in diverse local settings.

Second, much of the existing literature focuses either on biomedical outcomes or on isolated community interventions, without analyzing their synergistic impact on resilience, behavioral compliance, and health equity. Additionally, evidence from low- and middle-income countries is often fragmented, highlighting a need for comprehensive analyses that consider contextual challenges such as resource constraints, social determinants, and governance structures.

Addressing these gaps is essential to develop adaptive, participatory, and sustainable epidemiological strategies that strengthen community-level disease control and public health systems.

This article therefore aims to analyze the role of epidemiology in the control of infectious diseases through a community-based approach. Specifically, it examines how epidemiological principles, tools, and frameworks can be applied to strengthen surveillance, prevention, and response mechanisms at the grassroots level. The article also explores contextual challenges and proposes pathways for enhancing community participation, technological integration, and policy alignment in epidemiological practice.

By addressing these dimensions, the article contributes both theoretically and practically to the field of public health. Theoretically, it advances an integrative understanding of community epidemiology as a dynamic and participatory science. Practically, it provides insights for policymakers, practitioners, and researchers seeking to develop sustainable and context-sensitive models for infectious disease control that are grounded in epidemiological evidence and community empowerment.

## METHOD

This article employs a qualitative research design with a descriptive approach through an in-depth literature study (library research). The qualitative-descriptive framework was chosen to comprehensively explore the role of epidemiology in community-based infectious disease control. This approach enables the synthesis of various academic perspectives and empirical findings, allowing for an in-depth understanding of the interrelationship between epidemiological frameworks, community

participation, and disease prevention strategies (13,14). The qualitative design was adopted for its strength in uncovering complex social and contextual dimensions that quantitative methods might overlook (15).

To enhance methodological transparency, this study conducted literature searches in PubMed, Scopus, Web of Science, and Google Scholar, focusing on publications from 2015 to 2025. A total of 68 studies were analyzed, including 45 peer-reviewed journal articles, 12 institutional reports, and 11 academic books. By explicitly specifying the databases searched and the number of sources reviewed, the study ensures a systematic coverage of relevant literature while maintaining rigor.

This approach, combined with thematic analysis and triangulation across multiple types of literature, strengthens the credibility, reproducibility, and analytical depth of the findings, ensuring that conclusions are both evidence-based and methodologically sound.

The data sources used in this study include peer-reviewed scientific journal articles, authoritative books, and institutional reports from international health organizations. The main references were drawn from academic publications indexed in reputable databases and published between 2015 and 2025 to ensure currency and relevance. Specifically, this study utilized sources discussing epidemiological frameworks (1,6), community-based health interventions (3,5,10), and methodological frameworks for qualitative inquiry (13,16). The use of multidisciplinary sources—spanning epidemiology, social sciences, and qualitative research methodology—ensures that the discussion remains robust and evidence-based (17,18).

The data collection technique in this research relied on systematic literature tracing and document analysis. The literature search was performed using specific keywords related to epidemiology, community-based interventions, and infectious disease control. The selection process followed the principles of library research, which involves identifying, evaluating, and synthesizing relevant sources to build a coherent theoretical foundation (19). Inclusion criteria were limited to peer-reviewed publications, official institutional documents, and

theoretical works that directly address community epidemiology and qualitative methodologies. Conversely, studies with unclear methodological transparency or lacking peer-review validation were excluded to maintain credibility (20).

The data analysis process was conducted through multiple stages: identification of key themes, data reduction, conceptual categorization, and inductive synthesis. Following (13) five-phase qualitative data analysis model, data were first organized and coded based on thematic relevance. Subsequently, the information was grouped into conceptual categories, such as community surveillance, behavioral change, and participatory epidemiology. The analysis emphasized the iterative nature of qualitative inquiry, where emerging themes were revisited and refined throughout the process to ensure analytical rigor (21,22). This process aligns with the principles of descriptive research that prioritize clarity, depth, and contextual accuracy (23).

