

Evaluation of Smoke-Free Area Policy Implementation in Sragen Regency: A Qualitative Study of Governance, Enforcement, and Health Communication

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ABSTRACT

Background: Sragen Regency has adopted a smoke-free area policy; however, its implementation continues to face challenges related to governance, enforcement, health communication, and compliance. This study aimed to evaluate the implementation of the smoke-free area policy in Sragen Regency, with a focus on governance, enforcement, and health communication

Subjects and Method: This qualitative study used an embedded case study design and was conducted from February to June 2026 within the Sragen Regency Government setting, including the Integrated Government Office Complex and selected subdistrict offices. Informants were purposively selected based on their involvement in smoke-free policy implementation, with recruitment continuing until data saturation was reached. In-depth interviews were conducted with 19 informants, comprising seven key informants, eight primary informants, and four supporting informants. Two focus group discussions (FGDs) involved 19 participants. Data were collected through in-depth interviews, FGDs, field observations, and document review. Policy implementation was evaluated using the Context, Input, Process, and Product (CIPP) framework. Data were analyzed using the interactive model of Miles, Huberman, and Saldaña. Trustworthiness was strengthened through source and method triangulation.

Results: Smoke-free policy implementation was supported by local regulations, acceptance among government employees, no-smoking signs, and monitoring activities. Enforcement largely relied on persuasive approaches, including interpersonal communication, social monitoring, direct verbal reminders, and leadership by example, rather than formal sanctions. Organizational culture, social norms, leadership involvement, designated smoking areas, the physical environment, and informal communication influenced compliance. The implementation of the smoke-free policy improved workplace comfort; however, compliance remained uneven.

Conclusion: Smoke-free policy implementation was influenced by governance arrangements, predominantly persuasive enforcement, and health communication that largely occurred through interpersonal interactions. Stronger implementation management, supervision, monitoring and evaluation, and more systematic health communication are needed to improve the consistency of smoke-free policy implementation.

Keywords: smoke-free area, policy implementation, health communication.

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BACKGROUND

Non-communicable diseases are the leading causes of death worldwide, and tobacco use is a major behavioral risk factor for cardiovascular diseases, cancer, and chronic respiratory diseases. Exposure to secondhand smoke also poses health risks to non-smokers in workplaces and public facilities. Smoke-free environment policies are an important tobacco control strategy for reducing exposure to tobacco smoke and creating environments that support healthy behavior (WHO, 2023). In Indonesia, the implementation of smoke-free areas is part of tobacco control policy at both national and local levels. The existence of regulations, however, does not always lead to effective implementation. A decade after the introduction of smoke-free area regulations, smoking prevalence and smoking-attributable morbidity remain public health concerns, indicating the need for continued evaluation of policy implementation (Martini et al., 2022).

Studies from several Indonesian regions have identified challenges related to resources, coordination, public communication, monitoring, and enforcement. A qualitative study in Banda Aceh reported that conflicts of interest among actors, limited resources, weak intersectoral coordination, suboptimal communication, and inadequate monitoring and enforcement hindered policy implementation (Sufri et al., 2023). At the district level, institutional capacity and support from government actors also affect the ability of local governments to implement tobacco control policies (Yunarman et al., 2021). Enforcement is an important component of smoke-free policy implementation.

The credibility and consistency of enforcement responses may influence compliance with smoke-free regulations (Jooren et al., 2025). A study in Indonesian healthcare facilities also highlighted the importance of strengthening regulatory measures to improve the implementation of smoke-free policies (Ridwan et al., 2025). Nevertheless, enforcement takes place within organizational and social contexts that may shape the behavior of both policy implementers and policy targets.

Communication also has an important role in smoke-free policy implementation. Advocacy and policy communication require consistent messages and stakeholder support to translate regulations into organizational practice (Widati et al., 2022). Evidence from local policy implementation further suggests that discontinuous communication may hinder policy implementation (Sufri et al., 2023). Sragen Regency adopted a smoke-free area policy through Sragen Regency Regional Regulation Number 1 of 2011. Since December 2024, several local government agencies have been located within the Sragen Regency Integrated Government Office Complex. This integrated government setting brings together multiple organizations, government employees, facility managers, and members of the public within a shared public service environment.

