White Paper: Indonesia's Health Sector Development (2024–2034)

Rebuilding Trust and Awareness: Strengthening Public Health Through Targeted & Inclusive Risk Communication

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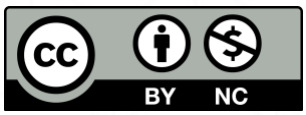

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List of Abbreviations

APBN:	Anggaran Pendapatan Belanja Negara (State Budget)
BPBD:	Regional Disaster Management Agency
BNPB:	National Disaster Management Agency
CDC:	Center for Disease Control and Prevention
CHW:	Community Health Workers
CISDI:	Centre for Indonesia's Strategic Development Initiatives
CSO:	Civil Society Organisation
IFRC:	International Federation of Red Cross and Red Crescent Society
IHR:	International Health Regulations
IMS:	Incident Management System
Indef:	Institute for Development of Economics and Finance
JEE:	Joint External Evaluation
LGBTI:	Lesbian, Gay, Bisexual, Transgender and Intersex
LP3ES:	Institute for Research, Education and Information on Economy and Social Affairs
MAFINDO:	Indonesian Anti-Slander Society
NAPHS:	National Action Plan for Health Security
NCDs:	Non-Communicable Diseases
NIK:	Population Identification Number
OCHA:	United Nations Office for the Coordination of Humanitarian Affairs
PEN:	National Economic Recovery Program
PERSI:	Indonesian Hospital Association
PMIB:	Indonesian Migrant Workers in Distress
PPKS:	Beneficiaries of Social Welfare Services
PPR:	Pandemic Preparedness, Prevention, and Response
PUSKAPA:	Centre on Child Protection and Wellbeing at the University of Indonesia
RCCE:	Risk Communication and Community Engagement
RPJMN:	National Medium-Term Development Plan
RT/RW:	Neighbourhood Community Units (Rukun Tetangga/Rukun Warga)
SOPs:	Standard Operating Procedures
UNICEF:	United Nations Children's Fund
WHO:	World Health Organization

Glossaries

Infodemic: The rapid and widespread dissemination of false information or rumours, particularly during a public health crisis.

Joint External Evaluation (JEE): A process to evaluate a country's capacity to prevent, detect, and rapidly respond to public health risks.

RCCE (Risk Communication and Community Engagement): An approach combining risk communication and community engagement to ensure that people have the information they need to protect themselves and others.

Risk Communications: The real-time exchange of information, advice, and opinions between experts or officials and people facing a threat to their health, survival, or economic or social wellbeing.

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Methodology

This report employs a modified version of the Miles foresight framework, tailored to the study's needs. By integrating key change agents and diverse knowledge sources, this approach fosters strategic vision and anticipation. Foresight emphasises stakeholder networking and participation, effectively informing policy-making, building networks, and enhancing the capacity to address long-term challenges.[1]

The process was conducted in two phases (see Figure 1): 1) **Phase One** (February-November 2023) included pre-foresight, recruitment, horizon scanning, synthesis, and a Delphi exercise, which resulted in the initial draft of the paper; 2) **Phase Two** (March-July 2024) involved internal workshops, an expert panel review, and additional expert consultations to further incorporate updated data and refine the paper. This step was taken to ensure its relevance as a reference for the new administration (2024-2029).

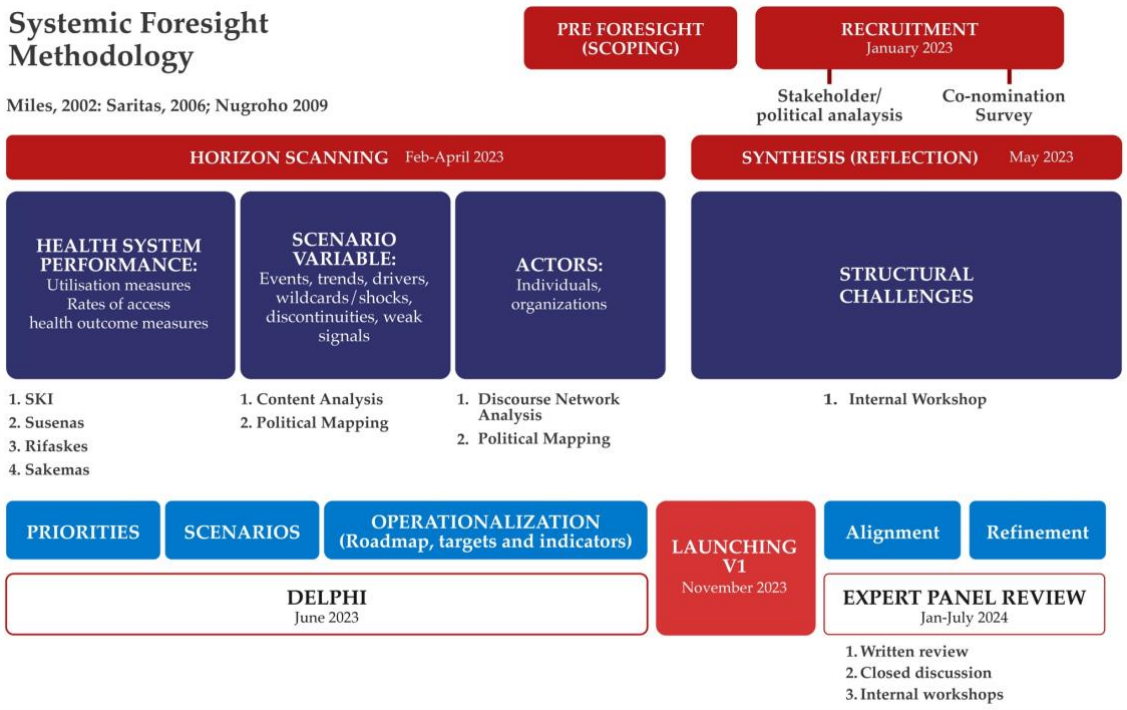

Figure 1. Stages of Foresight Methodology used in the paper[1]

During the horizon scanning process, we analysed and mapped a combination of literature reviews, content and discourse network analysis from Twitter conversations, and online news media feeds to capture events, trends, and drivers related to the issue. We used Google Search and News to automatically track topics related to risk communications. Specific keywords were identified for each topic, and news articles from January 2017 to May 2023. We filtered the analysis to focus only on opinion pieces and excluded low-quality news sources.

The results were further synthesised to identify structural challenges. Concurrently, during Delphi workshops, we gathered scientific insights and opinions from various stakeholders on strategic health governance issues. In these consultations, stakeholders were asked to identify priorities, build potential scenarios, and define key targets and indicators. The analysis, based on themes from the literature, desk research, and Delphi consultations, was integrated into the framework proposed in this paper.

This research was conducted as a CISDI initiative, with all funding independently sourced by CISDI without support from donors or external parties.

Chapter 1:
Reshaping Indonesia's Risk Communications

1.1 The Pandemic and the Emergence of Risk Communications in Indonesia

The COVID-19 pandemic stands as one of the most devastating health crises in modern history, claiming the lives of an estimated 7 million individuals globally,[2] leaving many more grappling with severe health repercussions. Economies were disrupted, and daily lives came to a halt. Indonesia, bearing the second highest death toll in Asia[3], confronted immense challenges in curbing the virus, which took over 160,000 lives[2] and put immense pressure on the nation's healthcare infrastructure.

