

Role of transformational leadership of primary health center heads in the success of the national immunization program: a qualitative study

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ABSTRACT

Introduction: The National Immunization Program is a cornerstone of public health policy; however, variations in immunization performance persist at the primary health care level. Leadership at Primary Health Centers (Puskesmas) plays a crucial role in translating national policies into effective local implementation. Transformational leadership has been increasingly recognized as a potential mechanism for strengthening program performance, yet qualitative evidence from primary health care settings in low- and middle-income countries remains limited. This study aimed to explore the role of transformational leadership exercised by heads of Primary Health Centers in supporting the success of the National Immunization Program.

Research Methodology: A qualitative descriptive-exploratory design was employed. In-depth, semi-structured interviews were conducted with 23 purposively selected informants, including heads of Primary Health Centers and health workers directly involved in immunization services. Data were analyzed using thematic analysis to identify key leadership-related mechanisms influencing program implementation.

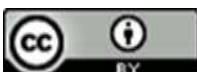
Results: Four interrelated themes emerged from the analysis: vision-oriented leadership, empowerment and motivation of health workers, team collaboration and coordination, and community engagement and trust building. Clear vision-setting by leaders aligned staff efforts with immunization targets, while supportive supervision and participatory decision-making enhanced health worker motivation. Effective teamwork facilitated adaptive problem-solving in response to operational challenges, and active community engagement strengthened public trust and acceptance of immunization services.

Conclusion: The findings indicate that transformational leadership at the primary health care level supports successful immunization program implementation through integrated leadership practices that combine strategic vision, workforce empowerment, collaboration, and community engagement. Strengthening the capacity for transformational leadership among Primary Health Center heads may enhance the sustainability and effectiveness of national immunization programs in decentralized health systems.

Keywords: community engagement; immunization program; primary health care; transformational leadership; workforce empowerment.



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INTRODUCTION

National immunization programs are widely recognized as one of the most cost-effective public health interventions for reducing morbidity and mortality from vaccine-preventable diseases (Abuhammad, 2025). Despite strong global commitments and national policies, disparities in immunization coverage persist, particularly in low- and middle-income countries. In Indonesia, the National Immunization Program is implemented primarily through Primary Health Centers, which function as the backbone of primary health care delivery (Acharya *et al.*, 2026). However, considerable variation in immunization performance across Primary Health Centers suggests that policy frameworks and technical inputs alone are insufficient to ensure program success (Al-Thani *et al.*, 2025).

At the primary health care level, leadership plays a pivotal role in translating national policies into effective local action. Heads of Primary Health Centers are responsible not only for administrative management but also for motivating health workers, coordinating intersectoral collaboration, and fostering community trust in immunization services (Baird *et al.*, 2025). Transformational leadership, which emphasizes vision, inspiration, empowerment, and individualized support, has been increasingly advocated in public health systems to address complex implementation challenges (Beattie and Elgarguri, 2024). Nevertheless, immunization programs continue to face persistent problems, including workforce demotivation, suboptimal community engagement, and vaccine hesitancy, indicating that facility-level leadership practices remain insufficiently understood in real-world public health contexts (Bhattacharjee *et al.*, 2026).

Previous research on immunization program performance has largely emphasized structural and technical determinants, such as vaccine supply chains, cold-chain management, financing mechanisms, and surveillance systems (Bonakdeh *et al.*, 2025). While these factors are essential, they offer only a limited explanation for differences in program outcomes observed at the service-delivery level. In parallel, leadership studies in health systems have often relied on quantitative designs, focusing on statistical associations between leadership styles and performance indicators or staff satisfaction (Dickson *et al.*, 2024).

Such approaches, although valuable, tend to underexplore the contextual, relational, and process-oriented mechanisms through which leadership influences daily immunization practices (Eelager *et al.*, 2025). In particular, there is a paucity of qualitative evidence on how primary health care leaders enact transformational leadership and how these leadership behaviors shape health worker motivation, teamwork, and interactions with communities (Graham *et al.*, 2025). Within the Indonesian setting, empirical studies that position leadership as a central analytical focus rather than a secondary organizational variable remain scarce (Hazra and Bora, 2025).

Furthermore, the dominance of outcome-oriented metrics in public health and health policy research often obscures the perspectives of frontline actors responsible for program implementation (Herrera *et al.*, 2025). Without qualitative insights into their experiences, it is difficult for policymakers to identify actionable leadership strategies that are both context-sensitive and operationally feasible (Iyamu *et al.*, 2025). This gap is especially relevant for journals in public health and health policy journals, which increasingly call for implementation-focused, systems-oriented research to inform evidence-based decision-making.