Previous studies have largely focused on compliance, smoking behavior, or smoke-free policy enforcement in specific settings. Studies that simultaneously examine policy governance, enforcement mechanisms, and health communication at the regency government level, particularly within an integrated

government office setting, remain limited. This gap forms the basis for the novelty of the present study.

This study used the Context, Input, Process, and Product (CIPP) framework to evaluate policy context, implementation resources, implementation processes, and policy outcomes. The research questions addressed how smoke-free governance supports implementation and compliance, how enforcement mechanisms are carried out and what challenges are encountered, and how health communication contributes to compliance. This study aimed to evaluate the implementation of the smoke-free area policy in Sragen Regency by examining governance, enforcement, and health communication.

SUBJECTS AND METHOD

1. Study Design

This was a qualitative study using an embedded case study design. The main case was the implementation of the smoke-free area policy in Sragen Regency. The Sragen Regency Integrated Government Office Complex served as the primary study setting, while selected subdistrict offices were included as embedded units to capture variation in implementation contexts.

The study was conducted from February to June 2026 in Sragen Regency, Central Java, Indonesia. In-depth interviews at the sub-district level were conducted in Tanon and Tangen, while FGDs were held in Karangmalang and Miri districts, Sragen, Central Java, Indonesia.

2. Population and Sample

The target population comprised individuals involved in, responsible for, managing, or directly affected by the implementation of the smoke-free area policy within the Sragen Regency Government. The accessible population included policymakers and smoke-free

policy implementers, government employees working at the Integrated Government Office Complex, workplace facility managers, and participants from selected subdistricts.

Informants were selected using purposive sampling based on their involvement, experience, and knowledge of smoke-free policy implementation. The number of informants was determined by data saturation.

In-depth interviews were conducted with 19 informants, consisting of seven key informants, eight primary informants, and four supporting informants. Key informants were individuals with authority and strategic involvement in smoke-free policy governance, supervision, and monitoring. Primary informants were government employees directly affected by policy implementation. Supporting informants were individuals involved in managing workplace facilities and environments.

Two FGDs involved 19 participants, comprising 11 participants in Karangmalang Subdistrict and eight participants in Miri Subdistrict.

3. Research Variables

The main focus of the study was smoke-free area policy implementation. Implementation was evaluated across the context, input, process, and product dimensions. The study examined policy governance and compliance, enforcement mechanisms and implementation challenges, and health communication strategies and their role in shaping compliance.

4. operational definition of variables

Smoke-free area policy implementation refers to the process of applying the smoke-free area policy within the sragen regency government, including policy context, implementation resources, implementation processes, and implementation outcomes.

Policy governance refers to the organizational mechanisms used to implement the smoke-free policy, including regulations,

division of responsibilities, coordination, resources, supervision, and organizational support.

Enforcement refers to mechanisms used to respond to compliance and violations through supervision, verbal reminders, social control, sanctions, and follow-up monitoring.

Health communication refers to the process of delivering and exchanging smoke-free policy messages through media, socialization activities, interpersonal communication, meetings, and organizational interactions.

Smoke-free policy compliance refers to individual and organizational adherence to smoke-free regulations, including refraining from smoking in prohibited areas and complying with smoke-free environmental arrangements.

5. Study Instruments

The researcher served as the primary instrument in this qualitative study. Data collection was supported by semi-structured in-depth interview guides, FGD guides, observation checklists, and document review guides.

The interview and FGD guides were used to explore experiences, perceptions, governance arrangements, facilitators and barriers to implementation, enforcement mechanisms, health communication, and compliance with the smoke-free policy.

The observation checklist was used to identify smoke-free signs, smoking activities, cigarette butts, implementation facilities, characteristics of the physical environment, and arrangements for smoking areas. Document review covered local regulations and documents related to smoke-free policy implementation and monitoring.

6. Data Analysis

Data were analyzed using the interactive model developed by Miles, Huberman, and Saldaña, which consists of data condensation, data display, and conclusion drawing.

Interview and FGD transcripts, observation notes, and document review findings were analyzed by identifying meaning units, assigning initial codes, grouping codes into categories, and synthesizing themes. The CIPP framework was used to interpret policy implementation. Trustworthiness was strengthened through source and method triangulation.

