

Determinants of Healthcare Workers' Willingness to Engage in Emerging Infectious Disease Surveillance: A Structural Equation Modeling Study in Indonesia

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Research Article

Keywords: Emerging infectious diseases, surveillance, healthcare workers, willingness, structural equation modeling, community engagement, Indonesia

Posted Date: March 3rd, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-9005691/v1>

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Additional Declarations: The authors declare no competing interests.

Abstract

Background

Emerging infectious diseases (EIDs) pose a threat to Indonesia, where high population mobility, decentralised health systems, and geographic complexity increase the risk of emergence and international spread. Effective EID surveillance relies on the engagement of frontline healthcare workers, which is shaped not only by individual willingness but also by training, system capacity, and community context..

Methods

A cross-sectional study was conducted among 349 healthcare workers in primary healthcare centers in Bali Province, Indonesia. Data were collected using a structured questionnaire measuring cognitive readiness, attitudinal and behavioral preparedness, capacity building and training, perceived system constraints, community engagement and trust, and willingness to engage in EID surveillance. Summed construct scores were used for analysis. Structural equation modeling (SEM) with robust maximum likelihood estimation to examine direct and indirect relationships among constructs, including the mediating role of capacity building and training.

Results

Community engagement and trust, reflecting healthcare workers' perceptions of community collaboration and trust in the surveillance system, showed the strongest direct association with willingness of hcws? to engage in EID surveillance ($\beta = 0.326$, $p < 0.001$), followed by cognitive readiness ($\beta = 0.186$, $p = 0.003$), perceived system constraints ($\beta = 0.166$, $p < 0.001$), and capacity building and training ($\beta = 0.099$, $p = 0.047$). Attitudinal and behavioral preparedness, reflecting perceptions of facility preparedness and resource availability, was not significantly associated with willingness. Cognitive readiness demonstrated a small indirect effect on willingness through capacity building and training ($\beta = 0.046$, $p = 0.053$), with a significant total effect ($\beta = 0.232$, $p < 0.001$). The model explained 37.3% of the variance in willingness and showed acceptable model fit.

Conclusion

Willingness to engage in EID surveillance among Indonesian healthcare workers is shaped by an interplay of knowledge, training, perceived system constraints, and community engagement. Strengthening surveillance preparedness therefore requires integrated strategies that link cognitive readiness to practical capacity building, address system-level barriers, and foster trust and collaboration with communities.

Introduction

Emerging infectious diseases (EIDs) pose persistent and evolving threats to global health security, particularly in countries with large populations and complex geographies such as Indonesia. As the world's fourth most populous nation and an archipelago of more than 17,000 islands, Indonesia faces heightened risks of disease emergence and transmission driven by high population mobility, dense urban centres, and close human–animal–environment interactions.^[1] In addition to pandemic-prone pathogens, the country continues to confront endemic and emerging threats such as dengue, avian influenza (H5N1), malaria, leptospirosis, and other vector-borne and zoonotic infections with outbreak potential.^[2, 3] These conditions underscore ongoing challenges in surveillance, health workforce capacity, and equitable service delivery, highlighting the need for sustained preparedness and adaptive public health response systems to address current and future infectious disease threats.^[4]

A cornerstone of effective EID preparedness and response is a robust disease surveillance system capable of early detection, timely reporting, and coordinated action.^[5] Indonesia's surveillance architecture includes systems such as the Early Warning Alert and Response System (EWARS), which aggregates weekly indicator-based reporting from more than 10,000 primary health care centers (Puskesmas) across the country and integrates event-based notifications for acute public health threats.^[6] Despite these systems, evaluations have documented gaps in access to EID diagnostics, timeliness and completeness of reporting, unequal distribution of human resources, and infrastructure inequities that hinder prompt outbreak detection and response.^[6, 7]

Human resources are central to surveillance efficacy, yet Indonesia's health workforce was already stretched prior to the pandemic and has faced persistent shortages of trained staff capable of fulfilling surveillance and response roles.^[4, 8] Analyses of the Indonesian healthcare system's capacity indicate insufficient numbers of clinicians and epidemiologically trained personnel, uneven geographic distribution of staff, and limitations in system readiness to absorb surge demands during large-scale health emergencies such as COVID-19.^[9] These structural constraints underscore the need to understand factors shaping health worker engagement, competencies, capacity, capability to engage, and behavioral determinants that influence participation in surveillance activities.^[10]