Experiences during the COVID-19 crisis has made it evident that a robust healthcare system is determined not only by a well-trained healthcare workforce and sufficient infrastructure, but by the strength of its risk communication strategy. A well executed risk communication strategy will create an environment that will foster public trust during times of uncertainty , enabling people to make informed decisions to protect their health. There would be greater clarity on how, and where, to focus resources, helping curb disease transmissions and reducing economic loss.

Most importantly, an effective risk communications strategy could save lives. The following graphic (Figure 2) depicts a standard epidemic curve. The yellow area shows the number of cases that could have been prevented if there was an effective response to threats. The blue arrows indicate the point at which a rapid and proactive public communication response can help flatten the trajectory of an infection by fostering early public awareness, prompting stakeholders to focus their efforts on controlling the disease.[4]

FIGURE 1

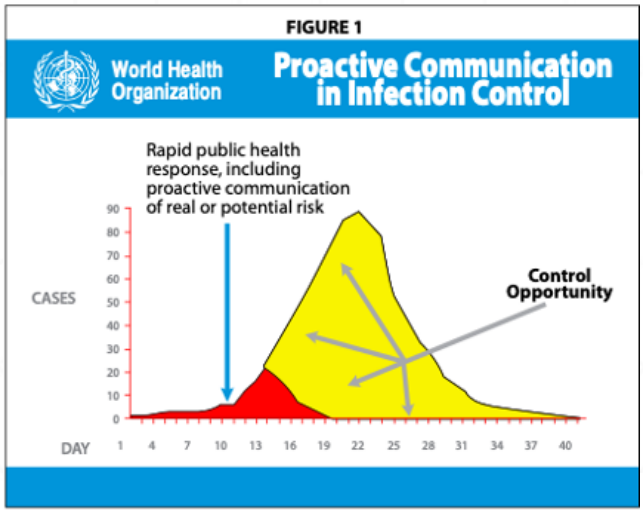

Figure 2. *Proactive Communication in Infection Control (WHO)*

Devi Shridar, who has observed different countries' methods of trying to control the spread of COVID-19, has noted that **with the right politics and leadership, much of the suffering and deaths from COVID-19 were largely preventable.**[5] Countries that implemented stringent measures early on– including swift, trustworthy, and evidence-based risk communications– such as South Korea, New Zealand, and Senegal, not only managed to contain the virus more effectively but also witnessed a faster economic rebound compared to countries with more relaxed approaches, like Britain, Spain, and Sweden. Although still faced with their own struggles, the implementation of early measures delayed the spread of disease and bought the population time for vaccines to be developed.[5]

Risk communication is defined by the World Health Organisation (WHO) as the real-time exchange of information, advice, and opinions between experts or officials and people who face a hazard or threat to their survival, health, or economic or social wellbeing.[6] The objective of risk communication is to enable people to make informed decisions about adopting preventive and protective health behaviours based on scientific evidence. Risk communication is a critical tool in emergency preparedness and response, and is a core capacity of the International Health Regulations (IHR) 2005.

The term is sometimes confused with crisis communication, which is delivered as an immediate response to a crisis to minimise its impact. Crisis communications can also serve to protect the reputation of an organisation, institution or a program. While risk communication is conducted before, during, and after a crisis, crisis communication is only performed during a crisis. Crisis communication is also reactive, often conducted without strategic planning.[7]

Furthermore, risk communications is also sometimes confused with health promotion. While risk communication is an integral component of health promotion, they are distinct concepts. But they support and enhance each other when properly integrated.[8]

The concept of health promotion is defined broadly, encompassing a wide range of social and environmental interventions that support governments, communities and individuals to cope with, and address, health challenges and improve their well-being. This is accomplished by building healthy public policies, creating supportive environments, and strengthening community action and personal skills.[9] While health promotion addresses the root causes of health issues and promotes changes to achieve long-term, overall well-being, risk communication deals specifically with potential or existing health threats.

The Centers for Disease Control and Prevention (CDC) has demonstrated the synergy between risk communication and health promotion. For instance, during the Ebola outbreak, the CDC incorporated health promotion and behavioural and cultural knowledge into their risk communication to enhance awareness and promote protective actions.[10] This underscores the role of risk communication as an essential facet of health promotion, particularly in the context of disease prevention and enhancing quality of life.

Awareness for the need of risk communications is relatively new in Indonesia. Regulations for disaster management have long been established, with a growing awareness of the necessity of communication. However, risk communication has only recently gained focus shortly before the COVID-19 pandemic hit.

Under Law Number 24 of 2007, disaster management is directed by the National Disaster Management Agency (BNPB) at the national level and Regional Disaster Management Agencies (BPBDs) at the subnational levels. The BNPB Regulation Number 03 of 2016 on the Disaster Emergency Handling Command System then included information and public relations within the organisational structure of the Disaster Emergency Handling Command Post at both the national and subnational levels.

In the Ministry of Health Regulation Number 75 of 2019, the minister of health is tasked with activating the national health cluster during the crisis, in coordination with the BNPB. The task would be carried out through the Health Crisis Center (Pusat Krisis Kesehatan), where the minister coordinates all resources and all institutions relevant in combating the health crisis. Within this system the health promotion team is tasked with carrying out health promotion efforts, although it has notably not yet placed an emphasis on risk communication.[11]

The term risk communication was mentioned explicitly within the issuance of Presidential Instruction Number 4 of 2019, following the WHO's Joint External Evaluation, which highlighted the need for improvements in detecting, preventing, and responding to public health emergencies. This instruction mandated a multisectoral approach to enhancing public health emergency capacities, including risk communication.[12] The subsequent development of the National Action Plan for Health Security (NAPHS) 2020-2024 further mentioned risk communication within the technical areas of health security.[13]

The coordination and function of risk communication have become more explicit and further established in the Ministry of Health's decree HK.01.07/MENKES/209/2020, which integrated risk communication and community engagement into the organisational structure of the Incident Management System (IMS) for COVID-19. Following Intra-Action Reviews (IAR) and monitoring for the management of COVID-19 in Indonesia in 2020 and 2021, recommendations for risk communication included active rumour monitoring, debunking

hoaxes, community engagement, and utilising a variety of communication channels for disseminating key messages.

Aspects of health resilience–which includes risk communications–have also been included in the National Medium-Term Development Plan (RPJMN) 2020-2024 and Minister of Health Regulation Number 21 of 2020 about the Strategic Plan of the Ministry of Health for 2020-2024.

In the midst of this planning and regulatory formulation, the COVID-19 pandemic hit, putting the nation's communication capabilities and capacities to the test. **Responses to the COVID-19 health crisis divulged serious communication breakdowns, where lack of clear and consistent messagings impeded the public's ability to assess the gravity of the pandemic and led to mistrust.**

However, several notable initiatives have also emerged, shaping the risk communication landscape. In February 2020, under the mandate of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), The United Nations Children's Fund (UNICEF) and the International Federation of Red Cross and Red Crescent Society (IFRC), created a Risk Communication and Community Engagement (RCCE) working group. This diverse group, composed of international agencies, government officials, academics, civil society, and communication professionals, aimed to streamline risk communication efforts through collaboration, knowledge exchange, and routine capacity building. They were one of the main initiators of the government official website for COVID-19 response, covid19.go.id.[14]

Recognizing the need to form a collaborative mechanism with civil society to address future diseases beyond COVID-19, the Health Ministry issued a directive on 11 July 2023 to establish a Risk Communication and Community Engagement working group,[15] incorporating members from multi sector stakeholders.