7. Research Ethics

Ethical considerations included informed consent, anonymity, and confidentiality of informant data. All informants received information about the purpose and procedures of the study and provided consent before participation. Ethical approval was obtained from the Health Research Ethics Committee of Dr. Moewardi Regional General Hospital, Surakarta, Indonesia, under approval number 242/II/HREC/2026.

RESULTS

1. Categories of Study Informant

The study involved 19 in-depth interview informants and 19 FGD participants. Interview informants consisted of seven key informants, eight primary informants, and four supporting informants. The diversity of positions and levels of involvement provided perspectives from policymakers, policy implementers, government employees as policy targets, and workplace facility managers.

Table 1. Categories and Number of Study Informants

Informant code	Informant category	Number	Role in the study
IK01–IK07	Key informants	7	Policymakers and strategic stakeholders involved in smoke-free policy governance, guidance, monitoring, and implementation

Informant code	Informant category	Number	Role in the study
ASNo1–ASNo8	Primary informants	8	Government employees directly affected by smoke-free policy implementation
IPo1–IPo4	Supporting informants	4	Workplace facility and environmental managers supporting smoke-free policy implementation
Karangmalang FGD	FGD participants	11	Provided collective perspectives on smoke-free policy implementation at the subdistrict level
Miri FGD	FGD participants	8	Provided collective perspectives on smoke-free policy implementation at the subdistrict level

2. Study Themes

Analysis of the in-depth interviews, FGDs, observations, and documents generated six major themes: (1) persuasive approaches were more dominant than formal enforcement; (2) organizational culture and social norms influenced compliance; (3) designated smoking areas formed an important part of policy implementation; (4) the physical

environment and workplace characteristics shaped compliance; (5) health promotion and communication remained suboptimal and were largely informal; and (6) implementation improved workplace comfort and environmental quality, although compliance remained uneven.

Table 2. Themes, Categories, and Representative Quotations

Theme	Category	Representative quotation
Persuasive approaches were more dominant than formal enforcement	Persuasive enforcement	"Enforcement is still limited to direct verbal reminders, and there are no strict sanctions yet."
Persuasive approaches were more dominant than formal enforcement	Social control	"Government employees usually remind each other informally."
Organizational culture and social norms influenced compliance	Reluctance to confront	"Government employees are still reluctant to remind their superiors when they smoke."
Organizational culture and social norms influenced compliance	Social norms	"Compliance is more because people feel uncomfortable disappointing their supervisors and colleagues."
Organizational culture and social norms influenced compliance	Leadership by example	"Leaders who do not smoke set a good example for employees."
Designated smoking areas formed part of policy implementation	Operational adaptation	"Smokers are directed to smoke outside or in designated areas."
The physical environment shaped compliance	Workplace characteristics	"Air-conditioned rooms discourage employees from smoking indoors."
The physical environment shaped compliance	Environmental comfort	"A clean and comfortable environment makes people reluctant to smoke."
Health communication remained suboptimal	Passive communication media	"Socialization is usually limited to stickers or banners."
Health communication remained suboptimal	Interpersonal communication	"Direct communication is considered more effective than written media."

a. Persuasive Approaches Were More Dominant than Formal Enforcement

Smoke-free policy enforcement relied more heavily on direct verbal reminders and interpersonal communication than on formal sanctions.

“Enforcement is still limited to direct verbal reminders, and there are no strict sanctions yet.”
(ASNo5, ASNo6, IPo4, FGD).

Social monitoring also occurred through informal reminders among government employees.

“Government employees usually remind each other informally.”
(ASNo6, ASNo7, FGD)

These approaches enabled immediate behavioral correction. However, the absence of internal standard operating procedures and clearly assigned supervisory responsibilities indicated that formal enforcement mechanisms had not yet been fully established.

b. Organizational Culture and Social Norms Influenced Compliance

Social relationships and organizational hierarchy influenced smoke-free policy implementation. A culture of reluctance to confront others became a barrier when employees encountered violations committed by individuals in higher-ranking positions.

“Government employees are still reluctant to remind their superiors when they smoke.” (ASNo4, ASNo5, FGD).

At the same time, social norms encouraged compliance.