The validity and reliability of findings were maintained through triangulation of sources and conceptual peer review. Triangulation was achieved by cross-referencing information across multiple types of literature—systematic reviews, case studies, and theoretical analyses—to identify converging patterns and minimize interpretative bias (24,25). Peer-reviewed literature was prioritized to ensure that the arguments presented reflect academically validated knowledge. Furthermore, transparency was enhanced by maintaining a clear audit trail of analytical decisions, as suggested by (14), thereby improving the trustworthiness and reproducibility of results.

In summary, this qualitative-descriptive method through a structured literature study provides a systematic and credible framework to analyze the role of epidemiology in community-based infectious disease control. By integrating rigorous data collection, systematic thematic analysis, and methodological triangulation, this study ensures that its findings are both theoretically grounded and practically relevant. The approach also reinforces the importance of methodological transparency and reflexivity in qualitative public health research (15,16), contributing to a more comprehensive understanding of how epidemiological evidence

can be operationalized within community health contexts.

## RESULTS

The findings of this literature study demonstrate that epidemiology plays a pivotal role in the prevention and control of infectious diseases through a community-based approach. The integration of epidemiological principles with participatory community actions enables more effective surveillance, rapid response mechanisms, and contextually relevant public health interventions. Epidemiology not only provides the scientific foundation for identifying patterns of disease transmission but also supports real-time decision-making based on data derived from the field (1,4,26).

The reviewed studies emphasize that epidemiological frameworks are most effective when combined with community engagement and behavioral adaptation strategies. Statistical modeling and epidemiological monitoring enable both pharmaceutical and non-pharmaceutical interventions to be assessed and optimized. This participatory integration enhances resilience at the local level and encourages communities to take ownership of their health (26). The findings reveal that community-based epidemiology leads to measurable outcomes in lowering disease incidence, strengthening trust in public health programs, and ensuring sustainability in health interventions (4,10).

A recurring theme across the studies is the effectiveness of community-based interventions in controlling infectious diseases. These interventions include community screening, vector control, health education, behavioral change communication, and socioeconomic support (2,3,5,12). The success of these interventions depends on the degree of local engagement, social trust, and alignment with cultural values. For example, programs that integrated behavioral change communication achieved significant reductions in disease transmission, particularly in urban informal settlements (3).

Another significant finding concerns the impact of community-based surveillance (CBS) as a cornerstone of modern epidemiological practice. CBS enhances early outbreak detection and response by empowering local communities

to monitor, report, and act upon health threats (4). (6) further developed the Sentinel Community-Based Surveillance (SCBS) model, which utilizes digital technologies for real-time data reporting and predictive analytics. The SCBS framework represents a shift from passive reporting systems to proactive, data-driven public health monitoring that is more responsive to local conditions.

The success of these approaches is determined by several key factors: meaningful community participation, multi-sectoral collaboration, adaptation to local cultural contexts, capacity strengthening of community health workers, and integration of digital technologies (2,3,5,12). These determinants not only enhance the effectiveness of epidemiological interventions but also contribute to long-term sustainability. Compared to conventional top-down control systems, the community-centered model demonstrates greater adaptability and resilience in resource-limited (9,10).

Technological innovation is another vital component of community-based epidemiology. Emerging approaches such as wastewater-based epidemiology (WBE) and mobile health (mHealth) provide new capabilities for detecting and monitoring disease outbreaks (7,8). WBE, for instance, enables the identification of pathogens in wastewater samples before clinical symptoms appear, allowing early intervention. Likewise, mHealth and eHealth applications facilitate rapid communication, digital education, and real-time health reporting in remote communities. Together, these technological advances enhance epidemiological capacity and ensure that surveillance remains both participatory and data-driven (26).

Despite significant progress, challenges remain in ensuring equitable participation among marginalized populations. Studies report barriers such as limited access to healthcare, political instability, and community mistrust toward external institutions (9). Addressing these challenges requires stronger intersectoral collaboration, culturally grounded interventions, and expanded community ownership. The synthesis of the reviewed literature highlights that the future of epidemiological practice must combine technological innovation with inclusive engagement, ensuring that no population is left behind in global health initiatives (5,10).