The government has become more aware of risk communication and has been refining its strategy and implementation. In mid 2021, citing the need to address the need for people to understand risk and adopt appropriate responses in the midst of the growing advancement of communication technology, the Ministry of Health published a communication guideline for health risk communications. In the guideline it was noted that subnational governments also need to define and incorporate risk communication into their respective regional health crisis management structures. This was accompanied by a series of additional guidelines, such as a behavioural change communication strategy in preventing COVID-19, a COVID-19 communication strategy, and guidelines for health promotion in community health centres. The government also continued to participate in WHO JEE's mechanism in the technical area of risk communication and community engagement, the latest being in 2023.

The COVID-19 experience has significantly transformed the Ministry of Health's public communication system and working methods, making them more strategic and targeted. They now hold weekly agenda-setting meetings to monitor emerging issues and trends, anticipating potential challenges. The Ministry has diversified its communication platforms by adding dedicated WhatsApp channels and actively posting content on social media. The team is more responsive in addressing hoaxes, and it has become easier to request educational materials from different departments within the ministry, as there is an increased awareness of the importance of communicating health issues.

However, the successful implementation of risk communication strategies remains limited by ongoing challenges and disorganisation, beyond COVID-19 issues. In 2022, Indonesia reported a significant increase of acute kidney injury cases in children due to certain types of cough syrups. By 31 October 2022 as many as 304 cases were reported, and over half of them resulted in death. The government's response has been sluggish. Although the case emerged in July 2022, the government only responded to it at the end of October 2022.[16] Further, the Health Ministry's instruction advising health facilities against prescribing liquid medications without providing alternatives potentially violates healthcare rights.[16] Blame has been thrown between different government institutions, with concerns raised about suboptimal surveillance and breaches in the supply chain.

Many countries that have successfully managed COVID-19 are those that have taken genuine lessons from previous pandemics and applied those insights. Taiwan and South Korea have reshaped their communication strategy to become more open and transparent after respectively combating SARS in 2003 and the Middle East Respiratory Syndrome (MERS) outbreak in 2015 and 2018. Taiwan's Central Epidemic Command Center coordinated a unified response from various government departments, ensuring consistent messaging and enabling two-way communication streams.

Meanwhile, Senegal built stronger disease management and surveillance infrastructure after facing infectious diseases such as Ebola. Once COVID-19 was confirmed, Senegal closed schools and air travel and shut down large gatherings, including mosques. Further, they engaged with civil society and impactful social leaders, such as collaborating with religious leaders. Musicians released a single about beating the virus, "Daan Corona" and the government provided financial support for those who were impacted by COVID-19 restrictions.[5]

Like these countries, Indonesia can derive valuable insights from assessing its response to the pandemic and implement new measures addressing current shortcomings to be better prepared for future outbreaks. By identifying challenges as well as best practices, both from international cases and local experiences, the reforms made would not only bridge the gaps in its healthcare response but also enhance its resilience to future health crises.

Chapter 2:
Structural Challenges in Risk Communications

2.1. Public Discourse on Risk Communications: An Overview

Before exploring the structural challenges of risk communications in depth, it is insightful to first understand the public discourse on the topic. A network graph was constructed from opinion pieces published from 2017 to 2023. The keywords provided were based on our structural challenges gathered from horizon scanning and Delphi findings.

Illustrated in Figure 3, the analysis of the network graph reveals dynamics concerning media, information dissemination, hoaxes, leadership, and vulnerable populations within the context of risk communication.

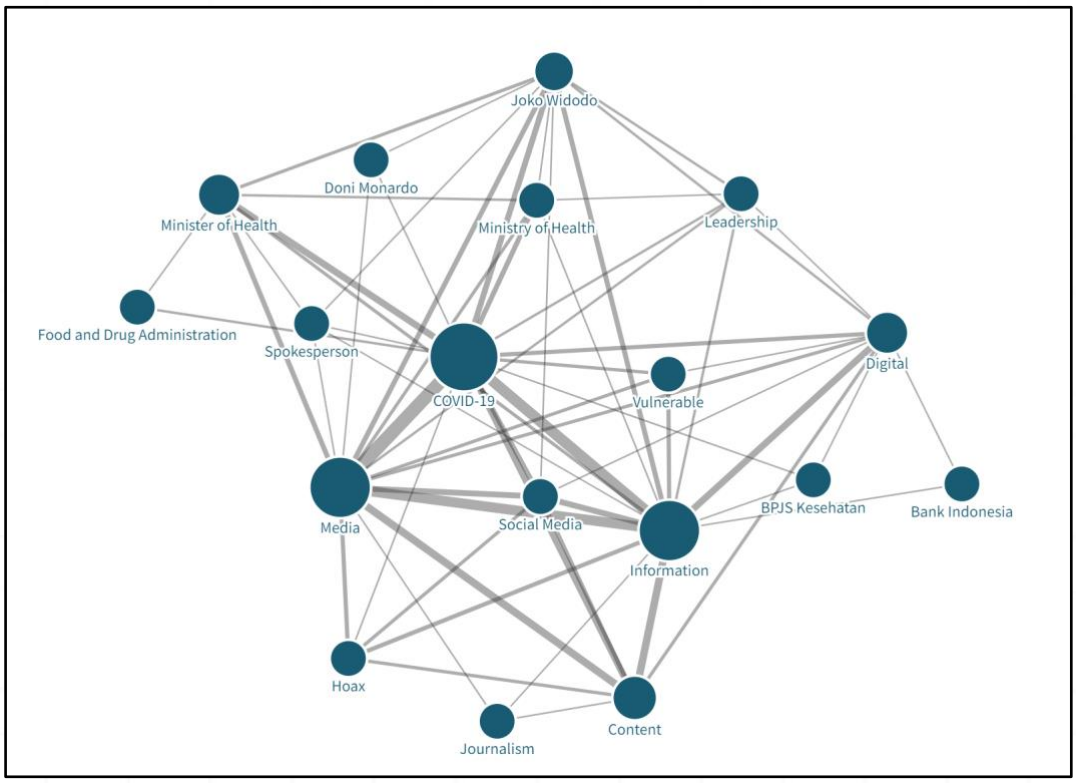

Figure 3. *The results of opinion pieces monitoring on Indonesia's risk communications landscape*

The "COVID-19" node is prominently central in the network graph, symbolising the pandemic's extensive impact on various aspects of public discourse. Its numerous connections

to other nodes demonstrates how discussions about the virus have permeated nearly all aspects of public focus.

Adjacent to it is the "Media" node, emphasising its crucial role as an intermediary between information sources and the public. Its extensive connections indicate its responsiveness to the many facets of public health communication. The relationship between "Media" and another significant node, "Information," is intrinsic. However, the presence of "Hoax" as a significant node linking both "Media" and "Information" highlights the challenges posed by misinformation. The direct connection between "Hoax" and "COVID-19" also underscores that rampant misinformation during the pandemic has become a major public concern.

The "Leadership" node's central placement shows the importance of leadership in guiding public opinion and responses during health crises. The graph suggests that figures like President Joko Widodo, COVID-19 Task Force head Doni Monardo, and institutions like the Ministry of Health have been focal points in the communication strategy, indicative of a top-down approach to information dissemination.

The Ministry of Health also emerges as a pivotal hub, illustrating its central role in coordinating the COVID-19 pandemic response. Its links to "COVID-19," "Media," "Social Media," and "Vulnerable" reflect its responsibilities in leading health initiatives, disseminating information to the public, and addressing the needs of the population through traditional and social media platforms.