Individual determinants such as cognitive readiness, a domain encompassing knowledge and perception of surveillance systems, are a foundation for disease identification, diagnosis and reporting.^[11] Previous research has demonstrated that higher levels of knowledge and awareness among frontline workers are associated with improved adherence to surveillance protocols in outbreak settings. In the context of emerging and re-emerging infectious diseases, where epidemiological characteristics may change rapidly, sustained and adaptive training is essential to support consistent and effective surveillance practices.^[12] Similarly, training experiences and ongoing capacity building are critical for workforce preparedness, yet access and quality of training vary across regions and facilities.^[13] System-level barriers, including constraints due to workload, resource scarcity, and organizational inefficiencies, have

been linked to lower participation in routine surveillance tasks in low- and middle-income contexts.^[14] Community-related factors, such as the level of engagement and trust between healthcare workers and the populations they serve, further influence motivation to participate in surveillance beyond routine duties, a phenomenon observed in community-based surveillance studies globally.^[15, 16]

Integrating these multifaceted determinants into a coherent analytical framework necessitates advanced modeling techniques. Structural equation modeling (SEM) offers the capability to simultaneously estimate direct and indirect relationships among latent constructs (such as cognitive readiness, training, system constraints, and community engagement) and their influence on outcomes like willingness to engage in EID surveillance.^[17] SEM has been widely used in health systems research to elucidate complex interplay between individual, social, and systemic factors affecting health behaviors and program implementation.^[18]

Despite the critical role of health workers in surveillance, empirical evidence that quantifies how these cognitive, behavioral, and system-level determinants interact to affect willingness to engage in EID surveillance among primary healthcare workers in Indonesia remains limited. Addressing this gap is particularly important given Indonesia's ongoing efforts to strengthen surveillance capacities in the post-COVID-19 era and to meet International Health Regulations core capacities. This study, therefore, employs SEM to investigate the determinants of willingness to engage in EID surveillance among healthcare workers in Indonesia, providing actionable insights for policy and capacity building initiatives aimed at bolstering health emergency preparedness and response.

Methods

Study Design and Settings

This study employed a cross-sectional design to investigate the determinants of healthcare workers' willingness to engage in emerging infectious disease (EID) surveillance in Indonesia. Data were collected between June and November 2025 from multiple primary health care centers (Puskesmas) across urban (Denpasar) and rural (Jembrana) districts in Bali province, Indonesia. Data collection was conducted using a self-administered structured questionnaire deployed via Clappia, a digital data collection platform. Participants completed the questionnaire independently on their own smartphones, with trained research staff available to provide assistance when required and to monitor data completeness and quality. These facilities serve as the frontline of Indonesia's disease surveillance system, reporting weekly morbidity and mortality indicators to district and national authorities and participating in event-based outbreak detection.^[19] All infectious disease surveillance healthcare workers actively involved in routine surveillance activities regardless of employment status (e.g., civil servants or contract staff), including both clinical and non-clinical healthcare workers, were eligible to participate. Cross-sectional designs are widely used in health system research to examine associations among latent constructs and

behavioral outcomes at a single point in time, particularly when using structural equation modeling (SEM) to evaluate complex interrelationships.^[18, 20]

Study Variables, Tools, and Measurement

The primary outcome variable was willingness to engage in EID surveillance, operationalized as the sum of five items assessing motivation and intention to participate in surveillance activities ($\alpha = 0.956$). Predictor variables included Cognitive Readiness (knowledge and perception of EID surveillance; 14 items, $\alpha = 0.906$), Attitudinal/Behavioral Preparedness (attitude toward facility preparedness and perceived performance of the EID surveillance system; 12 items, $\alpha = 0.945$), Capacity Building / Training (training experiences and updates on EID; 10 items, $\alpha = 0.912$), System Constraints (perceived challenges and barriers as reported by respondents; 13 items, $\alpha = 0.875$), and Community Engagement / Trust (collaboration, trust, and community action; 13 items, $\alpha = 0.873$). All items were measured using five-point Likert scales (scored 1 to 5). Each indicator was constructed by summing the scores of its corresponding items; therefore, the minimum and maximum possible scores for each indicator depended on the number of items included. All statistical analyses were conducted using these original summed scores, without rescaling or standardisation. To facilitate interpretation and comparability across domains with differing numbers of items, summed scores were additionally expressed as mean item scores (range 1–5) and as the percentage of the maximum possible score (POMP). Mean item scores were categorised as low (< 2.5), moderate ($2.5\text{--}3.49$), or high (≥ 3.5), corresponding to POMP values of $< 37.5\%$, $37.5\text{--}62.25\%$, and $\geq 62.5\%$, respectively. For the perceived System Constraints domain, higher scores reflect greater perceived barriers rather than more favourable conditions.

The questionnaire was developed by the research team based on validated instruments used in public health workforce research and adapted to the Indonesian context. Content was reviewed to ensure clarity and contextual relevance. The instrument was piloted among a small group of individuals similar to the study population, and minor revisions were made based on feedback. The final questionnaire was administered online. Construct validity was assessed using corrected item–total correlations, and internal consistency reliability was evaluated using Cronbach’s alpha. All constructs demonstrated satisfactory reliability according to established psychometric standards (Supplementary File X).