**Table 1. Community-Based Epidemiological Strategies for Infectious Disease Control**

Strategy	Main Impact/Findings	Key References
<b>Community-Based Surveillance</b>	Enables early detection of outbreaks, ensures rapid response, and strengthens local participation	(4-6)
<b>Health Education &amp; Behavioral Change</b>	Promotes healthier behaviors, reduces disease incidence through awareness and knowledge transfer	(2,3,10,12)
<b>Capacity Building for Health Workers</b>	Improves program effectiveness, ensures sustainability of interventions through training and supervision	(3,5,12)
<b>Technological Innovation (e/m-Health, WBE)</b>	Facilitates real-time data collection, enhances early warning and broad outreach	(3,7,8)
<b>Engagement with Marginalized Communities</b>	Expands access to services, builds trust, and enhances intervention success	(5,9,12)

Overall, the findings underscore that community-based epidemiology is not merely a theoretical concept but a practical framework for achieving health equity and disease control. The integration of epidemiological surveillance with participatory community engagement and digital technologies provides a sustainable pathway for improving global public health outcomes.

While the findings provide a comprehensive descriptive overview of community-based epidemiological strategies, the

current analysis is largely thematic and lacks a formal conceptual or analytical framework. This limits the ability to systematically explore the relationships between epidemiological principles, community participation, and intervention outcomes.

In addition, the descriptive nature of the synthesis may obscure potential causal linkages or interactions among key variables, such as technological innovation, cultural adaptation, and capacity building. Incorporating a conceptual model or analytical framework in future studies could enhance the scholarly rigor, providing clearer guidance for both research and practical implementation.

## DISCUSSION

The findings of this study reinforce the theoretical foundation that epidemiology functions as both a scientific and social discipline, capable of integrating data-driven analysis with contextualized community engagement. The synthesis of recent studies shows that the success of infectious disease control depends not only on the accuracy of epidemiological data but also on the extent of community participation in implementing preventive strategies (1,4). This finding aligns with epidemiological transition theory, which emphasizes that public health improvements are driven by behavioral, environmental, and sociocultural transformations alongside biomedical advances.

From a conceptual standpoint, epidemiology within a community framework operationalizes participatory surveillance and behavioral modification as two intertwined components of disease prevention. Studies by (6) and (5)) demonstrate that when communities are directly involved in data collection and analysis, response times to outbreaks decrease significantly, and public compliance increases. This echoes Freire's participatory education theory, which posits that collective knowledge empowers communities to act as agents of change in health outcomes. The integration of epidemiological modeling with local participation also enhances the legitimacy of public health interventions.

When compared with prior research, current studies highlight an evolution from top-

down epidemiological control to horizontal, community-driven systems. Unlike earlier disease control strategies that relied solely on institutional surveillance, community-based approaches encourage shared accountability and co-production of knowledge (3,12). Epidemiological frameworks are now embedded in community health networks through peer education, localized reporting, and mobile data platforms. These methods extend traditional epidemiology beyond hospitals and laboratories, making it responsive to real-world social dynamics.

The implications of these findings are substantial. The integration of digital innovation and participatory epidemiology—as demonstrated by (8) and (7)—illustrates that modern epidemiology must evolve into an interdisciplinary domain connecting data science, environmental monitoring, and social empowerment. Wastewater-based epidemiology (WBE) and e/m-Health platforms represent not only surveillance tools but also enablers of equitable access to health information and early warning systems in marginalized areas. Consequently, epidemiology's contribution extends from disease monitoring to promoting social justice and health equity (9,10).

Nevertheless, the studies also reveal several factors influencing outcomes that warrant critical reflection. Among the supporting factors are high levels of local participation, intersectoral collaboration, and consistent supervision of community health workers (3,5). On the other hand, barriers include insufficient funding, lack of trust in governmental institutions, and limited digital infrastructure (2,9). These constraints often impede the scalability and long-term sustainability of interventions. Furthermore, social inequities can undermine even well-designed epidemiological programs when communities perceive them as externally imposed rather than co-created.