The connection to "Vulnerable" indicates awareness of the importance of health communication for those at greatest risk. Yet, the absence of specific vulnerable groups such as the "elderly," "transwomen," and "LGBT" from the network graph might suggest a potential oversight or insufficient focus on these populations in public discourse.

Interestingly, there is a lack of discourse on "risk communications planning," "risk communication structures," or "communication strategy," implying that specific discussions about risk communication strategies may not be as prominent or may be eclipsed by the more immediate concerns of the COVID-19 response. It is also plausible that the principles and practices of risk communication are present in discussions but without the explicit use of these specific keywords.

While the central role of leadership and the media in disseminating information is clear, the graph also reveals that the public discourse shows significant gaps in addressing the full spectrum of risk communication, particularly in relation to specific vulnerable groups and explicit risk communication strategies. It also shows that the threat of hoaxes looms large in the public conscience. As Indonesia continues to navigate the health risk's challenges, it

becomes imperative to bridge these gaps, ensuring that risk communication is not only comprehensive and strategic but also inclusive.

2.2. Five Pillars of Risk Communications and the Interrelationship Between Stakeholders

Following consultations with experts and reviewing analysis of previous risk communication efforts, the chart below (Figure 4) outlines a snapshot of identified challenges. It also shows the dynamics of risk communication through the interactions among various stakeholders.

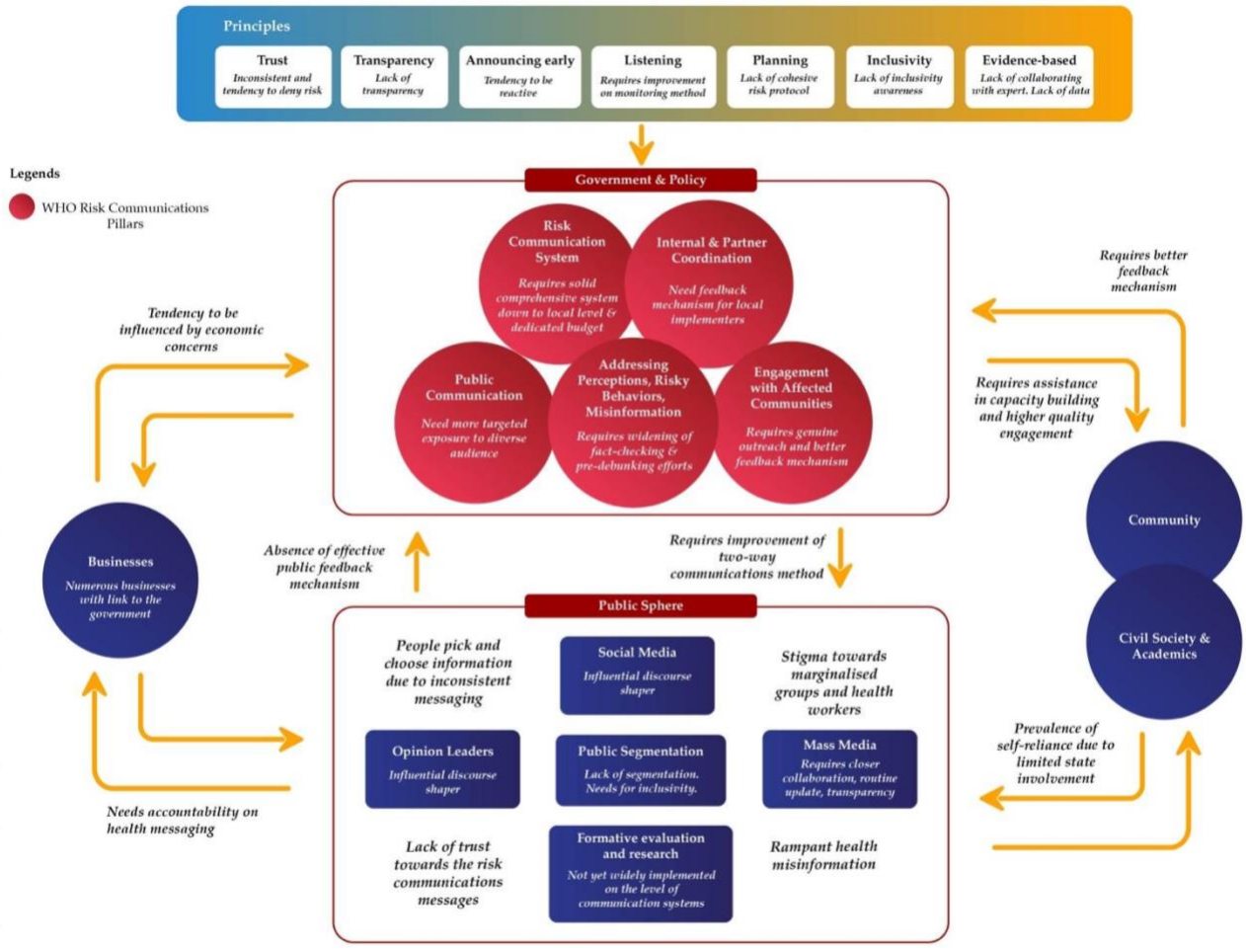

Figure 4. *Risk Communication Pillars and Interrelations between Stakeholders (adapted from WHO risk communication pillars and TELL ME New Framework Model of Outbreak Communication).*

The chart integrates two frameworks: the World Health Organization's five pillars on risk communication and the new model for outbreak communication proposed by the TELL ME

New Framework Model of Outbreak Communication.[17] The WHO pillars describe government-led initiatives while the TELL ME model showcases the interrelationship between various stakeholders. **The integration of these frameworks is aimed to offer a comprehensive view of the risk communications challenges, acknowledging the top-down and bottom-up dynamics of different stakeholders.**

To formulate the recommendations on this document, we will mainly base the discussion around the WHO risk communication pillars, at the government & policy sphere (see Figure 3). Comprising of five bases for effective risk communication, it currently serves as the foundation of Indonesia's existing risk communication strategy:

a. Risk communication system;
b. Internal and partner coordination ;
c. Public communication for emergencies;
d. Communication engagement with affected communities and;
e. Addressing perceptions, risky behaviours and misinformation.[18]

These initiatives should be carried out based on five principles: trust, transparency, early announcements, listening, and planning. However, based on experts' inputs, there is a need to highlight the inclusion of two more principles: inclusivity and evidence-based decisions, given the lack of consideration for these aspects during past risk communication activities in the Indonesian context.

The rest of the framework, outside of the government and policy sphere, depicts a snapshot of dynamics of different stakeholders, from businesses to the general public, in the risk information ecosystem. The original TELL ME framework placed greater emphasis on the public sphere than government and policies, situating it as its central locus. This stems from the recognition that with the advent of modern communication technologies, there's a dynamic and rapid flow of information from the public to the authorities, influencing decision makers.[17] The current reality also shows that public influencers and opinion leaders play a role as big as, or even surpassing that of, healthcare officials in shaping behaviours.[17]

Nevertheless, we argue that in the context of risk communication—where swift, coordinated decisions often need to be made in the midst of tumult—there lies an inherent duty of care upon the government. However, it is crucial to establish the public not just as stakeholders that need to be engaged, but as an equal partner that has the same stake in the challenges posed during the health crisis. Their perspectives and insights must be actively integrated into the decision-making process.