Statistical Analysis

Descriptive statistics were computed for sociodemographic characteristics, including frequencies and percentages, and for construct scores, including minimum, maximum, and mean $\pm$ standard deviation. SEM was performed using the lavaan package in R (version 4.4.3) within R Studio (version 2025.05.0 + 496; Copyright © 2025 by Posit Software, PBC). Maximum likelihood estimation with robust standard errors (MLR) was employed to account for potential non-normality in item responses. For the SEM analysis, summed scores of each construct were used as observed indicators, rather than individual items, to simplify the model, reduce potential estimation errors from small sample sizes per item, and

improve model convergence.^[21] Using summed scores is justified in psychometric research when constructs demonstrate satisfactory internal consistency reliability^[22], as in this study (Cronbach's α ranging from 0.873 to 0.945).

The SEM model specified direct paths from all predictor constructs to the outcome variable, as well as an indirect mediating path from Cognitive Readiness → Capacity Building / Training → Willingness. Model fit was assessed using multiple indices, including the χ^2 statistic, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA) with 90% confidence intervals, and Standardized Root Mean Square Residual (SRMR). Thresholds for acceptable fit were defined as CFI $\geq$ 0.95, TLI $\geq$ 0.90, RMSEA $\leq$ 0.08, and SRMR $\leq$ 0.08. Standardized regression coefficients, 95% confidence intervals, p-values, and R² for endogenous variables were reported, with statistical significance set at $p < 0.05$. In addition, SEM results were visualized using semPlot.

Data was analysed thematically and presented under key themes identified? Specify the themes here.

Ethical consideration

This study was approved by the Health Research Ethics Committee of the Faculty of Medicine, Udayana University (Protocol Number: 2025.03.1.0692). Participation was entirely voluntary, and all respondents provided written informed consent prior to data collection. Confidentiality and anonymity of participants were strictly maintained throughout the study, and all procedures were conducted in accordance with the ethical principles outlined in the Declaration of Helsinki.

Results

Sociodemographic characteristic of respondents

Among 349 healthcare worker interviews, most were female (85.7%) with a mean age of 38 ± 8.5 years (Table 1). The majority were married (91.7%), Hindu (88%), and held a diploma (46.1%) or bachelor's degree (49.9%). Nearly all were civil servants (96.6%), and 62.5% had prior involvement in surveillance or outbreak response. The mean length of service at their current health center was 9.9 ± 7.5 years. Participants were primarily from Jembrana (46.1%) and Denpasar (38.7%).

Table 1
Sociodemographic characteristic of respondents (n = 349)

Variable	Frequency	Percentage
Sex		
Male	50	14.3
Female	299	85.7
Age (mean, $\pm$ SD)		
20–39	226	64.8
40–59	123	35.2
Marital Status		
Single	21	6
Married	320	91.7
Divorced	8	2.3
Religion		
Hindu	307	88
Islam	31	8.9
Catholic	6	1.7
Christian	4	1.1
Buddhist	1	0.3
Highest Education		
Diploma	161	46.1
Bachelor	174	49.9
Postgraduate	14	4
Employment Status		
Civil Servant (ASN)	337	96.6
Non-Civil Servant	12	3.4
Involvement in Surveillance or Infectious Disease Outbreak Response		
Yes	218	62.5
No	131	37.5

Variable	Frequency	Percentage
Sex		
Length of Service at the Health Center (mean, $\pm$ SD)	9.9 ($\pm$ 7.5)	
City/town		
Denpasar	135	38,7
Jembrana	161	46,1
Badung	21	6,0
Gianyar	16	4,6
Bangli	1	0,3
Tabanan	11	3,2
Klungkung	4	1,1

Descriptive Statistics of Constructs

Figures 1 and 2 show a generally high level of individual readiness and engagement in emerging infectious disease (EID) surveillance, alongside clear domain-specific weaknesses. Responses were predominantly skewed toward higher Likert categories (scores 4–5) for cognitive readiness, attitudinal and behavioural preparedness, and willingness to engage, indicating strong understanding, favourable attitudes, and high motivation among respondents. By contrast, capacity building and training and perceived system constraints exhibited greater heterogeneity and lower mean scores, suggesting uneven exposure to training and the persistence of structural limitations within the surveillance system. Sub-domain analyses further indicated that perceptions of the surveillance system and institutional trust were more favourable than knowledge acquisition, training experience, and community action, while structural barriers were more pronounced than operational challenges.

