Vol. 6, No. 10, Oktober 2025
E-ISSN:2723 – 6692
P-ISSN:2723– 6595
http://jiss.publikasiindonesia.id/

# Strengthening Strategies for Preventing Drug Abuse in Adolescents and Youth: A Holistic and Comprehensive Approach Based on Social Environment Interventions

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**KEYWORDS**
drug abuse; adolescent; youth; risky behavior; self-regulation; Multi-level social ecology.

**ABSTRACT**
The stagnation of the prevalence of drug abuse among adolescents and youth in Indonesia is a strategic issue that warrants serious attention, especially considering the demographic bonus momentum toward Golden Indonesia 2045. This phenomenon has the potential to cause multidimensional impacts, ranging from a decrease in the quality of human resources and a decline in productivity to inhibiting national competitiveness. The analysis indicates that the main issue lies in the high-risk behaviors among adolescents and youth—such as smoking, alcohol consumption, and late-night activities—which are rooted in weak self-regulation skills due to a lack of social environmental support. This condition fosters a recurring vulnerability that perpetuates the stagnation of drug abuse prevalence in this age group. While policy support has been available through various instruments, such as the P4GN National Action Plan, Guidance and Counseling services in schools, Youth Care Health Services (PKPR), and the Generation Planning (GenRe) program, the effectiveness of these programs remains limited. This is because they have not fully addressed the root causes of vulnerability; preventive interventions for adolescents and youth are fragmented and poorly coordinated, leading to suboptimal impact. Therefore, this paper aims to formulate comprehensive and holistic prevention policy recommendations based on a multi-level social ecology approach, with the goal of significantly reducing the prevalence of drug abuse among adolescents and youth and establishing a foundation for sustainable prevention.



## INTRODUCTION

Indonesia is currently entering an important phase in the form of a demographic bonus, which is a condition when the proportion of the productive age population (15-64 years) is greater than the non-productive age population (Meilia, 2025; Syahputri, 2025). The demographic bonus, according to Sutikno (2020), is a population phenomenon that can be a great capital for development if managed properly. The peak of Indonesia's demographic bonus is projected to occur in the 2030–2040 period (Bappenas, 2017) and become a strategic momentum towards the Golden Indonesia Vision 2045. However, this opportunity can only be optimized if the younger generation is able to develop their potential through education, 21st-

century skills, health, and strengthening national character as emphasized in the 2025–2045 RPJPN (Rosani et al., 2025).

Globally, drug abuse among youth represents a persistent public health crisis with profound socioeconomic implications (Hasan, 2024; Marinelli et al., 2024; Sharma et al., 2025). The United Nations Office on Drugs and Crime (UNODC, 2024) reports that approximately 296 million people worldwide used drugs in 2021, with the highest prevalence observed in the 18-25 age group. Recent epidemiological projections indicate an alarming upward trend, with drug use disorders expected to increase by 11.8% between 2019 and 2030 if current patterns persist (Dongying et al., 2025). This global phenomenon reflects complex interactions between neurobiological vulnerabilities during adolescent brain development, socioeconomic determinants, and inadequate prevention infrastructure—challenges that resonate strongly with Indonesia's current situation (Mualem et al., 2024; Nurjannah et al., 2024).

In the midst of these great opportunities, serious challenges arise in the form of drug abuse among young productive ages. The Drug Abuse Prevalence Survey (BNN, BRIN, BPS, 2023) shows a decrease in prevalence nationally from 1.95% in 2021 to 1.73% in 2023. However, stagnation occurs in the age group of 15-24 years, which is in the adolescent and youth phase (Wang et al., 2025). A global epidemiological study (Shenzen University, 2025) even revealed that the highest prevalence occurred in the age group of 20–24 years with an incidence of 88 per 100,000 population (Zhang et al., 2025). This condition shows a special vulnerability at the young age group, even though preventive interventions have been carried out (Livingston et al., 2024; Sharpe et al., 2024).

The results of the 2023 National Survey on Drug Abuse identified a variety of risky behaviors in adolescents and youth, such as night outings, smoking, alcohol consumption, and visits to nightlife venues. The proportion of this behavior is much higher in the abuser group than in non-abusers (Umar et al., 2024). Merino-Casquero (2025) research strengthens these findings by showing that adolescents who visit nightlife venues are 60 times more likely to use drugs, smokers are 41 times higher, and alcohol drinkers are 87 times higher. These findings are consistent with data from the 2023 Indonesian Health Survey, which shows that the 15–19 year-old age group dominates the experience of smoking for the first time, so smoking behavior is an important predictor of involvement in drugs.

Environmental factors also strengthen the prevalence stagnation (Alias et al., 2025; Komalaningsih & Juliansyah, 2024). BNN data (2023) shows that drug abuse locations are most often found in private residences such as houses, rooms, boarding houses, or rented houses, followed by streets/alleys, as well as schools and campuses. This shows that private and institutional spaces that should be safe are vulnerable places to abuse (Gosse et al., 2024). Drugs not only impact individuals, but are also rooted in social ecosystems, reinforcing the cycle of exposure through easy access and normalization of behavior in the everyday environment (Chongwo et al., 2025; Cristiano, 2025).