Several challenges can be seen from the chart, affecting the state of risk communication in the country. For instance, the government, which should strive for transparency, often finds itself

reactively reacting to health crises rather than being proactive. It also has a history of not relying on data and experts, leading to a deficit in public trust.

On the other hand, civil society and communities, feeling the lack of state involvement, tend to lean towards self-reliance. Business entities, especially those linked with top officials, have often been perceived as heavily influencing government policies. Furthermore, the rise of social media as an influential discourse shaper presents both opportunities and threats, given its power to amplify both accurate information and misinformation.

This framework also underscores the significance of every stakeholder, emphasising a collaborative approach. Civil society and communities, for example, can be expected to act as a bridge between the government and the public, although nowadays the public ideally could have been facilitated with more direct access to government through various digital tools. Meanwhile, opinion leaders, with their influential reach, should be engaged in a meaningful way. Mass media need to be better engaged to ensure consistent and accurate messaging.

To gain clearer insights, let's examine deeper the challenges associated with each of the five risk communications pillars, their impact on different stakeholders, and how they impact the risk communication ecosystem.

2.3. Risk communications systems: Bridging Towards a Consolidated and People-Driven Approach

In 2019, the WHO Regional Office for South East Asia published an assessment on risk communications systems and infrastructure in eight countries during a Joint External Evaluation (JEE) process. When comparing eight countries' capacities in risk communications, the weakest area across the region was risk communication systems.[18]

While many countries within the region have developed specific risk communication plans for particular diseases, the existence of an all-hazards plan remains rare. Only Thailand has a dedicated national risk communication unit for public health emergencies with a defined chain of command extending down to the local level. The staff members have clearly defined responsibilities and their units are supported by a dedicated budget. Meanwhile most countries have media units in different government departments and a health promotion unit within the Ministry of Health, but it tends to work on a wide range of health issues, and not specifically on crisis or emergencies.

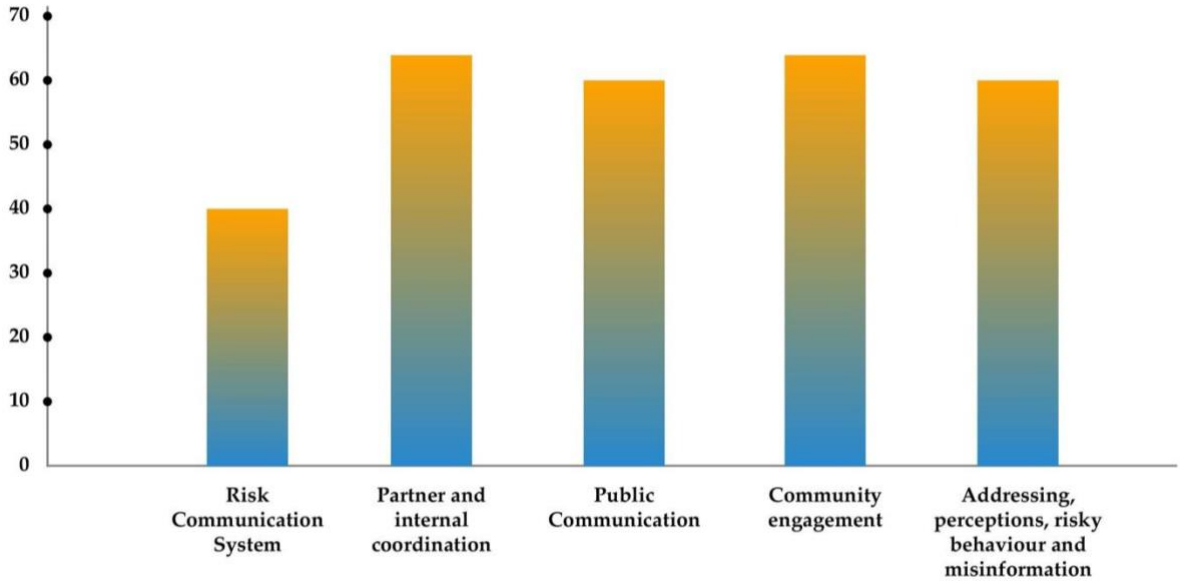

Figure 5. *Average Joint External Evaluation scores in risk communication pillars (in percentage)*

Currently, the Indonesian Ministry of Health manages routine risk communication activities through two units, the Bureau for Communication and Public Service and the Directorate of Health Promotion and Community Empowerment. The former focuses on public communication, while the latter handles community engagement. Other units, within the ministry or outside of it, would assist in different capacities depending on context and situations. For example, during disasters, the Health Crisis Center takes the lead in health emergency response, coordinating with BNPB to manage health supplies and medication. The Ministry of Communications and Information Technology would also provide public communication support during national crises.

A key issue identified is the limited impact potential of the Health Promotion unit due to its current position within the Directorate General of Public Health. For instance, if a risk communication campaign about non-communicable diseases or infectious diseases were required, the process would necessitate a cross-collaboration with the Directorate General of Disease Prevention and Control which oversees these disease areas. By elevating the Health Promotion unit to the status of a Directorate General or placing it directly under the Secretariat General, it would gain prominence and recognition, aligning the importance of health promotion and community engagement in managing health risks. This move would strengthen its authority and capacity to coordinate with various divisions within the Ministry of Health and facilitate more unified coordination.

There is a plan to develop a more cohesive approach by creating a joint work plan, consolidated budget, and execution strategies for a unified coordination of risk

communication, community engagement, and health promotion activities. This initiative would involve the Bureau of Communication and Public Service, the Directorate of Health Promotion and Community Empowerment, and technical areas such as food safety, chemicals, immunisation, zoonotic diseases, surveillance, antimicrobial resistance, biosecurity, and radiation.[19]

While there is a relatively established structure at the central government, there are gaps at the subnational level where structures for risk communications are not uniformly in place. Ideally, regions should designate specific roles or structures to tailor health protocols and guidelines according to the unique context of each region, or acting as the primary line of defence against region-specific health risks.

The current landscape of regional communication infrastructures varies. In some areas, the primary communication functions report directly to the regional head instead of operating under the Communications and Information Technology Office. As not all regions have an established Regional Disaster Management Agency (BPBD), local health offices often depend on the media centres and communication channels of the Communications and Information Technology Office to disseminate information.

The sense of crisis in some areas is still low, even when facing recurring health crises. One expert has observed that during rabies outbreaks in Timor Tengah Selatan district, East Nusa Tenggara, the websites of the provincial government and the Timor Tengah Selatan (TTS) district do not offer information about rabies outbreaks. This makes it difficult for the public to assess the gravity of the situation. People might only get information from health centres or active health workers who visit their areas.

Decentralisation has limited the Ministry of Health's influence over subnational administrations, hindering the establishment of standardised risk communication protocols at that level. Many regions lack a dedicated risk communication infrastructure. Ideally, a comprehensive framework, which can encompass regulations, formalised commitments, or official directives needs to be implemented to solidify risk communication at the local level. This initiative would require collaboration with relevant ministries, including the Ministry of Communication and Information and the Ministry of Home Affairs, as well as district and city governments.