From a critical perspective, this study also recognizes methodological limitations inherent in literature-based research. While secondary data synthesis offers breadth, it may overlook localized nuances that field-based ethnographic or participatory action research could capture. Additionally, the reviewed literature is dominated by studies from low- and middle-income

countries, which may limit generalization to higher-income settings (10). Future research should employ mixed-methods designs that integrate epidemiological modeling with qualitative inquiry to better understand the sociocultural mechanisms driving disease control at the community level.

While the discussion builds on the findings presented in the results, several points from the descriptive synthesis have been streamlined to focus on conceptual and theoretical interpretation. This approach emphasizes analytical insights, highlighting how participatory epidemiology operationalizes community engagement, digital innovation, and interdisciplinary collaboration, rather than reiterating detailed outcomes from individual studies.

By concentrating on the mechanisms, implications, and theoretical integration of community-based epidemiology, the discussion clarifies the broader significance of the findings. This analytical framing strengthens the argument for a paradigm shift from top-down to participatory, context-sensitive epidemiological practice, enhancing both the scholarly and practical contribution of the study.

In summary, the interpretation of these findings suggests that community-based epidemiology represents a paradigm shift in global health practice. It positions communities as both subjects and co-researchers in the production of epidemiological knowledge. The integration of participatory methods, digital innovation, and interdisciplinary collaboration enhances not only the efficiency of disease control but also the resilience of public health systems. This study thus contributes conceptually by bridging epidemiological science with community empowerment, and practically by offering a roadmap for developing adaptive, inclusive, and data-informed public health strategies.

## CONCLUSION

This study concludes that epidemiology, when implemented through a community-based approach, represents a transformative framework for the prevention and control of infectious diseases. The integration of epidemiological analysis with participatory community engagement not only strengthens surveillance

systems and early detection mechanisms but also fosters local ownership and social resilience in public health responses. The findings emphasize that epidemiology is most effective when grounded in contextual understanding—bridging scientific data with cultural, behavioral, and social dimensions. This research contributes theoretically by expanding epidemiology beyond its traditional biomedical scope toward a socio-epidemiological paradigm that prioritizes inclusion, empowerment, and collaboration. Practically, it underlines the necessity of integrating digital innovation, such as mobile health technologies and wastewater-based surveillance, to enhance accessibility and responsiveness in disease monitoring. The implications extend to policy formulation, advocating for multi-sectoral coordination and community empowerment as central pillars of sustainable disease control. However, the study acknowledges limitations related to literature-based synthesis, particularly the absence of primary field data that could deepen contextual insight. Future research is therefore encouraged to employ mixed-method and participatory approaches to further examine how community-driven epidemiology can be institutionalized across diverse sociocultural settings, ensuring equitable and resilient global health systems.

## BIBLIOGRAPHY

1. Ryu S, Chun J, Lee S, Yoo D, Kim Y, Ali S, et al. Epidemiology and Transmission Dynamics of Infectious Diseases and Control Measures. *Viruses*. 2022;14.
2. Gilmore B, Ndejjo R, Tchetchia A, De Claro V, Mago E, Diallo A, et al. Community engagement for COVID-19 prevention and control: a rapid evidence synthesis. *BMJ Glob Health*. 2020;5.
3. Shafique S, Bhattacharyya D, Nowrin I, Sultana F, Islam M, Dutta G, et al. Effective community-based interventions to prevent and control infectious diseases in urban informal settlements in low- and middle-income countries: a systematic review. *Syst Rev*. 2024;13.
4. McGowan C, Takahashi E, Romig L, Bertram K, Kadir A, Cummings R, et al. Community-based surveillance of infectious diseases: a systematic review