This study addresses these gaps by employing a qualitative approach to explore the role of transformational leadership exercised by heads of Primary Health Centers in the success of the National Immunization Program. By foregrounding the perspectives of leaders and health workers involved in immunization delivery, this research elucidates the mechanisms through

which leadership practices influence motivation, coordination, and community engagement at the primary care level. Rather than treating leadership as a static managerial attribute, this study conceptualizes transformational leadership as a dynamic, relational process embedded within everyday public health practice. It provides context-rich evidence from a decentralized health system in which local leadership capacity is critical to achieving national policy goals. By generating qualitative empirical evidence from the Indonesian primary health care context, this study contributes to the literature by clarifying how transformational leadership supports immunization program effectiveness beyond technical and structural interventions. The findings are expected to inform leadership development initiatives, guide policy efforts to strengthen primary health care governance, and support more adaptive and people-centered approaches to immunization delivery. In doing so, this research offers a substantive contribution to public health and health policy scholarship by bridging leadership theory with practical challenges in the implementation of national immunization programs.

RESEARCH METHODOLOGY

Study Design

This study employed a qualitative research design with a descriptive–exploratory approach to examine the role of transformational leadership exercised by Primary Health Center (Puskesmas) heads in the success of the National Immunization Program. A qualitative design was considered appropriate to capture in-depth perspectives, experiences, and meanings attributed by key actors involved in immunization implementation. This approach aligns with public health and health policy research that emphasizes contextual understanding and implementation processes rather than causal inference.

Study Setting and Participants

The study was conducted in selected Primary Health Centers across several districts in Indonesia where the National Immunization Program is routinely implemented. Participants were purposively selected to ensure relevance and depth of information. The study involved 23 key informants, consisting of heads of Primary Health Centers and health workers directly responsible for immunization services, such as nurses, midwives, and immunization coordinators. Inclusion criteria included having at least one year of experience in immunization-related activities and direct involvement in planning, managing, or delivering immunization services.

Data Collection

Data were collected through in-depth, semi-structured interviews conducted between October and Desember 2025. An interview guide was developed based on transformational leadership theory and prior literature on immunization program implementation. The guide explored leadership practices, decision-making processes, staff motivation, coordination mechanisms, and strategies for engaging communities in immunization activities. Interviews were conducted in the local language, audio-recorded with the participant's consent, and supplemented with field notes to capture contextual information and non-verbal cues. Data collection continued until thematic saturation was achieved.

Data Analysis

Interview data were transcribed verbatim and analyzed using thematic analysis. The analysis followed a systematic process of familiarization, initial coding, theme development, and refinement. Both inductive and deductive coding approaches were applied: inductive coding allowed themes to emerge from the data, while key dimensions of transformational leadership

guided deductive coding. To enhance analytical rigor, multiple researchers independently reviewed coding, and discrepancies were resolved through discussion. Reflexive memos were maintained throughout the analysis to document analytical decisions.

Trustworthiness and Rigor

The trustworthiness of the study was ensured through established qualitative rigor criteria, including credibility, dependability, confirmability, and transferability. Credibility was enhanced through prolonged engagement with the data and triangulation of perspectives between leaders and health workers. Dependability was supported by maintaining an audit trail of methodological and analytical decisions. Confirmability was addressed by reflexive practices to minimize researcher bias, while transferability was facilitated by providing rich descriptions of the study context and participants.

Ethical Considerations

Ethical approval for the study was obtained from an appropriate institutional ethics review board. All participants received detailed information about the study objectives, procedures, and their rights, including the option to participate voluntarily and the confidentiality of their data. Written informed consent was obtained before data collection. Participant anonymity was ensured by using codes instead of identifiable information, and all data were securely stored and accessed only by the research team. This methodological approach is consistent with the aims of public health and health policy research to generate context-sensitive evidence that can inform leadership development and strengthen the implementation of national immunization programs at the primary health care level.

RESULT

This section presents the findings of the qualitative analysis exploring the role of transformational leadership exercised by heads of Primary Health Centers (Puskesmas) in the success of the National Immunization Program. The results are derived from in-depth interviews with 23 key informants, including Puskesmas heads and health workers directly involved in immunization service delivery. Through thematic analysis, several interconnected themes emerged, illustrating how transformational leadership practices influence health worker motivation, team coordination, and community engagement in immunization activities.

The findings are organized around major themes that reflect core dimensions of transformational leadership and their implications for program implementation at the primary health care level. These themes provide insight into the mechanisms through which leadership practices support or constrain immunization program performance within the local health system context.