In addition to accessibility factors, the psychological characteristics of adolescents also affect the high risk of drug abuse (Belfiore et al., 2024; Byrne et al., 2024; Gao et al., 2024). High curiosity is the dominant reason for first taking drugs in this group, in addition to peer influence. Fitri & Asra (2023) and Lukman et al. (2021) affirm that the desire to try is a significant initial motivation, while social and cognitive factors reinforce further engagement.

Therefore, prevalence stagnation is not only sourced from external factors, but is also triggered by adolescents' internal developmental conditions (Keyes & Platt, 2024; Liu et al., 2024).

Low self-regulation skills are also a key factor that encourages adolescents to engage in risky behaviors (Halliburton et al., 2024; Harma et al., 2025). Wahyuni (2023) found a significant negative correlation between self-control and drug abuse behavior (Pan et al., 2024; van der Veen et al., 2025; Zhong et al., 2025). The limitation of positive activities exacerbates this situation, as empty spaces are often filled with risky activities. Permissive social norms also have a significant effect, as shown by Arsyad (2020), who stated that a community culture that allows risky behavior can increase the intention of drug use.

Adolescents' self-regulation skills are closely related to social environment support (Harma et al., 2025; Kakaziani et al., 2025). The study of Munawarah et al. (2019) shows that supportive peers can improve self-regulation, while Kusmaharani & Risnawaty (2024) emphasize the importance of family function. Nuraini et al. (2021) also mention the role of schools in shaping self-control, and Purba et al. (2024) highlight the influence of community social control. On the other hand, mental health problems and the intensity of social media use weaken self-regulation. The I-NAMHAS survey noted that 34.9% of Indonesian adolescents experience mental health problems, but only 2.6% access counseling services. Meanwhile, studies by Irawan & Andriani (2023) and Ariatmini & Malahati (2024) show that social media addiction is negatively correlated with the self-regulation of students and college students.

Despite the existence of various prevention programs—including the P4GN National Action Plan (Presidential Instruction No. 2/2020), Guidance and Counseling services in schools (Permendikbud No. 111/2014), Youth Care Health Services/PKPR (Ministry of Health), and the Generation Planning/GenRe program (BKKBN)—drug abuse prevalence among adolescents and youth remains stagnant. This persistence reveals a critical research gap: existing preventive frameworks in Indonesia remain fragmented, operate in sectoral silos, lack systematic coordination across ministerial boundaries, and fail to address the root causes of vulnerability through integrated social-ecological interventions. Previous studies have examined isolated components such as family factors (Kusmaharani & Risnawaty, 2024), peer influence (Munawarah et al., 2019), or school-based interventions (Nuraini et al., 2021), yet no comprehensive framework has synthesized these elements into a cohesive, multi-level policy model grounded in integrated theoretical foundations.

The novelty of this research lies in its introduction of a comprehensive Multi-Level Prevention Model that systematically integrates Social Ecology Theory (Bezi et al., 2024), Social Learning Theory (Juwita & Karmiyati, 2024), and Social Control Theory (Zinyemba & Sagiya, 2024) for evidence-based policy formulation. Unlike previous fragmented approaches, this study develops an operational framework that specifies implementation mechanisms through logic models, stakeholder analysis, and RACI (Responsible, Accountable, Consulted, Informed) matrices, thereby translating abstract theoretical constructs into concrete, coordinated action across multiple governance levels (Aggarwal et al., 2025; Rouse et al., 2025). This represents the first attempt in Indonesian drug prevention scholarship to provide a holistic, actionable blueprint for cross-sectoral policy integration.

Therefore, this research aims to develop a theory-driven, comprehensive policy framework that strengthens preventive systems for adolescent and youth drug abuse by

addressing the identified gaps in fragmented interventions, enhancing cross-sectoral coordination, and establishing sustainable prevention infrastructure based on multi-level social ecological principles. Specifically, this study seeks to: (1) analyze the underlying causes of prevalence stagnation through social-ecological lenses; (2) formulate alternative policy options grounded in established behavioral theories; (3) prioritize interventions based on effectiveness, efficiency, and long-term impact; and (4) develop detailed implementation frameworks including regulatory instruments, coordination mechanisms, and monitoring systems to ensure policy sustainability and scalability.

Based on the above description, it can be concluded that the stagnation in the prevalence of drug abuse in adolescents and youth is caused by a combination of individual and social factors, with weak self-regulation as the main determinant. A lack of social support, permissive norms, and limited positive activities reinforce this vulnerability, exacerbated by mental health and social media exposure. This condition is a threat signal for Indonesia in the face of the demographic bonus. If not addressed, the quality of human resources will be eroded and hinder the achievement of the Golden Indonesia Vision 2045. Therefore, a comprehensive policy is needed that focuses on strengthening adolescent self-regulation through educational, family, community, and state policy support interventions in a sustainable manner.

## METHOD

This study employed a qualitative policy analysis approach to develop evidence-based recommendations for preventing drug abuse among adolescents and youth in Indonesia. The research utilized secondary data from three primary sources: national surveys including the Drug Abuse Prevalence Survey 2023 (BNN, BRIN, BPS), the Indonesia-National Adolescent Mental Health Survey (I-NAMHS) 2022, and the Indonesian Health Survey (SKI) 2023; policy documents encompassing Presidential Instruction No. 2/2020, ministerial regulations, and program guidelines from BNN, the Ministry of Education, the Ministry of Health, and BKKBN; and scholarly literature comprising peer-reviewed journal articles on adolescent risk behaviors, prevention interventions, and international evidence-based models.