“Compliance is more because people feel uncomfortable disappointing their supervisors and colleagues.” (ASNo7, ASNo8).

Leadership by example also supported compliance.

“Leaders who do not smoke set a good example for employees.”
(ASNo5, ASNo6).

These findings indicate that organizational culture may both facilitate and constrain policy implementation.

c. Designated Smoking Areas Formed Part of Policy Implementation

Smoking arrangements were used to direct smokers away from enclosed workspaces.

“Smokers are directed to smoke outside or in designated areas.”
(ASNo6, IPo2, IPo3)

In practice, designated areas represented an operational adaptation to the continued presence of employees who smoked. However, observations identified smoking activities and cigarette butts in several outdoor areas. This suggests that zoning arrangements and supervision were not consistently implemented.

d. The Physical Environment and Workplace Characteristics Shaped Compliance

Workplace characteristics influenced smoking behavior among employees.

“Air-conditioned rooms discourage employees from smoking indoors.” (ASNo6, ASNo8)

Clean and comfortable environments also contributed to behavioral norms.

“A clean and comfortable environment makes people reluctant to smoke.” (ASNo5, ASNo8).

These findings suggest that the physical environment may support compliance with smoke-free regulations, particularly in enclosed and shared workspaces.

e. Health Communication Remained Suboptimal and Largely Informal

Smoke-free policy communication still relied heavily on passive communication media.

“Socialization is usually limited to stickers or banners.” (ASNo7, IPo3, observation).

Informants considered direct communication more effective than written media.

“Direct communication is considered more effective than *written media*.” (IPo4, ASNo8)

Interpersonal communication allowed messages to be adapted to specific situations and enabled immediate responses to smoking behavior. However, the predominance of informal communication indicates that health communication had not yet been implemented systematically and continuously.

f. Implementation Had Positive Effects, but Compliance Remained Uneven

The implementation of the smoke-free area policy had positive effects on workplace comfort and environmental quality. Indoor smoking decreased, and the workplace environment was perceived as cleaner.

However, compliance remained uneven. Smoking activities and cigarette butts were still observed in several outdoor areas. Policy implementation also continued to depend largely on individual awareness, social norms, and informal reminders among employees.

DISCUSSION

1. Governance of Smoke-Free Policy Implementation

The findings show that smoke-free policy implementation in Sragen Regency, Indonesia, is supported by local regulations, acceptance among government employees, no-smoking signs, and monitoring activities. However, the formal implementation structure has not been fully integrated into routine bureaucratic mechanisms. Limited internal standard operating procedures, unclear allocation of responsibilities, and insufficient follow-up supervision mean that implementation still relies considerably on organizational and social mechanisms.

These findings are consistent with Sufri et al. (2023), who identified limited resources, weak intersectoral coordination, communication gaps, and inadequate monitoring and

enforcement as barriers to smoke-free policy implementation at the local level. Yunarman et al. (2021) similarly showed that institutional capacity is an important component of district-level tobacco control policy implementation. In the present study, the existence of local regulations provides a policy foundation, but effective implementation requires management mechanisms that translate regulatory provisions into clear responsibilities, procedures, monitoring, and follow-up action.

Tobacco control policy coordination involves actors from different sectors. Barry et al. (2022) emphasized the importance of a whole-of-government approach in addressing tobacco policy coordination challenges. The present findings demonstrate the relevance of such coordination at the local government level, as smoke-free policy implementation is not solely the responsibility of the health sector but also requires the involvement of facility managers and local government agencies.

2. Organizational Culture, Social Norms, and Leadership

Organizational culture and social norms strongly influenced compliance. Informal reminders among colleagues and leadership by example created social control over smoking behavior. However, reluctance to confront individuals in higher hierarchical positions could limit corrective action. Social relationships within the organization therefore acted as both facilitators and barriers to policy implementation.

Leadership was particularly important because compliance was shaped not only by written regulations but also by visible behavior within the workplace. Willemssen and Been (2022) highlighted the importance of political will and leadership in advancing tobacco control. In this study, leaders who did not smoke helped establish behavioral expectations among employees and

strengthened acceptance of the smoke-free policy.