Table 1. Themes and Subthemes Identified from Qualitative Analysis

Main Theme	Subthemes	Description of Findings
Vision-Oriented Leadership	Shared vision for immunization goals	Heads of Primary Health Centers articulated a clear vision regarding immunization targets and consistently communicated program priorities to health workers. This shared vision fostered collective responsibility and alignment with national immunization objectives.
	Strategic planning and goal setting	Leaders translated national immunization policies into actionable plans at the facility level, including microplanning, outreach scheduling, and prioritizing high-risk populations.

Empowerment and Motivation of Health Workers	Supportive supervision	Transformational leaders provided regular guidance, feedback, and encouragement, which enhanced health workers' confidence and commitment to immunization tasks.
	Psychological empowerment	Health workers reported feeling trusted and valued, particularly when leaders delegated responsibilities and involved staff in decision-making related to immunization activities.
Team Collaboration and Coordination	Interprofessional teamwork	Effective leadership facilitated collaboration among nurses, midwives, and immunization coordinators, reducing task overlap and improving service efficiency.
	Problem-solving and adaptability	Leaders encouraged collective problem-solving to address logistical challenges, such as vaccine shortages or outreach barriers, enabling timely program adjustments.
Community Engagement and Trust Building	Community outreach and communication Building trust in immunization services	Heads of Primary Health Centers actively supported health workers in engaging community leaders and parents to address vaccine concerns and misinformation. Consistent leadership presence and transparent communication strengthened community trust, contributing to increased acceptance of immunization services.

Note: Findings are derived from a thematic analysis of in-depth interviews with 23 key informants involved in implementing the National Immunization Program.

The qualitative analysis revealed that transformational leadership exercised by heads of Primary Health Centers (Puskesmas) played a substantial role in shaping the implementation and perceived success of the National Immunization Program. Four interrelated themes emerged from the interviews, reflecting how leadership practices influenced vision alignment, health worker empowerment, team coordination, and community engagement.

Vision-Oriented Leadership emerged as a central theme in the findings. Heads of Puskesmas consistently emphasized the importance of immunization as a priority public health program and actively communicated national targets to their teams. This shared vision helped align individual responsibilities with broader program goals. One head of a Primary Health Center stated,

"We always remind the team that immunization is not just a routine task, but a national priority. Everyone must understand that achieving coverage targets is our shared responsibility."

Health workers echoed this perspective, noting that clear direction from leadership strengthened their commitment to immunization activities. Strategic planning was also highlighted, as leaders adapted national policies into locally relevant action plans. As one immunization coordinator explained,

"National targets are adjusted to our local situation. We plan outreach activities based on villages with low coverage, so our efforts are more focused."

Empowerment and Motivation of Health Workers constituted another prominent theme. Informants described how supportive supervision and participatory decision-making enhanced their motivation and sense of ownership. Health workers reported that leaders who provided guidance rather than blame created a more positive working environment. A midwife involved in immunization services noted,

“When problems occur, the head supports us instead of blaming us. This makes us more confident to work and find solutions together.”

Psychological empowerment was further reinforced through the delegation of responsibilities. A nurse shared,

“We are trusted to manage immunization activities, and our opinions are listened to. That makes us feel valued and more motivated.”

Team Collaboration and Coordination were strongly influenced by leadership practices that encouraged teamwork and collective problem-solving. Participants described effective collaboration among nurses, midwives, and immunization staff, facilitated by clear role distribution and open communication. One health worker remarked,

“We work as one team during immunization sessions. Tasks are clearly divided, and we help each other, especially during outreach activities.”

Leaders also played a critical role in fostering adaptive responses to operational challenges. A head of Puskesmas explained,

“When there are vaccine supply delays or staffing issues, we discuss together how to adjust schedules so children are not missed.” This collaborative approach supported continuity of services despite resource constraints.

Community Engagement and Trust Building emerged as a key leadership-driven process supporting immunization uptake. Heads of Puskesmas were actively involved in community outreach and encouraged staff to engage local leaders and parents. An immunization officer stated,

“We involve community and religious leaders so parents feel more confident about bringing their children for immunization.”

Informants also emphasized that visible leadership presence strengthened public trust. A health worker noted,

“People trust immunization services because they see the head of the health center directly involved and supportive.”

These efforts were perceived as essential for addressing vaccine hesitancy and improving community acceptance.

Overall, the results demonstrate that transformational leadership at the primary health care level operates through interconnected mechanisms of vision sharing, empowerment, collaboration, and community engagement, which collectively support the effective implementation of the National Immunization Program.