Data analysis followed a systematic four-stage process. First, descriptive analysis synthesized survey data and policy documents to establish baseline conditions, identify risk factors, and document existing prevention programs and their limitations. Second, comparative analysis examined gaps between current fragmented interventions and comprehensive approaches, comparing the effectiveness of sectoral versus integrated strategies. Third, policy formulation applied three analytical tools: logic models to structure input-activity-output-outcome-impact chains, stakeholder analysis to map relevant actors and interests, and RACI matrices to clarify implementation roles and accountability. Fourth, policy alternatives were evaluated using effectiveness, efficiency, and long-term impact criteria, with a weighted scoring system (1-5 scale) enabling systematic prioritization.

This research acknowledged limitations inherent in its reliance on secondary data, which precluded primary data collection from adolescents, families, and implementers. The analysis was constrained by the availability and quality of existing documentation. The proposed framework required empirical validation through pilot programs to confirm effectiveness across Indonesia's diverse contexts. As a secondary data analysis study utilizing

publicly available materials, this work did not require institutional ethics review. All sources were properly cited, and policy recommendations prioritized adolescent welfare, avoiding stigmatization while respecting privacy, confidentiality, informed consent, and voluntary participation principles.

## RESULTS AND DISCUSSIONS

### Foundations of Theory and Policy

The prevalence of drug abuse in adolescents and youth who tend to be stagnant is closely related to the prevalence of risky behaviors that have become part of their routines. Activities such as hanging out late at night, smoking, consuming alcohol, and going to nightlife venues serve as gateway behaviors that increase susceptibility to drugs (Jessor). Problem Behavior Theory emphasizes that these behavior patterns are interrelated in a problematic behavior syndrome, so the emergence of one type of maladaptive behavior has the potential to increase the likelihood of developing other forms of maladaptive behavior, including drug abuse (Jessor & Jessor).

In response to this stagnation trend, the national policy framework seeks to suppress risky behaviors that are the gateway to drug abuse. Presidential Instruction No. 2 of 2020 concerning the National Action Plan for the Prevention and Eradication of Narcotics Abuse and Illicit Trafficking (RAN P4GN) 2020–2024 emphasizes the importance of education-based prevention strategies and strengthening the role of the adolescent social environment. In line with that, the National Narcotics Agency (BNN) initiated a program to form anti-drug peer groups and socialize P4GN in schools with the aim of creating positive peer pressure, so that maladaptive behavior can be suppressed and the risk of involvement in gateway behaviors is reduced.

The high prevalence of risky behaviors in adolescents and youth, including drug abuse, reflects low self-regulation skills. Self-regulation, which includes the skills to control impulses, emotions, and behavior toward long-term goals (Tangney, Baumeister, & Boone), is often low in some adolescents, making them more impulsive and susceptible to risky behaviors, including substance use (Gottfredson & Hirschi). The Dual Systems Theory asserts that biological imbalances in adolescents—when the sensation-seeking system grows faster than the cognitive control system—increase their natural susceptibility to a variety of risky behaviors, including drug abuse (Steinberg).

Various initiatives have been developed to respond to the vulnerability of adolescents and youth due to low self-regulation, including the risk of drug abuse. Permendikbud No. 111 of 2014 concerning Guidance and Counseling in Schools, for example, provides a framework for counseling services to support the strengthening of self-regulation skills. In addition, the Youth Care Health Service (PKPR) from the Ministry of Health provides early detection, counseling, and life skills training which also emphasizes the prevention of drug use. In line with that, the Generation Planning (GenRe) program from BKKBN encourages adolescents and youth to design the future and make healthier decisions related to lifestyle, including avoiding risky behaviors such as drug abuse.

The limited self-regulation ability of adolescents and youth cannot be separated from the deficit of social support. The lack of family roles, weak prosocial influence from peers, and

limited contributions of institutions such as schools and communities hinder the internalization of norms, values, and self-control skills (Bronfenbrenner). The absence of exemplary figures also limits social learning through observation (Bandura). Within the framework of the Social Development Model, weak ties with family, school, and community reduce the capacity for internal and external social control, thereby increasing vulnerability to drug abuse in adolescents and youth (Hawkins & Weis). In line with this, the second-generation perspective of Crime Prevention Through Environmental Design (CPTED) emphasizes that community cohesion, belonging, constructive social participation, and institutional support are important factors in strengthening informal social supervision and the provision of meaningful activities that can suppress deviant behavioral tendencies, including drug abuse among adolescents and youth (Saville & Cleveland; Cozens & Love).

In line with this perspective, a number of programs have been rolled out to strengthen the role of families and communities in preventing adolescents' vulnerability to drug abuse. The Anti-Drug Family Resilience Program from BNN affirms the position of the family as the front line, while the Family Learning Center (KemenPPPA) helps parents improve their child assistance skills. At the community level, the Youth Information and Counseling Center (BKKBN) and the Anti-Narcotics Youth Core Cadre (Kemenpora) encourage the formation of positive social networks that provide real support, meaningful activities, and a forum for participation for adolescents to develop in a healthy environment.