Cognitive readiness exhibited the highest domain score (mean (SD) 49.6 ± 6.6), corresponding to a high mean item score and POMP value relative to its theoretical range, indicating strong knowledge and understanding of emerging infectious disease (EID) surveillance among respondents. This was followed by attitudinal and behavioural preparedness, which fell within the moderate range, reflecting moderate confidence in facility preparedness and perceived resource availability. By contrast, perceived system constraints and community engagement and trust demonstrated the lowest relative scores when interpreted against their respective score ranges, highlighting persistent structural and operational limitations as well as challenges related to community engagement and trust (Table 2).

Table 2
Predictor Construct Scores(n = 349)

Construct	Score mean ($\pm$ SD)	Minimum	Maximum
Cognitive Readiness	49.6 ($\pm$ 6.6)	31	70
Attitudinal/Behavioral Preparedness	44.9 ($\pm$ 6.3)	24	60
Capacity Building / Training	22.3 ($\pm$ 6.6)	10	40
Perceived System Constraints	30.5 ($\pm$ 5.8)	15	45
Community Engagement / Trust	36.4 ($\pm$ 5.3)	19	49
Note: Maximum possible scores differ by construct based on the number of items; interpretation should be relative to these ranges.			

The direct effect of predictors constructs on willingness

Table 3 presents the standardized regression weights of the predictors on Willingness. Cognitive Readiness showed a positive association ($\beta = 0.186$, 95% CI: 0.029–0.146, $p = 0.003$). Attitudinal and Behavioral Preparedness had a smaller positive effect ($\beta = 0.112$, 95% CI: –0.010–0.120, $p = 0.099$). System Constraints was positively associated with Willingness ($\beta = 0.166$, 95% CI: 0.042–0.134, $p < 0.001$). Community Engagement and Trust showed the strongest positive association ($\beta = 0.326$, 95% CI: 0.114–0.268, $p < 0.001$). Capacity Building and Training also had a positive effect ($\beta = 0.099$, 95% CI: 0.001–0.092, $p = 0.047$). The model explained 37.3% of the variance in Willingness ($R^2 = 0.373$).

Table 3
Standardized regression weights of direct predictors of willingness (n = 349)

Variable	Standardized β	95% Confidence Interval	p-value
Cognitive Readiness	0.186	0.029–0.146	0.003
Attitudinal and Behavioral Preparedness	0.112	–0.010–0.120	0.099
Perceived System Constraints	0.166	0.042–0.134	< 0.001
Community Engagement and Trust	0.326	0.114–0.268	< 0.001
Capacity Building and Training	0.099	0.001–0.092	0.047
Explained variance: Willingness (R^2) = 0.373 (37.3%)			

The indirect effect of predictors constructs on willingness

Table 4 shows that Cognitive Readiness had a small indirect effect on Willingness through Capacity Building and Training ($\beta = 0.046$, $p = 0.053$) and a larger total effect ($\beta = 0.232$, $p < 0.001$). The model explained 21.6% of the variance in Capacity Building and Training ($R^2 = 0.216$). In addition, the structural

equation model demonstrated acceptable to good fit: $\chi^2(3) = 9.22$, $p = 0.026$; CFI = 0.975; TLI = 0.926; RMSEA = 0.077 (90% CI: 0.023–0.136); SRMR = 0.028. Robust fit indices were consistent (robust CFI = 0.976; robust TLI = 0.927; robust RMSEA = 0.076), indicating the model adequately represents the observed data.

Table 4
Standardized indirect and total effects on willingness (n = 349)

Pathway	Indirect Effect β	Total Effect β	p-value
Cognitive Readiness → Capacity Building and Training → Willingness	0.046	0.232	0.053 (indirect); < 0.001 (total)
Explained variance: Capacity Building and Training (R^2) = 0.216 (21.6%)			

Discussion

This study examined health system and behavioral determinants of willingness to engage in emerging infectious disease (EID) surveillance among Indonesian healthcare workers, using structural equation modeling (SEM). The findings demonstrate that cognitive, attitudinal, training-related, and community-oriented factors collectively shape engagement in EID surveillance, highlighting the multifaceted nature of preparedness in primary healthcare settings.