3. Persuasive Enforcement and Policy Monitoring

Smoke-free policy enforcement remained predominantly persuasive. Direct verbal reminders and interpersonal communication were the main responses to violations, while formal sanctions were not consistently applied. A persuasive approach may allow behavioral correction without creating open conflict. However, reliance on individual willingness to address violations may result in inconsistent enforcement.

This finding is related to the work of Ridwan et al. (2025), who emphasized the importance of regulatory measures in strengthening smoke-free policy enforcement. Jooren et al. (2025) also identified enforcement credibility as a mechanism influencing compliance with smoke-free policies. In the Sragen context, persuasive approaches may remain useful as part of interpersonal communication, but they need to be supported by clear procedures and follow-up mechanisms so that enforcement does not depend solely on personal relationships.

Smoke-free policy monitoring has been conducted through supervision and E-Monev; however, follow-up action based on monitoring findings remains limited. This indicates a gap between monitoring activities and corrective action. Monitoring should be linked to clearly assigned authority and follow-up procedures so that evaluation findings can be used to improve implementation.

4. Designated Smoking Areas and the Physical Environment

Designated smoking areas were part of the operational adaptation of the smoke-free policy. These arrangements were intended to direct smokers away from enclosed workspaces. However, the continued presence of smoking activities and cigarette butts in several outdoor areas suggests that area

boundaries and zoning arrangements were not uniformly understood. Jooren et al. (2025) found that compliance with smoke-free policies in outdoor settings is influenced by context, policy acceptability, communication, and enforcement credibility.

The physical environment also influenced compliance. Enclosed spaces, air-conditioned rooms, and clean and comfortable environments created conditions that discouraged smoking. Support for smoke-free policies in outdoor and semi-private settings is also influenced by spatial characteristics and public acceptance of smoking restrictions (Boderie et al., 2023). The present findings suggest that the physical environment may reinforce social norms, although environmental arrangements cannot replace formal governance and supervision.

5. Health Communication in Smoke-Free Policy Implementation

Health communication in smoke-free policy implementation remained dominated by passive media and informal communication. Stickers, banners, and no-smoking signs provided information about the policy, but informants considered interpersonal communication more effective. This finding is consistent with Widati et al. (2022), who emphasized the importance of advocacy and communication in the implementation of smoke-free regulations.

Direct communication allows immediate feedback, adaptation of messages to specific situations, and prompt behavioral correction. Within organizational settings, messages from leaders and colleagues may also strengthen social accountability. However, reliance on informal communication means that smoke-free messages are not always delivered in a planned, repeated, and consistent manner.

The findings support the integration of smoke-free communication into routine organizational activities. Smoke-free

messages can be incorporated into meetings, morning assemblies, staff gatherings, and activities within the Health Office. Communication on smoke-free behavior should also be strengthened in schools, among government employees, and in industrial settings according to the characteristics of each target group. The involvement of leaders, public figures, and role models may strengthen message credibility and behavioral modelling. These implications are based on the findings regarding the perceived effectiveness of interpersonal communication and the influence of role modelling on compliance.

The findings indicate that smoke-free policy implementation in Sragen Regency is supported by existing governance mechanisms, although the formal management structure requires further strengthening. Clearer allocation of responsibilities, standard operating procedures, monitoring indicators, reporting and follow-up mechanisms, adequate budgetary support, and specific regulations on electronic cigarettes are needed to improve implementation. Enforcement remains predominantly persuasive and is influenced by organizational culture and social norms, while health communication largely relies on interpersonal and informal approaches; therefore, systematic and repeated communication should be integrated into routine organizational activities. However, the study was limited to selected government settings and subdistricts and did not include private-sector settings, which may limit the comprehensiveness and transferability of the findings across Sragen Regency

AUTHOR CONTRIBUTION

Meidyan Thomas Setiawan contributed to the study conception, research design, data collection, data analysis, interpretation of findings, and manuscript preparation. Eti Poncorini Pamungkasari and Revi Gama Hatta Novika contributed to the study design,

methodological supervision, interpretation of findings, and critical revision of the manuscript. Argyo Demartoto and Ratih Puspita Febrinasari contributed to the interpretation of findings and critical revision of the manuscript. All authors reviewed and approved the final manuscript.

CONFLICT OF INTEREST

There are no conflicts of interest.

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