International experience shows the effectiveness of this integrated approach. In the early 1990s, Iceland faced a similar problem with high levels of juvenile delinquency, including the consumption of alcohol, tobacco and narcotics. The ICSRA survey noted that 42% of adolescents aged 15–16 years had been drunk in the last 30 days, 23% had used marijuana, and 23% smoked daily. In response to these conditions, Iceland developed the Icelandic Prevention Model (IPM), an evidence-based approach that encourages collaboration between stakeholders: adolescents, families, schools, communities, academics, and governments. IPM provides alternative positive activities such as sports, art, and social activities, as well as empowering families through parenting education programs to improve supervision and communication. Regular monitoring through national surveys allows for evidence-based policy adjustments, resulting in significant reductions in alcohol, tobacco and drug consumption, while increasing adolescent participation in constructive activities. The success of HDI shows that a combination of family support, community involvement, positive alternatives, and cross-sectoral coordination is effective in shaping healthy behaviors and strengthening adolescent resilience. Theoretical Framework for Alternative Policy Formulation The stagnation in the prevalence of drug abuse in adolescents and youth shows that the prevention strategies that have been implemented have not been able to effectively suppress the underlying vulnerability factors. This condition indicates that the risk of involvement in abusive behavior is still high, even tending to recur from time to time. These problems cannot be understood as the result of individual choice alone, but as a consequence of the complex interaction between various social determinants. Therefore, an intervention framework is needed that places the social environment as the main foothold. Within this framework, social theories provide a strong conceptual basis for understanding how behavior is formed, influenced, and nurtured by the interactions of family, peers, schools, and the broader community (Bronfenbrenner; Glanz).

One of the important theoretical approaches is the Social Ecological Model. This theory asserts that adolescent behavior cannot be separated from layered influences that include individual factors, interpersonal relationships, community environments, and public policy structures. From this perspective, efforts to prevent drug abuse must be multi-level, including strengthening individual capacity to refuse drugs, optimizing communication within the family, creating a healthy school climate, and supporting regulations at the community and government levels. With integrative and continuous characteristics, the theory provides a comprehensive conceptual framework for designing effective prevention strategies (McLeroy).

In addition, Social Learning Theory provides an explanation of how strong the influence of peer groups is in the formation of adolescent behavior. Through the process of observation, modeling, and reinforcement, adolescents tend to adjust their behavior to the norms and interaction patterns of their social groups. Thus, interventions based on this theory need to be directed at providing positive role models, the formation of healthy group norms, and the creation of alternative activities that are able to strengthen adolescents' social identity constructively. This is important because peer influence is often more dominant than messages that come from family or formal institutions (Bandura).

Furthermore, Social Control Theory highlights the crucial role of social bonds as a protective factor that is able to prevent individuals from engaging in deviant behaviors, including drug abuse. The four main dimensions in this theory—attachment, commitment, involvement, and belief—explain how adolescents' connection to family, school, and community can strengthen their resilience to risk. Interventions based on this theory can be directed at improving the quality of family communication, the active involvement of adolescents in school and community activities, and the internalization of collective values and norms that reject risky behaviors. Thus, the family and community become an important social foundation in protecting adolescents from drug exposure (Hirschi).

**Policy Alternatives**

All three theories—Social Ecology Theory, Social Learning Theory, and Social Control Theory—are relevant not only as a conceptual framework, but also as practical references that can be translated into public policies for the prevention of drug abuse in adolescents and youth. Policies built on a theoretical footing allow for a more structured direction related to objectives, strategies, and implementation mechanisms, so that the interventions carried out are not only reactive, but also preventive and in harmony with the dynamics of the social environment. Based on this framework, three alternative policies based on these theories can be formulated.

The first alternative is a multi-level prevention policy based on social ecology. The focus of this policy is to strengthen interventions across layers, ranging from individuals, families, schools, communities, to government regulations. The advantage of this approach lies in its comprehensive nature, as it is able to connect the various actors and factors that influence adolescent behavior. Programs can be in the form of life skills education in schools, family counseling, the formation of creative communities, and regulations on controlling drug access in the environment. The challenge is complex cross-sector coordination and large resource requirements, so it requires strong political commitment and collaborative management.

The second alternative is Peer Education Policy and Positive Role Model Based on Social Learning Theory. This policy focuses on the establishment of a network of peer

educators and the use of role models from youth to influence group norms and behaviors. The advantage is being able to take advantage of the influence of peer groups which has been empirically proven to be very strong in adolescents, while making prevention more relevant to the language and communication style of young people. The form of the program can be in the form of anti-drug youth ambassador training, creative campaigns through social media, and community activities that feature inspirational role models. The main challenge lies in the consistency of the role of peer educators and the risk of their limited capacity, thus requiring a continuous mentoring mechanism.