Cognitive Readiness, encompassing knowledge and perception of EID surveillance, was positively associated with willingness both directly and indirectly via Capacity Building/Training. This underscores the importance of foundational understanding of surveillance systems as a prerequisite for proactive engagement. Similar studies in public health workforce contexts have demonstrated that knowledge and awareness significantly enhance compliance with outbreak protocols and active participation in surveillance programs.^[23, 24] The indirect effect through training further emphasizes that knowledge alone is insufficient; structured capacity-building activities are essential to translate understanding into actionable engagement.^[25, 26]

Attitudinal and Behavioral Preparedness, reflecting confidence in facility readiness and perception of available resources, had a modest positive association with willingness. This finding aligns with the Health Belief Model, where perceived self-efficacy and perceived facility preparedness influence engagement in preventive or surveillance behaviors.^[27] Although the effect size was smaller than that of community engagement, it indicates that improving healthcare workers' confidence in resources and preparedness may incrementally increase participation.^[28]

Community Engagement and Trust emerged as the strongest predictor of willingness, highlighting the social and relational dimensions of surveillance activities. Healthcare workers embedded in collaborative networks and supported by community trust are more likely to participate actively. This finding resonates with prior evidence that community-based surveillance and strong local partnerships

are critical for early outbreak detection and timely response.^[29] The result suggests that fostering trust and collaborative relationships at both institutional and community levels should be a central component of surveillance strengthening initiatives.

Perceived System Constraints, encompassing perceived operational and structural barriers, were also positively associated with willingness, which may initially seem counterintuitive. This likely reflects a heightened motivation among workers facing challenges to actively engage in surveillance as a compensatory mechanism. Similar observations were reported in other resource-limited settings, where healthcare workers encountering systemic barriers often exhibit proactive problem-solving behaviors to mitigate gaps in outbreak response.^[30]

The model explained 37.3% of the variance in willingness, with 21.6% of the variance in training outcomes explained by cognitive readiness. These findings indicate that while individual knowledge, attitudes, and community factors are influential, additional determinants, such as organizational support, leadership, and incentive structures, likely contribute to engagement and should be addressed in future interventions.

The findings of this study have several important implications for strengthening EID surveillance systems in Indonesia and similar health system settings. First, continuous, context-specific training programs are essential to translate cognitive readiness into effective engagement. Training curricula should move beyond didactic sessions to incorporate simulation exercises, case studies, and practical drills that reflect real outbreak scenarios. For example, the WHO Field Epidemiology Training Program (FETP) model integrates hands-on mentoring and outbreak investigation exercises, which has been shown to improve surveillance competencies in LMICs.^[31]

Second, the strong effect of community engagement and trust underscores the importance of participatory surveillance strategies that actively involve local leaders, volunteers, and community health workers. Examples from global practice include Community Based Surveillance (CBS), which empowered community volunteers to report unusual health events, improving timeliness of outbreak detection.^[32] In Indonesia, leveraging existing Posyandu (integrated health posts) and community cadres can enhance bidirectional communication between health facilities and communities.^[33]

Third, interventions aimed at improving willingness should address both attitudinal and structural factors. Providing adequate resources, such as logistics for specimen transport, dedicated time for surveillance tasks, and administrative support, can reduce perceived operational barriers. Clarifying roles and responsibilities through standard operating procedures, and addressing bottlenecks with supportive supervision frameworks, can enhance both capacity and motivation.^[34] The WHO Health Systems Framework emphasizes that effective service delivery and workforce support are critical components of resilient health systems.^[35]

At the organizational level, policymakers should consider structured feedback mechanisms and incentive systems to sustain healthcare worker participation in surveillance. Recognition programs, performance feedback, and career incentives tied to competency in surveillance activities may reinforce positive behaviors.^[36] Additionally, the integration of digital reporting tools, such as mobile-based applications for case reporting and real-time dashboards, can streamline workflows and support timely action.^[37] On the other hand, the mediating role of Capacity Building/Training suggests that strategies linking knowledge acquisition with hands-on capacity building are likely to be most effective. Embedding training within routine supervision visits and developing blended learning platforms (online plus in-person) can sustain skill retention and application.^[38]

This study's primary strength lies in its comprehensive, theory-driven approach to modeling multiple determinants of willingness to engage in EID surveillance simultaneously. By employing structural equation modeling with both direct and indirect pathways, the analysis captures the complex interplay of cognitive, behavioral, systemic, and community factors, providing a richer understanding than traditional regression models. The relatively large sample size ($n = 349$) and the use of validated psychometric measures with satisfactory reliability (Cronbach's $\alpha > 0.87$ across constructs) further enhance the robustness of the findings. Additionally, using summed construct scores enhances model stability and interpretability in applied public health research settings.