Figure 1. Line synthesis of qualitative findings illustrating the relative prominence of transformational leadership themes identified from interviews with Primary Health Center heads and health workers involved in the National Immunization Program.

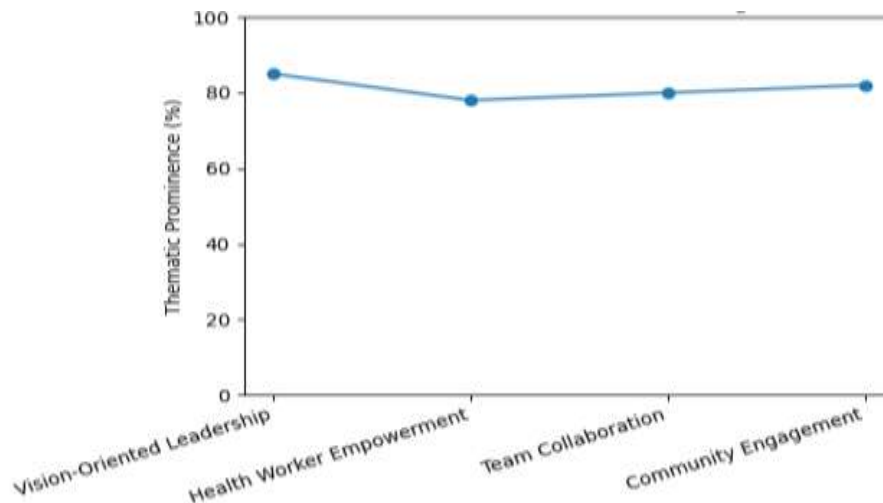


Figure 1. Line Synthesis of Transformational Leadership Themes in the National Immunization Program

The line chart illustrates the relative prominence of four key themes of transformational leadership identified from qualitative interviews with heads of Primary Health Centers and health workers involved in the National Immunization Program. Vision-oriented leadership emerges as the most prominent theme, underscoring the centrality of clear direction and alignment with immunization goals for effective program implementation. A slight decline in health worker empowerment is observed, suggesting that while empowerment is present, it may be unevenly experienced across settings. The subsequent increase in team collaboration and community engagement highlights the interconnected nature of leadership practices, where collaborative work and trust-building with communities reinforce program delivery. Overall, the relatively stable pattern across themes suggests that transformational leadership functions as an integrated set of practices rather than isolated components. The findings indicate that the success of the National Immunization Program at the primary health care level is supported by a balanced application of transformational leadership practices. Clear vision-setting by Primary Health Center heads provides strategic direction, while empowerment of health workers, effective team collaboration, and active community engagement collectively enhance program implementation. These results suggest that strengthening leadership capacity in primary health care should focus on integrating these dimensions to support sustainable and context-responsive immunization services.

DISCUSSION

This study provides qualitative evidence that transformational leadership exercised by heads of Primary Health Centers (Puskesmas) plays a pivotal role in supporting the successful implementation of the National Immunization Program. The findings demonstrate that leadership at the primary health care level operates through interconnected mechanisms, including vision-oriented leadership, empowerment of health workers, team collaboration, and community engagement. Together, these dimensions illustrate how leadership functions as a core implementation strategy rather than merely an administrative function.

Vision-oriented leadership emerged as the most prominent theme, highlighting the importance of clear direction and shared purpose in immunization programs. Heads of Puskesmas who consistently communicated immunization as a national priority aligned staff efforts with

program targets (Jamakandi *et al.*, 2025). This finding is consistent with the health systems literature, which emphasizes that effective leadership facilitates the translation of national frameworks into frontline practice (Kim *et al.*, 2025). In decentralized health systems such as Indonesia's, local leaders' ability to contextualize national immunization policies is critical for addressing geographic, social, and organizational variability. By framing immunization as a collective responsibility, leaders fostered ownership among health workers, an essential factor for sustaining program performance (Lashley, 2025).

Empowerment and motivation of health workers constituted another key mechanism through which transformational leadership influenced program implementation. Participants described supportive supervision, participatory decision-making, and delegation of responsibility as factors that enhanced confidence and commitment (Monsees *et al.*, 2026). These findings align with people-centered health system approaches that recognize the health workforce as a central pillar of service delivery (Parthasarathi *et al.*, 2024). Rather than relying on hierarchical control, transformational leadership promoted psychological empowerment, enabling health workers to take initiative and adapt to local challenges. This is particularly relevant in immunization programs, where frontline workers must navigate logistical constraints, community concerns, and workload pressures simultaneously (Patel *et al.*, 2026).