The third alternative is the Policy of Strengthening Family and Community Social Ties Based on the Theory of Social Control. The focus of this policy is to strengthen the dimensions of attachment, commitment, involvement, and belief through programs that foster healthy communication in the family and active participation of youth in community activities. The advantage is that it creates a strong social foundation so that adolescents have emotional attachments, values, and responsibilities that keep them away from risky behavior. Concrete programs can be in the form of parenting classes, facilitation of sports and arts activities at the local level, and community-based youth forums. The challenge is that there are variations in family and community conditions, including limited resources, so policies need to be designed flexibly according to the local social context.

Table 1 Summary of Policy Alternatives Comparison

| NO. | POLICY ALTERNATIVE | PRIMARY FOCUS | STRENGTHS | CHALLENGES |
|---|---|---|---|---|
| 1 | Multi-Level Prevention Based on Social Ecology | Interventions across individuals, families, schools, communities, and regulations | Comprehensive, connects various actors & factors | Complex coordination, requires high resources & commitment |
| 2 | Peer Education and Positive Role Models | Peer educators & youth role models | Utilizes peer group influence, communicative for youth | Inconsistent peer roles, limited capacity, requires mentoring |
| 3 | Strengthening Family and Community Social Bonds | Strengthening attachment, commitment, involvement, belief | Strong social foundation, family & community belonging | Variation in conditions & resources, requires policy flexibility |

Source: Author's analysis based on theoretical framework synthesis (2025)

**Prioritizing Policy**

Based on the results of the priority analysis, Multi-Level Prevention Based on Social Ecology is the most appropriate policy alternative because it brings together effectiveness, efficiency, and potential significant long-term impacts (Dunn).

**Table 2 Alternative Policy Scoring**

| No. | Policy Alternative | Effectiveness | Efficiency | Long-Term Impact | Total Score |
|---|---|---|---|---|---|
| 1 | Multi-Level Prevention Based on Social Ecology | 5 | 3 | 5 | 13 |
| 2 | Peer Education and Positive Role Models | 4 | 4 | 4 | 12 |
| 3 | Strengthening Family and Community Social Bonds | 4 | 3 | 5 | 12 |

Source: Author's analysis using Dunn's multi-criteria evaluation framework

Referring to the above analytical framework, the Social Ecology-Based Multi-Level Prevention approach ranks highest because it is seen as the most effective in integrating the engagement of different layers of the social environment, while demonstrating the potential to generate significant long-term impacts. The main advantage lies in the comprehensive scope of interventions, covering the individual, family, school, community, and public policy levels. With a multi-layered pattern of interventions, this strategy not only focuses on the direct prevention of drug abuse, but is also directed at the establishment of a healthy, adaptive, and sustainable social ecosystem. This is crucial considering that various programs that have been aimed at adolescents and youth, including drug prevention efforts, tend to be fragmented and not connected in a systematic framework. The lack of coordination between actors makes the effectiveness of interventions often reduced because each party works within a separate scope.

For stakeholders, the implementation of this policy offers strategic benefits in the form of creating cross-sectoral synergy. The government gains legitimacy and more consistent policy direction, schools receive support in realizing a conducive learning environment, families are strengthened in their role as the foundation of children's education, while the community becomes a space for active participation that encourages social involvement. Civil society organizations and the media can also play a key role in public education and campaigns. However, from an efficiency perspective, this policy is relatively more challenging because it requires intensive cross-sector coordination and large resource allocation. In the Indonesian context, this complexity can be balanced by the value of mutual cooperation and collaborative traditions that have been rooted in the culture of the community. The socio-cultural diversity of the nation can even be a leverage force, as long as policies are prepared adaptively to local needs, supported by consistent regulations, and supported by an inclusive coordination mechanism.

**Organizing Program Implementation Policies and Frameworks**

To strengthen the organization of Multi-Level Policies Based on Social Ecology in the prevention of drug abuse in adolescents and youth, a systematic planning approach is needed while ensuring the involvement of actors at large. This approach can be realized through the integration of logic models (McLaughlin & Jordan), stakeholder analysis (Bryson), and RACI Model (PMI; Kerzner).

The logic model functions to organize the sequential relationship between inputs, activities, outputs, outcomes, and long-term impacts, so that policies can be monitored consistently, objectively measured, and evaluated based on evidence. Stakeholder analysis is an important instrument to map relevant actors, interests, and contributions, as well as anticipate potential resistance so that communication and collaboration can be managed more effectively. Meanwhile, the RACI Model ensures clarity in the division of roles through the categories of Responsible, Accountable, Consulted, and Informed, thereby minimizing overlap of authority and strengthening accountability across sectors.

The integration of these three instruments makes policies not only logically and measurably, but also inclusive, adaptive to social dynamics, and more sustainable. Thus, the

resulting policies have the potential for a wider and long-term impact. The following diagram provides an illustration of this approach.