Subnational outreach also depends on the quality of community outreach, which means the capacity of frontline workers for risk communications should be strengthened. In the report for the WHO's Joint External Evaluation 2023, the Ministry of Health plans to amplify the capabilities of the community health workforce by allocating funds and mandating primary healthcare facilities to conduct comprehensive training for community health volunteers. Each community health centre will be expected to train at least 100 cadres

annually over the next five years, building a grassroots network for health preparedness and response.[20]

Effective risk communications require a dedicated budget. Indonesia's government report for the WHO Joint External Evaluation 2023 has mentioned that funding was available for infodemic management, materials, technology, and communication activities for public health emergencies or disasters. Different types of funds are held by different agencies and ministries, such as ready to use funds for disasters held by the BNPB, KPCPEN handling the COVID-19 budget, and the Ministry of Communication and Information Technology address hoaxes.[21]

However, the Health Promotion and Community Empowerment Directorate does not specifically allocate a budget for risk communications, which ideally includes organising public awareness campaigns on emerging health threats, risk communications training for health workers, or involving community members in planning and implementing health risk communication strategies.[76]

Their current activities focus primarily on organising Posyandu services and Germas (Healthy Living Community Movement) campaigns. Germas promote healthy lifestyles, such as physical activity, balanced nutrition, avoiding smoking and alcohol, regular health check-ups, maintaining a clean environment, and proper sanitation. While these activities can mitigate risks associated with lifestyle diseases, they are generally part of regular health promotion efforts rather than targeted risk communication campaigns addressing emerging health threats.

Meanwhile, the Ministry of Health' Crisis Center, which focuses on disaster and emergency preparedness, had a spending of less than Rp 40 billion in 2023. Considering the size and population of Indonesia, the need to reach remote and rural areas, and the urgency to gradually expand capabilities to meet growing demands during large-scale crises, it might be challenging for that amount of money to adequately cover the establishment and operationalization of crisis centres across all provinces.[77]

Historically, funding for pandemic and outbreak responses in Indonesia has been limited and often inaccessible when needed. In the Health Security book of this White Paper series, it has been noted that from 2005 to 2017, Indonesia had an average of Rp 3.1 trillion (US$ 214 million) national reserve fund for disaster relief, which was found to be less than 20% of the realised economic loss.[31] In 2012, subnational governments on average allocated less than 1% of their annual budget for disaster risk reduction.[31] These allocations have proven insufficient to adequately address the challenges posed by disasters like the COVID-19 pandemic. From 2020 to 2022, the COVID-19 National Economic Recovery Program (Pemulihan Ekonomi Nasional / PEN) amounted to Rp 1895.5 trillion[2] (US$ 120.5 billion) from the national budget (Anggaran

Pendapatan Belanja Negara / APBN).[23] From the overall PEN budget, less than a quarter (Rp 427 trillion or US$ 27.1 billion) was allocated for health interventions.[24]

In general, Indonesia only allocates around 2.9% of its GDP to the health sector annually, and there has not been explicit, dedicated funding for pandemic preparedness, prevention, and response (PPR).[34] The Ministry of Health allocated Rp 4.6 trillion (US$ 299.7 million) for infectious and parasitic diseases in its financing scheme, with Rp 1.4 trillion (US$ 91.3 million), or around 30% of the total coming from donors (GlobalFund, WHO, CHAI, USAID, etc).[25] Due to the COVID-19 pandemic, in 2020 the fund raised almost by 11 times to Rp 53.4 trillion (US$ 3.49 billion), with the sources of funding coming from the state budget (Rp 51.6 trillion / US$ 3.37 billion) and donors (Rp 1.8 trillion / US$ 117.7 million).[26] Correlating with the insufficient reserved funds during the pandemic, the government reallocated funds for essential services, ranging from nutrition supplementation to child basic immunisation, to cover for specific COVID-19 programs, hence the surge to almost 11 times the previous budget.[35]

Risk communication planning also needs to be refined for better target initiatives. While there is already an umbrella communications guideline, there is still a need for a systematic effort to define the actual indicators for monitoring and evaluating effective health risk communication. One key aspect is defining critical phases. Health risks, from non-communicable diseases to infectious diseases caused by viruses or bacteria, have distinct characteristics that will determine the duration of potential crisis.

To improve regions planning capacity, following the launch of the risk communication guideline in 2021, the Bureau for Communication and Public Service started to map the risk communication capacities of different regions, inviting representatives from the Regional Disaster Management Agencies (BPBD), Local Health Offices (Dinas Kesehatan) and Communications and Information Technology Office (Dinas Komunikasi dan Informatika). Using modules to assess each region's policy coordination and funding for risk communication that are not related to natural disasters. The Bureau for Communications and Public Service has strengthened risk communication capacities in at least 9 regions involving cross-sector programs, such as West Java, NTB, and Southeast Sulawesi, and in NTT related to rabies outbreaks.[19]

An important aspect that is often forgotten in a risk communication plan is an operational strategy to reach vulnerable populations. This strategy requires customised approaches and dedicated outreach. CISDI and PUSKAPA have identified several barriers vulnerable communities continue to face, among them are lack of access to information about how to register, schedule of vaccination programs, vaccine effectiveness, adverse events following immunisation, and distrust of COVID-19 vaccines and health workers in general.[28]

Many vulnerable groups remain unvaccinated partly because Indonesia's vaccine policies have not adequately incorporated principles of equity and inclusivity. The focus at both national and subnational levels remains on reaching broad target numbers rather than ensuring equitable access for those with specific challenges. Currently, there is no operational nor comprehensive policy in place to define and reach out to these vulnerable groups for vaccination.[24]

The definition and understanding of vulnerability in policy terms has generally been quite narrow and there is a lack of consensus of its definition among national and local authorities. This confusion became apparent during the third phase of COVID-19 vaccinations, which was intended to prioritise vulnerable and general populations.[21] Existing understandings vary but typically refer to the elderly, individuals with comorbidities, and those with physical disabilities.[24] Some regulations on the procurement and implementation of COVID-19 vaccinations only mention "vulnerable communities from a geospatial, social, and economic aspect".[24] In 2021, the Ministry of Health issued a circular stating vulnerable populations include 1) people with disabilities, 2) indigenous communities, 3) residents of correctional institutions, 4) beneficiaries of social welfare services (PPKS), 5) Indonesian migrant workers in distress (PMIB), and 6) other communities without a Population Identification Number (NIK). Subnational governments were given the authority to set their own targets using their methods and data. Unfortunately, such autonomy has led to disparities due to varying levels of understanding and commitment across regions. While current efforts to expand the definition are commendable, Indonesia requires a more comprehensive operational definition of vulnerable groups through stronger regulation, followed by detailed and customised outreach methods.[24]

Furthermore, the absence of unified data sources for these groups results in unclear data regarding the exact numbers and locations of those still in need of vaccinations. This lack of detailed information hampers the planning and execution of vaccination outreach for these communities; however, CSOs and independent organisations often help supply data; A survey conducted by the Crisis Response Mechanism revealed that 57.5 percent of LGBTI individuals did not receive COVID-19 assistance from the government due not only to limited access to information but also persisting gender and sexual identity discrimination practices, as well as a lack of proper identification documents.[29]

Among the most vulnerable of groups facing challenges during COVID-19 are transgender individuals. It is widely known that the transgender population is often reluctant to seek services from health providers due to experiences of stigmatisation, such as being segregated from other patients, and a preference to be addressed by their chosen names rather than those on their identity cards, which might not be accommodated.[30] However, there has been a noticeable absence of outreach efforts to reach this group, which is in stark contrast to the more extensive outreach seen in the context of HIV/AIDS.[31] Even if they come to health

services, many may lack identification numbers (NIK), which serve as the basis for verifying vaccine recipients, they often can't access vaccinations.