Several limitations should be acknowledged. First, the cross-sectional design precludes causal inference; observed associations reflect correlations at a single time point and cannot confirm temporal sequences. Longitudinal or experimental designs would be needed to establish causality. Second, the use of summed scores rather than item-level latent variables may reduce measurement precision, potentially obscuring finer nuances in construct relationships. However, this approach was selected to balance model complexity and estimation stability given the sample size. Third, the study sample was drawn from primary health care facilities in Bali, which may limit generalizability to other Indonesian provinces or health system contexts with different resource profiles. Finally, the reliance on self-reported measures introduces the possibility of social desirability and recall biases, particularly for constructs related to motivation, attitudes, and perceived constraints. Future research incorporating objective performance indicators or qualitative methods could provide complementary insights. Nevertheless, this study's primary strength lies in its comprehensive, theory-driven approach to modeling multiple determinants of willingness to engage in EID surveillance simultaneously. By employing structural equation modeling with both direct and indirect pathways, the analysis captures the complex interplay of cognitive, behavioral, systemic, and community factors, providing a richer understanding than traditional regression models. The relatively large sample size ($n = 349$) and the use of validated psychometric measures with satisfactory reliability (Cronbach's $\alpha > 0.87$ across constructs) further enhance the robustness of the findings. Additionally, using summed construct scores enhances model stability and interpretability in applied public health research settings.

Conclusions

This study demonstrates that willingness to engage in emerging infectious disease surveillance among Indonesian healthcare workers is influenced by an interplay of cognitive readiness, capacity building, community engagement, and health system factors. Community engagement and trust emerged as particularly important, while training acted as a key pathway translating knowledge into engagement. Strengthening surveillance preparedness therefore requires integrated strategies that combine continuous training, supportive organizational environments, and strong community partnerships. These findings provide actionable evidence to inform workforce development and surveillance system strengthening in Indonesia and similar health system contexts.

Declarations

Acknowledgments

The authors sincerely thank all healthcare workers who participated in this study for their time and valuable contributions. We also acknowledge the support of district and facility-level health authorities who facilitated data collection. Appreciation is extended to the research assistants and field coordinators for their dedication during data collection and management.

Author contributions

All authors contributed substantially to the study.

Conceptualization and study design: PPJ and LS.

Questionnaire development:

Data collection: PPIO, BDKW, and NKS.

Data analysis and interpretation: NPAH.

Manuscript drafting: NPAH.

Interpretation and critical revision of the manuscript: All authors.

All authors read and approved the final manuscript

Funding

This study was supported by the Institute for Research and Community Service (Lembaga Penelitian dan Pengabdian kepada Masyarakat, LPPM) of Udayana University under the B/335-46/UN14.4.A/PT.01.03/2025 funding scheme, and by the PUI-PT Center for Public Health Innovation (CPHI), Udayana University.

Data availability

The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request, subject to ethical approval and data protection regulations.

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Figures

Distribution of Likert-scale Responses by Item and Domain

Stacked bar charts showing proportion of responses (1–5)