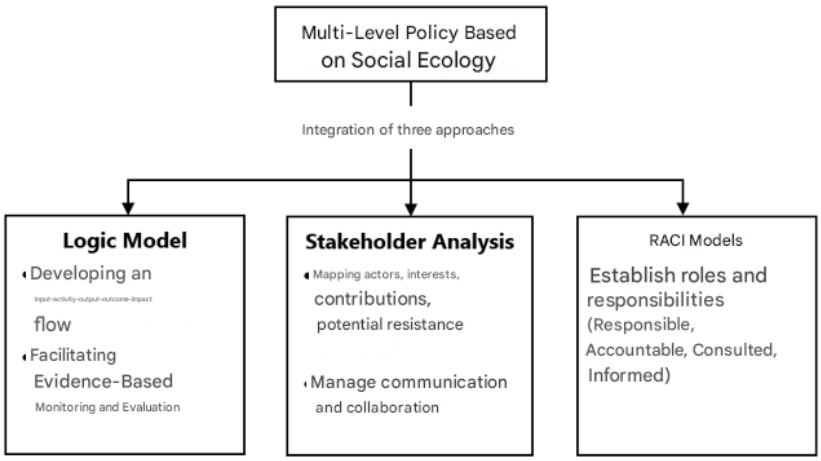


**Figure 1. Planning Approach**
Source: Author's conceptual model integrating Logic Model

The program implementation framework is comprehensively constructed through the integrative approach of the three conceptual frameworks above, with the aim of ensuring harmonious consistency between theoretical foundations and structured operational practices within the annual framework, as outlined below: First Year: Implementation of Activities, Achievement of Output and Immediate Outcome, Initial Evaluation. In the initial phase of implementation, the policy focus is directed to the realization of core activities involving cross-sectors in an integrated manner. Through the logic model approach, various evidence-based interventions are carried out, including the integration of the life-skills curriculum in schools, screening services through ASSIST (Alcohol, Smoking and Substance Involvement Screening Test) and CRAFFT (Car, Relax, Alone, Forget, Friends, Trouble), the development of harm reduction programs in the campus environment and the world of work, as well as the implementation of digital campaigns with pre-bunking and myth-busting methods.

The outputs produced at this stage include the availability of educational modules, adolescent counseling services, parenting channels, youth hubs, and data-based surveillance dashboards. The immediate outcome of these activities can be seen in increasing adolescent knowledge, early detection skills, rejection skills, and wider access to support services.

In order for the implementation to run effectively, stakeholder analysis is used to emphasize the interests, roles, and potential risks of each actor. The Coordinating Ministry for PMK, for example, has a strategic interest in maintaining consistency across ministries/institutions through a steering committee mechanism. BNN, as a quality controller, must affirm its position as a policy architect without causing overlapping authority. The Ministry of Health needs to integrate the indicators of Youth Care Health Services (PKPR) with a quick referral system, while the Ministry of Education and Culture plays a role in infusing the life-skills curriculum without burdening the core subjects.

Furthermore, the RACI model became an instrument to clarify the distribution of roles. For example, in the development of the life-skills curriculum, the Ministry of Education and Culture and schools play the role of Responsible, BNN as Accountable, while the Education

and Civil Society Organizations Office (SCO) as the Consulted, and the Coordinating Ministry for PMK and local governments as Informed. With this pattern, accountability and coordination go hand in hand.

The initial evaluation of the first year is carried out through surveys, service audits, and surveillance dashboard analysis to ensure the quality of output and immediate outcomes, as well as build a technical and institutional foundation for the next stage.

Second Year: Intermediate Outcome Achievement and Medium-Term Impact Evaluation. Entering the second year, the policy focuses on achieving intermediate outcomes as a consequence of the implementation of the first stage. In the field of education, improving the skills of refusing invitations and increasing anti-drug literacy encourages a decrease in risky behaviors, such as smoking, alcohol consumption, and vulnerable nighttime activities. The increasingly widespread counseling services contribute to a reduced transition from the trial stage to routine use. Harm reduction programs on campus and in the world of work reduce the frequency of binge drinking and other episodic behaviors.

At this stage, the stakeholder analysis emphasizes the importance of strengthening the relationship between local governments and technical ministries. The Ministry of Home Affairs, for example, needs to ensure the consistent implementation of minimum standards for youth services in the regions through fiscal incentive mechanisms, while local governments must optimize school safe zones and youth hubs with existing resources. Engagement with schools, campuses, communities, and local figures determines the legitimacy and sustainability of the program. The RACI model still serves as a clarity guideline for roles. In the PKPR screening service, for example, the Health Office/Puskesmas act as Responsible, the Ministry of Health as Accountable, while BNN and schools/campuses as Consulted, with the Regional Government and the Coordinating Ministry for PMK as Informed. This structure ensures consistency of implementation across regions.

The mid-term evaluation is focused on behavioral changes, adolescent health indicators, and community-based activity reports, so as to allow policies to adapt according to field dynamics.

Third Year and Beyond: Achievement of Final Outcomes and Long-Term Impact Evaluation. The next phase is directed at achieving the final outcome in the form of sustainable long-term impacts. With the integration of logic models, stakeholder analysis, and RACI models, the expected achievements include a decrease in the prevalence of drug abuse among adolescents and youth, the formation of a safe school and community climate, reduced exposure to peer invitations, increased participation in positive social activities, and a decrease in the normalization of risky behaviors in the digital space.

From a stakeholder perspective, political and institutional sustainability is a major concern. Local governments are required to maintain the continuity of local regulations and ensure that programs continue to run despite leadership changes. Meanwhile, central ministries/institutions, especially BNN and the Coordinating Ministry for PMK, are tasked with maintaining national coordination through a structured monitoring mechanism.