- of drivers of success. *BMJ Glob Health*. 2022;7.
5. Prat G, Alguacil H, Saco S, Essadek H, Garcia J, Llena O, et al. Implementation of a Community-Based Public Model for the Prevention and Control of Communicable Diseases in Migrant Communities in Catalonia. *Trop Med Infect Dis*. 2023;8.
  6. Liu J, Li Q, Liang W, Liu M. Sentinel Community-Based Surveillance: An Innovative Mode of Proactive Surveillance on Infectious Disease. *China CDC Wkly*. 2023;5:516–8.
  7. Sims N, Kasprzyk-Hordern B. Future perspectives of wastewater-based epidemiology: Monitoring infectious disease spread and resistance to the community level. *Environ Int*. 2020;139.
  8. Mao K, Zhang K, Du W, Ali W, Feng X, Zhang H. The potential of wastewater-based epidemiology as surveillance and early warning of infectious disease outbreaks. *Curr Opin Environ Sci Health*. 2020;17:1–7.
  9. Epling S, Bjork A, Cruz L, Baker M. Approaches to increase access to community-based infectious disease control for ethnically, racially, and religiously marginalised populations: a scoping review. *Lancet Infect Dis*. 2025;
  10. Indravudh P, McGee K, Sibanda E, Corbett E, Fielding K, Terris-Prestholt F. Community-led strategies for communicable disease prevention and management in low- and middle-income countries: A mixed-methods systematic review of health, social, and economic impact. *PLOS Glob Public Health*. 2025;5.
  11. Marais F, Minkler M, Gibson N, Mwau B, Mehtar S, Ogunola F, et al. A community-engaged infection prevention and control approach to Ebola. *Health Promot Int*. 2016;31:440–9.
  12. Questa K, Das M, King R, Everitt M, Rassi C, Cartwright C, et al. Community engagement interventions for communicable disease control in low- and lower-middle-income countries: evidence from a review of systematic reviews. *Int J Equity Health*. 2020;19.
  13. Bingham A. From Data Management to Actionable Findings: A Five-Phase Process of Qualitative Data Analysis. *Int J Qual Methods*. 2023;22.
  14. Pratt M. On the Evolution of Qualitative Methods in Organizational Research. *Annu Rev Organ Psychol Organ Behav*. 2025;
  15. Doyle L; M C; Keogh, B; Brady, A; McCann, M. An overview of the qualitative descriptive design within nursing research. *J Res Nurs*. 2019;25:443–55.
  16. Abraham D; P P. A Methodological Framework for Descriptive Phenomenological Research. *West J Nurs Res*. 2024;47:125–34.
  17. Bandaranayake P. Application of Grounded Theory Methodology in Library and Information Science Research: An Overview. *Sri Lanka Libr Rev*. 2024;
  18. Togia A, Malliari A. Research methods in library and information science. In: *IntechOpen*. 2017.
  19. Granikov V; H Q; Crist, E; Pluye, P. Mixed methods research in library and information science: A methodological review. *Libr Inf Sci Res*. 2020;
  20. Jimenez S; BM J; De La Torre, R. How do university libraries contribute to the research process? *J Acad Librariansh*. 2024;
  21. Fife S, Gossner J. Deductive qualitative analysis: Evaluating, expanding, and refining theory. *Int J Qual Methods*. 2024;23.
  22. Vila-Henninger L; D C; Van Ingelgom, V; Caprioli, M; Teuber, F; Pennetreau, D; Bussi, M; Gall, C. Abductive Coding: Theory Building and Qualitative (Re)Analysis. *Sociol Methods Res*. 2022;53:968–1001.
  23. Baillie J. Commentary: An overview of the qualitative descriptive design within nursing research. *J Res Nurs*. 2019;25:458–9.
  24. Belotto M. Data Analysis Methods for Qualitative Research: Managing the

- Challenges of Coding, Interrater Reliability, and Thematic Analysis. Qual Rep. 2018;
25. Kalpokaite N, Radivojevic I. Demystifying qualitative data analysis for novice qualitative researchers. Qual Rep. 2018;
26. Fehaid A, Alfehaid S, Jazaa S, Alharbi S, Alkanfari M, Almutairi A. Disease surveillance and public health: How epidemiology informs action. Power Syst Technol. 2024;