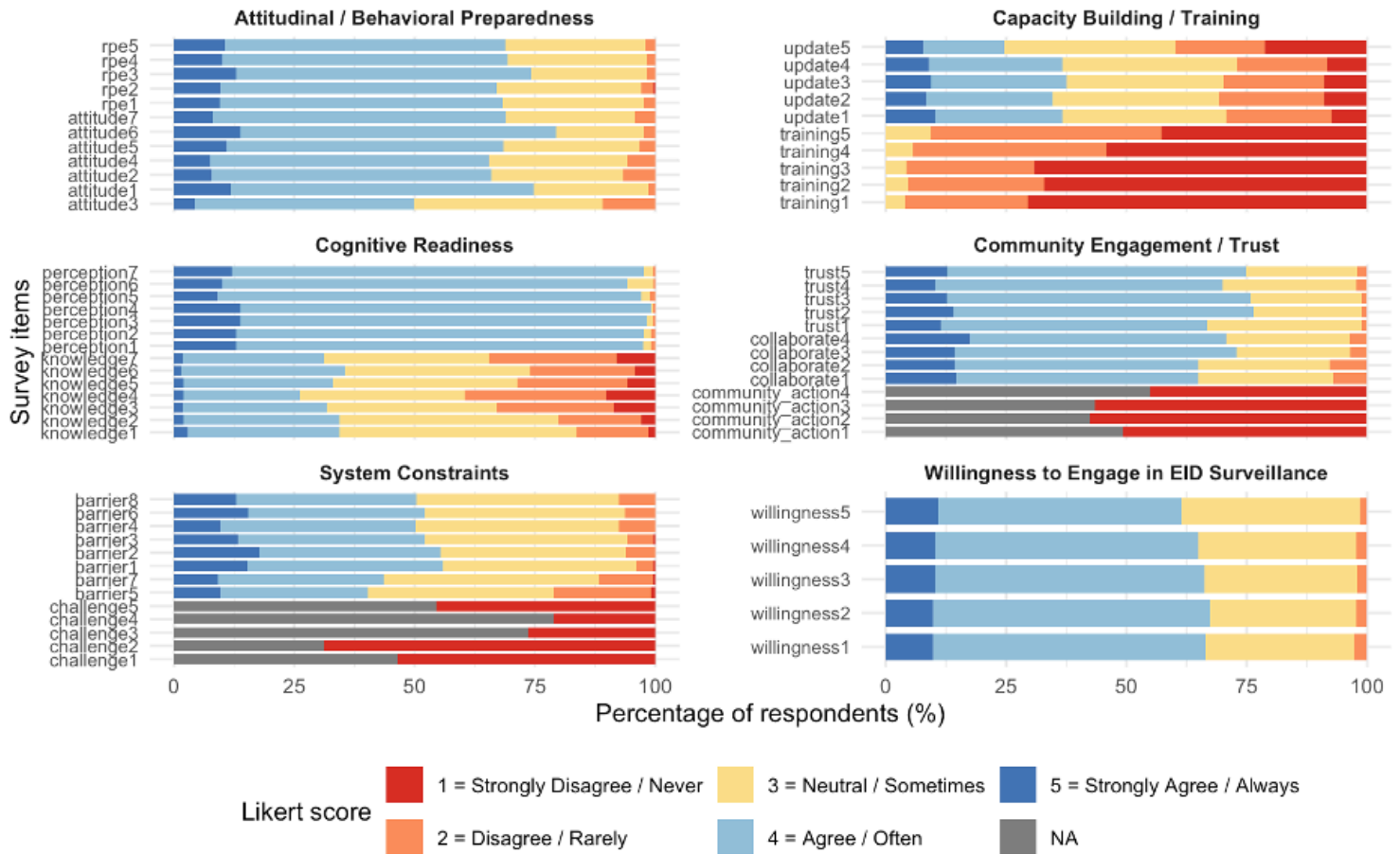


Figure 1

Distribution of Likert-scale responses by item and domain

Mean Scores by Domain and Sub-domain of EID Surveillance Readiness

Lollipop plot showing mean $\pm$ SD of summed sub-domain scores

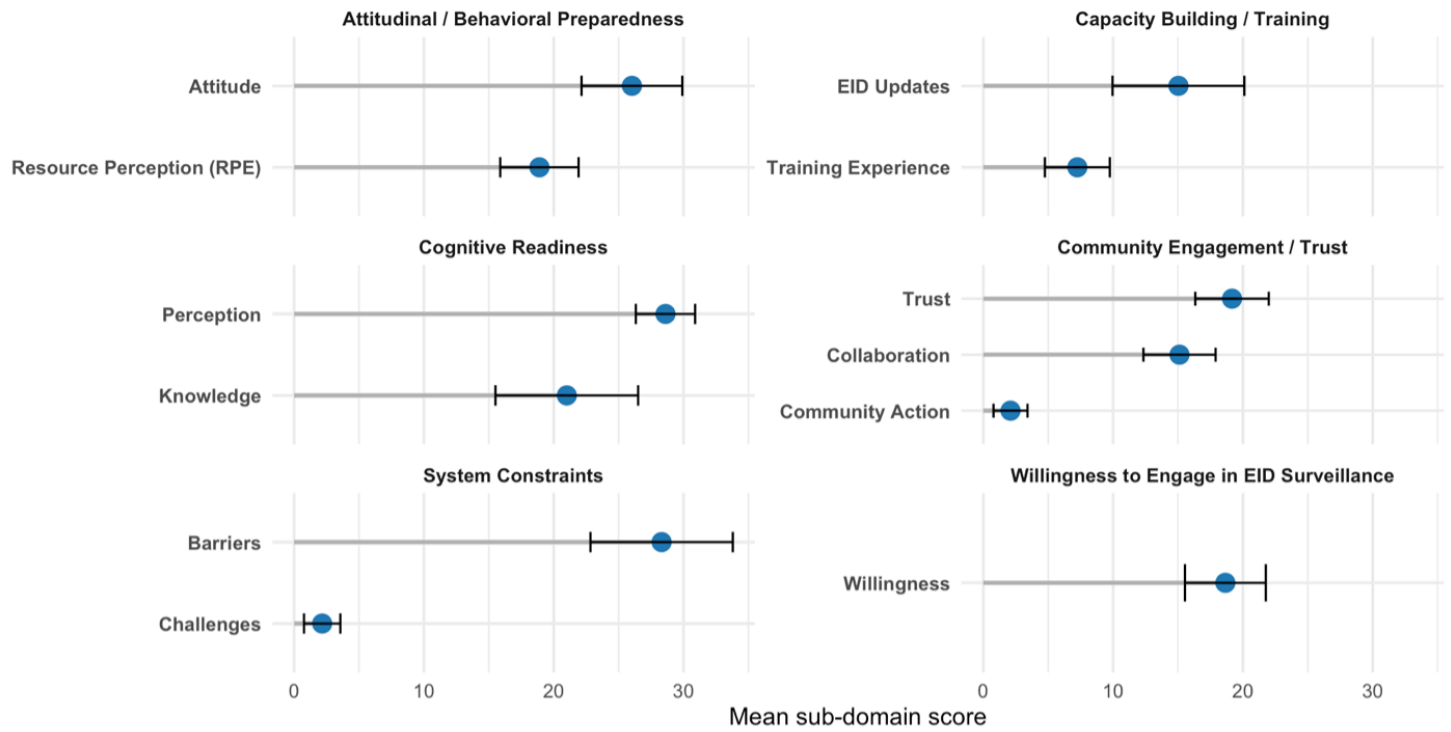


Figure 2

Mean scores by domain and sub-domain