Team collaboration and coordination were also strongly shaped by leadership practices. The findings indicate that leaders who encouraged interprofessional teamwork and collective problem-solving enhanced the efficiency and continuity of immunization services (Paudel *et al.*, 2025). Collaboration among nurses, midwives, and immunization coordinators facilitated task sharing and reduced service gaps, especially during outreach activities (Perera *et al.*, 2024). This supports existing evidence that integrated team-based approaches are vital for effective primary health care. Importantly, leadership-facilitated collaboration enabled adaptive responses to operational challenges, such as vaccine supply disruptions or staffing shortages, which are common in resource-constrained settings (Prinja *et al.*, 2024).

Community engagement and trust-building emerged as a critical, leadership-driven process that influences immunization uptake (Rahman, 2025). Leaders who were visibly involved in outreach activities and who supported engagement with community and religious leaders contributed to greater public trust in immunization services (Rahman, 2026). This finding is particularly significant in the context of increasing vaccine hesitancy, where trust in health systems and local leaders plays a decisive role in parental decision-making. Transformational leadership extended beyond internal management to encompass external relationships with communities, reinforcing the notion that immunization success depends on social legitimacy as much as technical delivery (Rhoney *et al.*, 2026).

The integrated nature of these findings suggests that transformational leadership operates as a dynamic and relational process embedded in everyday practice. Rather than functioning as isolated leadership traits, vision-setting, empowerment, collaboration, and community engagement mutually reinforced one another (Suprpto, 2026). This holistic perspective addresses a key gap in previous research, which has often examined leadership dimensions in isolation or relied predominantly on quantitative indicators (Yu *et al.*, 2025). By adopting a qualitative approach, this study elucidates how leadership practices are enacted and experienced by frontline actors, offering deeper insight into the mechanisms linking leadership to program outcomes (Winkler *et al.*, 2025).

From a policy perspective, the findings underscore the importance of strengthening leadership capacity at the primary health care level as part of immunization system strengthening

efforts. Leadership development initiatives for heads of Puskesmas should go beyond managerial training to include competencies in communication, empowerment, facilitation of teamwork, and community engagement. Such investments are likely to yield broader benefits for primary health care performance beyond immunization alone.

This study also contributes to the growing body of implementation science literature by positioning leadership as a central determinant of program effectiveness in decentralized health systems. While national policies and technical inputs remain essential, their impact is mediated by local leadership practices that shape how programs are implemented on the ground. Recognizing leadership as an implementation mechanism has implications for both research and practice, encouraging greater attention to qualitative and context-sensitive evidence in health policy formulation.

Despite its contributions, this study has limitations that should be acknowledged. As a qualitative study with a purposive sample of informants, the findings are not intended to be statistically generalizable. However, the depth of insights provided enhances understanding of leadership processes within specific contexts. Future research could build on these findings by integrating mixed-methods designs or longitudinal approaches to further explore the relationship between leadership practices and immunization outcomes over time.

In conclusion, the discussion highlights that transformational leadership at the primary health care level plays a crucial role in enabling the success of the National Immunization Program. By fostering shared vision, empowering health workers, strengthening team collaboration, and building community trust, heads of Puskesmas contribute to more effective and sustainable immunization services. Strengthening these leadership capacities represents a strategic opportunity to enhance immunization program performance and advance public health goals in decentralized health systems.

CONCLUSION

This study concludes that transformational leadership exercised by heads of Primary Health Centers plays a critical role in supporting the effective implementation of the National Immunization Program. The findings demonstrate that leadership practices grounded in clear vision-setting, empowerment of health workers, team collaboration, and community engagement collectively enhance immunization service delivery at the primary health care level. Rather than functioning as isolated leadership attributes, these dimensions operate as an integrated set of practices that enable local adaptation of national immunization policies within a decentralized health system.

From a policy perspective, the results underscore the need to strengthen leadership capacity as part of broader immunization system strengthening efforts. Health policy initiatives should prioritize leadership development programs for Primary Health Center heads that emphasize transformational competencies, including communication, supportive supervision, participatory decision-making, and community engagement. Integrating these competencies into primary health care management standards and training curricula may improve workforce motivation and public trust in immunization services. Additionally, policymakers should recognize leadership as a core implementation mechanism alongside technical and logistical interventions. Strengthening transformational leadership at the primary care level represents a strategic opportunity to enhance the sustainability, equity, and effectiveness of national immunization programs.

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Conflict of Interest

There are no potential conflicts of interest relevant to this article.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request, subject to ethical and confidentiality considerations.

Authors' Contributions

Nawir Rahman conceptualized and designed the study, conducted data collection and analysis, and drafted the manuscript. The author also reviewed and approved the final version of the manuscript.

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