The RACI model remains relevant in standardizing accountability mechanisms. For example, the management of the surveillance dashboard is the responsibility of BNN as Accountable, with Diskominfo and local governments as Responsible, while other

ministries/institutions are involved in Consulted and Informed capacities. Comprehensive evaluation is conducted through prevalence surveillance, regulatory compliance audits, and community impact analysis. The results of this evaluation are the basis for strengthening institutional capacity and formulating more mature national policies.

The following tables are prepared to clarify how the logic model, stakeholder analysis, and RACI model interact in an integrated manner in supporting the implementation of Multi-Level Policies Based on Social Ecology, so that strategies for preventing drug abuse in adolescents and youth can be implemented systematically and accountably.

**Tabel 3 Logic Model**

| Intervention | Output | Immediate Outcome | Intermediate Outcome | Final Outcome | Beneficiary | Executor |
|---|---|---|---|---|---|---|
| **Development of life-skills & refusal skills modules** | Life-skills & refusal skills curriculum (JHS/SHS/VHS) | Increased knowledge & skills in refusing peer pressure | Reduced risky behavior | Decreased drug prevalence among 15–19 year olds | JHS/SHS/VHS Students | Kemendikbudristek, Education Office, School, BNN |
| **Training for teachers on module delivery** | Life-skills & refusal skills curriculum | Increased knowledge & skills in refusing peer pressure | Reduced risky behavior | Decreased drug prevalence among 15–19 year olds | Students | Kemendikbudristek, Education Office, School, BNN |
| **Implementation of a minimum of 12 sessions/year** | Life-skills & refusal skills curriculum | Increased knowledge & skills in refusing peer pressure | Reduced risky behavior | Decreased drug prevalence | Students | School, Teacher |
| **Training for school counselors & PKPR ASSIST/CRAFFT** | Counseling & screening | Increased early detection & referrals | Transition from trying out $\rightarrow$ routine use decreases | Decreased relapse among 10–19 year olds | Students & Youth | Community Health Center (Puskesmas), School Counselor, Health Office (Dinkes), BNNK |
| **Implementation of routine screening & counseling services** | Counseling & screening | Increased early detection & referrals | Transition from trying out $\rightarrow$ routine use decreases | Decreased relapse | Students & Youth | Counselor, Youth Health Care (PKPR) |
| **Brief intervention & peer support** | Harm reduction (Campus & Workplace) | Increased access to early assistance, reduced episodic risky behavior | Decreased frequency of binge drinking | Decreased drug prevalence among 20–24 year olds | University Students & Young Workers | Campus, Health Unit, BNN |
| **Workshop on reducing risky behavior** | Harm reduction | Increased access to early assistance | Decreased frequency of binge drinking | Decreased drug prevalence | University Students & Young Workers | Campus, Company |
| **Parenting training & consultation modules** | Family-based intervention | Increased family communication & monitoring | Increased family support, reduced conflict | Delayed initiation of drug experimentation | Family & Youth | Social Service (Dinsos), Health Office (Dinkes), Community Cadres |
| **Home visits & monitoring of at-risk families** | Family-based intervention | Increased communication & monitoring | Increased family support, reduced conflict | Delayed initiation of drug experimentation | At-risk Families | Social Service (Dinsos), PKPR, Community Cadres |
| **Anti-bullying socialization & fostering positive school climate** | Child-friendly school + extracurriculars | Increased sense of safety & student belonging | Reduced absenteeism & delinquency | Delayed age of drug experimentation by $\geq$0.5 years | Students | School, Education Office |
| **Implementation of routine extracurricular activities** | Child-friendly school + extracurriculars | Increased sense of safety & belonging | Reduced absenteeism & delinquency | Delayed age of drug experimentation | Students | School, Teacher, Community |

| Intervention | Output | Immediate Outcome | Intermediate Outcome | Final Outcome | Beneficiary | Executor |
|---|---|---|---|---|---|---|
| **Establishment of youth hubs & routine youth events** | Youth hub, youth events & mini CPTED | Increased positive social engagement | Reduced exposure to peer pressure | Safer & more supportive community | Youth & Young Adults | Community, Local Government (Pemda), BNN |
| **Mini CPTED public space arrangement** | Youth hub & mini CPTED | Reduced opportunity for risky behavior | Reduced exposure to peer pressure | Safer community | Youth & Young Adults | Local Government (Pemda), Law Enforcement, Community |
| **Production & distribution of digital educational content** | Digital campaign + gatekeeper | Increased digital literacy & access to mental health referrals | Reduced intention to try drugs | Reduced exposure to pro-drug content & substance coping | Youth 10–24 years old | Teacher, Peer, Digital Community |
| **Training for teachers & peers as gatekeepers** | Digital campaign + gatekeeper | Increased digital literacy & referrals | Reduced intention to try drugs | Reduced exposure to pro-drug content | Youth | School, Community |
| **Training for counselors, guidance teachers, PKPR personnel** | Training & surveillance dashboard | Increased service quality | Sharper intervention targeting | Sustainable prevention programs | Service Personnel & Youth | School, Community Health Center (Puskesmas), Health Office (Dinkes) |
| **Data collection & processing for dashboard** | Training & dashboard | Increased service quality | Sharper intervention targeting | Sustainable prevention programs | Service Personnel & Youth | PKPR, Health Office |
| **Development of local regulations & Regional Head Circular Letter (SE)** | Local regulation | Increased regulatory certainty | Increased social environment compliance | Sustainable drug prevention governance | School & community public | Local Government (Pemda), School, Law Enforcement |
| **Socialization & supervision of regulation implementation** | Local regulation | Increased regulatory certainty | Increased environmental compliance | Sustainable governance | Public | Local Government (Pemda), Law Enforcement |
| **Establishment of RACI model & cross-Ministry/Institution coordination** | Cross-Ministry coordination | More certain funding & implementation | Consistency across regions | Sustainability of national program | General Public | Related Ministries/Institutions (K/L), Local Government (Pemda), CSO |
| **Routine coordination meetings & implementation review** | Cross-Ministry coordination | More certain funding & implementation | Consistency across regions | Program sustainability | General Public | K/L, Local Government (Pemda), CSO |