In the absence of government assistance, vulnerable populations take matters into their own hands and become agents of change, organising community efforts. For instance, during the COVID-19 pandemic, the Fajar Sikka transgender community in East Nusa Tenggara played a pivotal role in promoting health protocols, identifying and registering transgender individuals and other vulnerable groups who lacked official identification documents, and advocating for their rights.[29,32] In East Java, the Surabaya Transwomen Association (Perwakos) collaborated with the provincial head of the COVID-19 task force, facilitated by ASB Indonesia-Filipina and the Plato Foundation. Together, they worked closely with the regional government for community outreach and risk communication, which was well-received not only by vulnerable communities but also by the general public.[33]

In March 2021, in Surabaya, Solo, Kediri, and Yogyakarta, as part of the public and CSO initiative "Leaving No One Behind" (LeaN On), 200 promoters from high-risk groups living in socio-economic vulnerability, including those vulnerable to violence, abuse, stigma, and other negative actions and perceptions, conducted surveys with over 64,000 of their peers regarding their experiences and feedback on COVID-19 prevention information and social protection schemes. They identified several key issues: limited availability of sign language interpreter services for the hearing impaired; information on COVID-19 prevention and handling in the media was not fully accessible for people with disabilities in terms of media type, content, and delivery methods; people with reading and communication barriers struggled to understand messages delivered through posters, banners, television, and radio, and needed direct information delivery; a lack of local language use in communication materials; many people felt more comfortable with face-to-face information delivery; and the prevalence of hoaxes undermined trust and confidence in COVID-19 prevention information.[78]

These are a few reasons that **vulnerable communities should not only merely be considered a target of intervention**. Similar to other influential community groups, they can be strategic partners for community outreach. Their concerns and participation must also be accommodated in risk communications and community engagement planning.

2.4. Community Engagement: Disparities Unveiled

Risk communication attempts to reduce risk by convincing the public to take up appropriate health interventions; however, trust in health systems is usually based on people's perceptions of these systems rather than objective measures. If people think a system is unlikely to help them, they will not use it. Studies have also shown that most people tend to

display “herd behaviour”, where they will only adopt new behaviour after seeing positive outcomes from earlier adopters. People also like to “fit in” with their community’s social cultural norms. **Therefore, it is important to engage opinion leaders and influential people to catalyse broader acceptance and action**.[34]

Another additional benefit of involving communities is that it can contribute to making policies more inclusive. One of the strategies to achieve this is to **establish different channels for feedback and allow communities to become accountability partners within the healthcare system.** These mechanisms will ensure that, even when top-down policies are active in crisis contexts, governments can still capture challenges of on-the-ground implementation and allow decision makers to gauge the effectiveness of their initiatives.

The foundation for community engagement should be laid during pre-crisis stages by mapping and reaching out to diverse community groups. This mapping should encompass local opinion leaders, which might include communal or religious leaders, but also any trustworthy individuals that will hold high influence on community decision making. According to the two-step flow model of communication theory, people tend to listen to opinion leaders more than the media.[35] Al Gore’s Climate Project was considered successful, namely due to adapting this principle into their campaign. The project trained one thousand local leaders to teach their communities about climate change on public spaces.[35]

Indonesia has initiated several community engagement efforts at the national and subnational level. **At the central level, a formal multisectoral coordination for risk communication and community engagement (RCCE) has been established**, as stipulated by the Minister of Health Decree No. HK.01.07/Menkes/1461/2023. Initially formed by international agencies and CSOs to address the pandemic, this working group has since broadened its scope to tackle other health issues, consistently issuing recommendations for risk communication. A notable recent action included urging the government to revise confusing health protocols concerning air pollution advisories.

In August 2023, the government responded to severe air pollution in Jakarta with the "6M 1S" protocols, which advised actions such as monitoring air quality via applications, reducing outdoor activities, and using indoor air purifiers.[33] The RCCE working group noted the impracticality of these measures, pointing out the inaccessibility of air purifiers for many and the challenges essential workers face in limiting outdoor activities. They also advocated for stronger community engagement through Community Health Workers (CHWs) rather than an overreliance on social media. The Ministry of Health responded positively to suggestions and shifted its campaign to the more accessible and straightforward #ToxicAirThreatensHealth #WearMaskAgain messaging.[34]

To ensure the ongoing effectiveness of such working groups, regular meetings are critical. However, they currently have insufficient resources to implement initiatives.[24] This underscores the immediate need to find funding solutions while also preserving the groups' independence. There is also a clear need to replicate this multisectoral coordination approach at the subnational level, especially for health risks and non-natural disasters. Additionally, while the government has shown receptiveness to input on various issues, it is vital to establish a method for monitoring that can accurately assess the quality and impact of community engagement.

At the subnational level, Indonesia has activated community engagement efforts with varied success. The Risk Communication and Community Empowerment (KRPM) guide issued in July 2020 outlines strategies for community involvement in the COVID-19 response, particularly in regard to case reporting, contact tracing, and gathering local support for logistical and operational needs of those self-isolating due to COVID-19 infection. This guide aligns with WHO (2008) and CDC (2018) recommendations, emphasising regular community engagement and providing educational information that empowers public decision-making. Hotline numbers, SMS blasts, and a Task Force WhatsApp chatbot were activated. These functions were communicated by the COVID-19 Task Force, which was later replaced by a special COVID-19 health unit, at the neighbourhood community (RT/RW) level. However, the success of these community engagement differs depending on the capacity of each local task unit.[36]

Besides local communities and CSOs, another key demographic for engagement is the youth. Youth have extensive networks and substantial reach, but often lack the skills and opportunities to contribute to health initiatives. There needs to be an inclusive participatory space for them, with clear parameters of what types of activities they can participate in and how it benefits their education. COVID-19 has showcased that the youth can contribute to the crisis response. One example where the youth have been actively participating is for the digital campaign #BaliRisesAgain from April to July 2022, which aims at raising awareness among the elderly and people with disabilities about the significance of vaccination and adhering to health protocols.[37]

To improve community engagement, the Ministry of Health has identified their own strengths and weaknesses in this domain. **Health promotion and community empowerment are already supported by various legal and policy frameworks.** Administrators dedicated to health promotion are positioned throughout regional levels to guide and oversee program implementation. The National Standards and Procedures (NSPK) have been updated to reflect the current health promotion and community engagement needs. Funding for these initiatives is in place from the central to subnational government levels. The Ministry of Health further reinforces this focus with its backing of preventive and promotive activities.[20] To improve coordination and collaboration across sectors and programs, the Ministry of Health proposed

to enact a ministerial decree compelling the Ministry of Home Affairs to synchronise efforts across subnational governments, ensuring cohesive community empowerment for multi-hazard public health emergency preparedness.[20]

However, the effectiveness of community engagement initiatives is being undermined by weaknesses in its implementation. There is a lack of an integrated information system to manage and monitor these activities effectively. Data insufficiency hampers planning and evaluation processes, rendering some efforts less effective than they could be. Human resources dedicated to health promotion and community empowerment are often stretched thin, particularly at the community health centres and subnational levels.[20] The allocation of the budget for community health development programs and disease prevention and control from 2020 to 2023 did not reach 2 percent of the total Ministry of Health budget.[20] This situation highlights a critical need for strengthened systems, improved resource allocation, and enhanced data management to bolster the efficiency and impact of community engagement and health promotion initiatives in Indonesia.