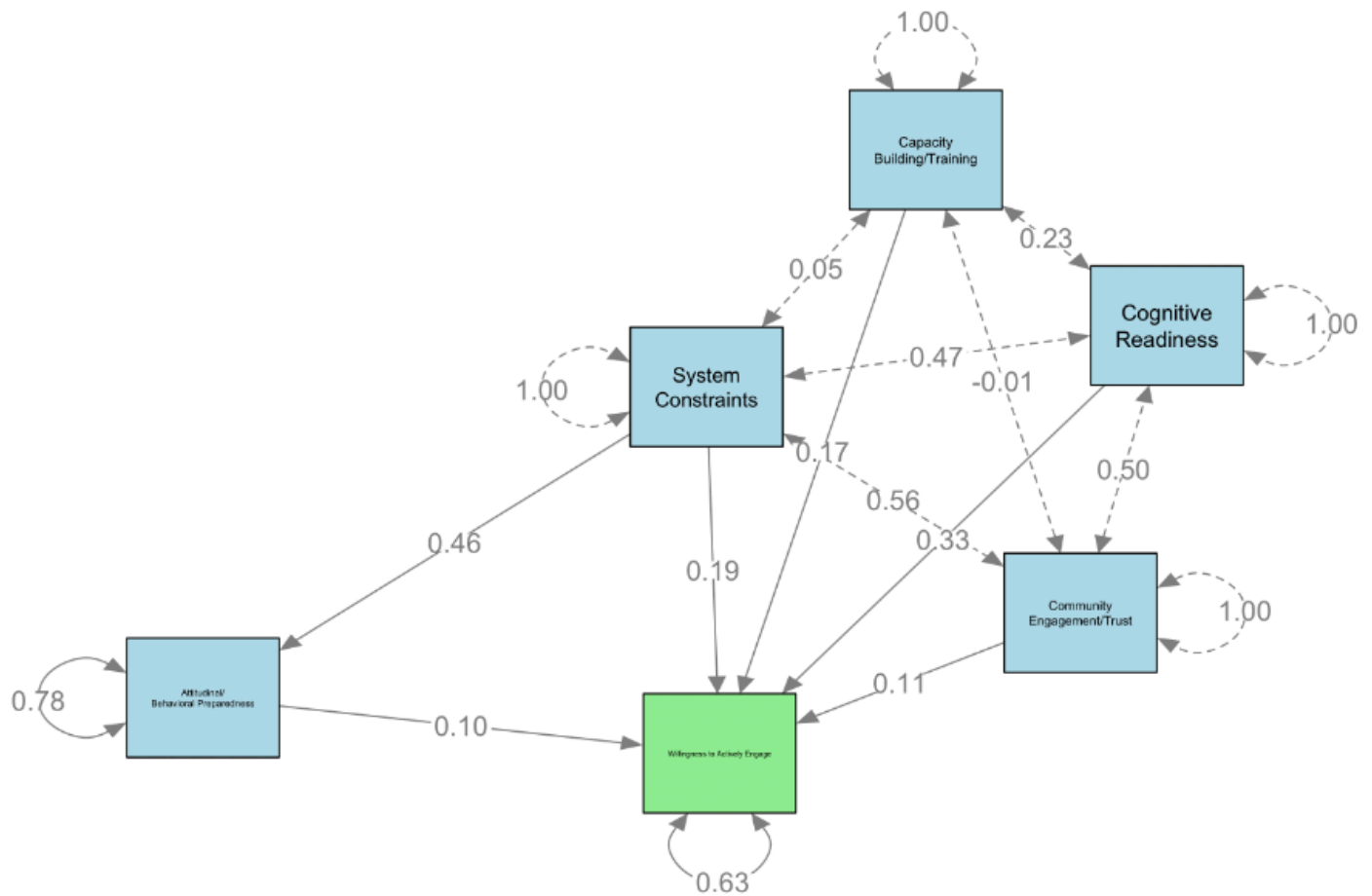


Figure 3

Figure 1. Structural equations modeling with standardized coefficients for predictors of willingness to engage in emerging infectious disease surveillance among Indonesian healthcare workers

Supplementary Files

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