Source: Author's policy framework development based on Social Ecological Model application (McLeroy) and national survey data (BNN-BRIN-BPS, 2023)

**Tabel 4 RACI Model**

| Output | Responsible (R) | Accountable (A) | Consulted (C) | Informed (I) |
|---|---|---|---|---|
| **12-session life-skills curriculum** | Kemendikbudristek, School | BNN | Education Office, CSO | Kemenko PMK, Local Government (Pemda) |
| **Youth Health Care (PKPR) screening & referral** | Health Office (Dinkes)/ Community Health Center (Puskesmas) | Ministry of Health (Kemenkes) | BNN, School/Campus | Local Government (Pemda), Kemenko PMK |
| **Youth hub/extracurricular activities** | Youth and Sports Agency (Dispora), Sub-district/RT-RW | Local Government (Pemda) | BNN, CSO, Indonesian National Police (Polri) | Ministry of Youth and Sports (Kemenpora) |
| **Digital campaign & pre-bunking** | Kominfo, BNN Public Relations | Kemenko PMK | Digital Platforms, KOL | Local Government (Pemda), School/Campus |

| Output | Responsible (R) | Accountable (A) | Consulted (C) | Informed (I) |
|---|---|---|---|---|
| **Surveillance dashboard** | BNN (PMO), Communication and Informatics Agency (Diskominfo) | BNN | Ministry of Health (Kemenkes), Kemendikbud, Local Government (Pemda) | All Related Ministries/Institutions (KL terkait) |
| **Regional Regulation (Perda)/Circular Letter (SE) on School Safe Zone** | Local Government (Pemda) (Regional Head/KDH), Public Order Agency (Satpol PP) | Local Government (Pemda) | Ministry of Home Affairs (Kemendagri), Indonesian National Police (Polri), BNN | School, Citizens |

Source: Author's role allocation matrix based on RACI methodology (PMI; Kerzner) and Indonesian inter-ministerial coordination structure

All of the above stages affirm the importance of strong regulation as an umbrella for Social Ecology-Based Multi-Level Policies (MLBES) in the Prevention of Drug Abuse in Adolescents and Youth. Presidential Regulation (Perpres) is recommended as the main instrument because it serves as a national legal framework that unites coordination across ministries, institutions, local governments, and civil society actors. Its higher position than sectoral regulations ensures consistency, prevents fragmentation between programs, and provides strategic direction from the planning stage, pilot projects, to long-term evaluation.

As an operational follow-up, a number of additional regulations are required. The Presidential Decree (Keppres) can establish a National Coordination Team or MLBES Task Force that is responsible for supervision and evaluation. Ministerial Regulations or Agency Regulations from relevant ministries function as technical guidelines for the implementation of interventions. The Regional Regulations (Perda, Pergub, Perwal, or Perbup) allow the adaptation of national policies according to the local context while ensuring collaboration across Regional Apparatus Organizations (OPD) runs optimally.

With this layered regulatory structure, each stage of the logic model has a clear legal basis, stakeholder analysis can be carried out with certainty of mandate, and the RACI model can ensure that the division of roles and accountability is consistent. Thus, the existence of the Presidential Regulation and its derivative regulations not only strengthens the normative legitimacy of policies, but also ensures the effectiveness, sustainability, and systemic impact in reducing the prevalence of drug abuse among adolescents and youth.

## CONCLUSION

This research highlights the persistent issue of stagnant drug abuse prevalence among Indonesian adolescents and youth (ages 15-24), despite existing prevention programs, which poses a risk to the nation's demographic bonus and the Golden Indonesia 2045 vision. The stagnation is primarily due to the complex interaction of high-risk behaviors (smoking, alcohol consumption, nighttime activities), weak self-regulation, and inadequate social support from family, peers, schools, and communities. Current interventions are fragmented and lack cross-sectoral coordination, failing to address the multifaceted nature of the issue. The study suggests that effective drug abuse prevention requires a comprehensive, multi-sectoral approach

institutionalized through a Presidential Regulation for a Multi-Level Prevention Policy based on Social Ecology, which includes coordinated efforts across education, health, family services, community development, and regulatory frameworks. Future research should explore the effectiveness of pilot programs that integrate these multi-level approaches and test the sustainability of such models through longitudinal studies.

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