2.5. Public Communications: Building Trust vs. Image Building

One of the basic tenets of effective risk communication is developing and maintaining trust. When people trust the information, there will be a higher chance they will adopt preventive and protective behaviours that will benefit their health.

During emergency and crisis time, when panic runs rampant, information is unclear, and evidence is lacking, people would follow the advice of trustworthy individuals or institutions, which more often than not are public officials. Seeger proposed five key steps to achieve an effective communications for public officials during the pandemic: Becoming a credible source of information; Honesty and transparency to curb rumours; Communications aimed to persuade people to take action to mitigate risks; Evidence-based and; Consistent messaging.[38]

It can be argued that all these principles faced challenges, particularly in the early stages of the pandemic, and when the government has shown multiple times to underestimate the situation and even deny the severity of a health risk. Once trust is lost, subsequent risk communication becomes more challenging.

The Institute for Research, Education and Information on Economy and Social Affairs (LP3ES) identified at least 37 communication mistakes from January to April 2020, coming from various levels of top government officials from director generals to the president [39]. It started during the pre-crisis phase, which began from late January to early March 2020, when the government tended to downplay and even deny the possibility of coronavirus cases.[39]

When experts from Harvard University predicted that the virus was already in the country, top government officials addressed the concerns lightly. Minister of Health Terawan said that Indonesia is immune from the deadly disease through the power of prayer[40]. Meanwhile, Coordinating Minister for Economic Affairs Airlangga Hartanto said the permit process in Indonesia is too complicated for the virus to go through.[41]

In the meantime, devoid of accessible and reliable official information, people were panicking. Mask prices shot through the roof, and rather than effectively communicating the proper use of masks based on the most current evidence, the Minister of Health, Terawan, criticised healthy individuals for wearing them.[42] While this stance aligned with the WHO's recommendations at the time, it failed to address public anxiety appropriately by diminishing their concerns.

In March 2020, when the first COVID-19 cases were identified, the Indonesian government had initiated a centralised communication approach with the issuance of COVID-19 communication protocols, followed by the appointment of a spokesperson and the announcement of daily cases.[45] The guideline included a provision to not make light of the situation.

But communication inconsistencies continued to emerge, such as denying a patient in Cianjur died from Covid-19 but later confirming that it was indeed a positive case.[46] Another time was when the government would ban annual exodus for Eid, but later still allowed it with isolation measures.[39]

This differs from the Taiwan approach, who, learning from their unfortunate handling and denials of the SARS virus in 2003, proactively established a Central Epidemic Command Center in January 2020, even when there was not yet a case reported. They immediately communicated precautionary measures and implemented health protocols in buildings, including temperature checks and mask usage. The government also monitored mask sales and informed the public about mask purchase locations to help avoid panic hoarding.[43] Health experts led the decision-making process, while political leaders were tasked with contextualising the pandemic experience for the public.[43] As of December 7, 2020, the total number of COVID-19 cases in Taiwan was 716 people with 7 fatalities.[44]

There were no clear guidelines regarding risks and their mitigation efforts, including detailed information about the phases and stages of the pandemic. The names of the COVID-19 public mobility restriction policies have changed frequently, leading to confusion. Policies have included names such as Large-Scale Social Restrictions (PSBB), PSBB Transition, Enforcement of Restrictions on Community Activities (PPKM), Micro PPKM, Emergency PPKM, and PPKM levels 2, 3, and 4.

Government denial and inconsistent messaging has left the public confused and apathetic. The public was unprepared to confront the pandemic, leading to anxiety which contributed to stigmatisation of COVID-19 patients, and reluctance of people with suspected infection to get isolated. After 15 months, a sense of apathy had already set in by the later phases of the pandemic. The contradictory government policies, which banned the Eid exodus while allowing visits to tourist destinations, led some individuals to perceive the situation as safe, resulting in a neglect of health protocols.[47]

Based on Twitter conversations from 27 March 2020-25 April 2020, Institute for Development of Economics and Finance (Indef)-Datalyst Center found that around 68% percent of the public perceived government policies negatively during COVID-19. The most negative sentiments surrounded the topic of public mobility limitations, which were deemed not effective at 79%.[48] The Kompas Research and Development survey in October 2020 showed confidence in the government's ability to handle the pandemic at only 55,6 percent.[49]

Figure 6. *Public Perspective on Government's COVID-19 Policies*

The following year, the Covid-19 Task Force reported that as of July 2021, public adherence to health protocols fell below 85 percent in 20 provinces. Between November 2020 and June 2021 public distrust in President Jokowi's handling of the pandemic increased from 14.3% to 22.6%.[50]

Experts and representatives of civil society have criticised the government's COVID-19 policy multiple times as having been influenced by the desire to maintain a positive image and political self interest.[51] There was a lack of information regarding the impact of this virus on patients and the locations of its transmission.[51] This runs counter to risk communication best practices, which emphasise transparency. According to WHO guidelines they should include "timely and complete information of a real or potential risk and its management"[4] and "conveying uncertainty and not conceal negative information". Some experts argue that transparency should go as far as full disclosure of economic and medical evaluations.[17]

South Korea, for example, released real-time, anonymized, data on COVID-19 patients online, enabling people to determine whether they had contact with infected individuals.[52] The K-Quarantine mobile apps frequently sent people notifications about COVID-19.[52]

Groups of academics, media, and researchers launched channels dedicated to promoting transparency by providing the latest case data and in-depth analysis through Instagram accounts (@laporcovid19, @kawalcovid19, @pandemictalks) and websites (kawalcovid19.id, laporcovid19.org). These channels have become the go-to sources for the public when seeking information about COVID-19 cases, risks, and mitigation efforts.

There were also observations about the government's tendency to prioritise the economy over health and saving lives. When cases of COVID-19 started appearing in Asia and Europe between December 2019 to February 2020, the rest of the world implemented lockdowns to mitigate risks while the Indonesian government hesitated. Responding to complaints from the hospitality industry that lost their income, President Jokowi had instead encouraged foreign visitors to visit the country with discounted ticket prices[53], and a budget of Rp. 72 billion was allocated to pay influencers to promote tourism.[54]

After Eid celebrations, only four months after the virus entered the country, the country announced a "new normal" to support economic recovery. The government stopped announcing COVID-19 data even though there were indications of a growing number of cases. An analysis of the official account of President @jokowi and the website covid19.go.id shows posts related to economic recovery appeared more frequently and consistently than posts about health policies or technical information that would benefit communities.[36]

Instead of implementing Health Quarantine Law (*UU No 6/2018 Kekarantinaan Kesehatan*), which would require the government to impose a quarantine while ensuring people's livelihood, various alternative terms were used for public activities limitation to avoid the word "lockdown" and "quarantine". This decision was suspected as an attempt to avoid providing social safety measures.[55]

Even further, concerns arose about allegations of blatant attempts at economic gain by some government officials. One notable example occurred in the middle of 2021, where a potential conflict of interest arose during the distribution of Ivermectin, one of a few drugs proposed by the government despite a lack of clinical trial evidence. Allegedly, the company manufacturing the medicine lobbied government officials for distribution rights. The Indonesian Corruption Watch also discovered connections between the company and public officials and politicians.[56,57]

Overtime, the government's public communications have improved, although challenges remain. At the onset of the pandemic, the COVID-19 Task Force did not create audience profiles and assumed one message would be universally accepted. Over time, they realised that incorporating cultural factors could help tailor messages for diverse communities to receive them more effectively. The government started employing abbreviations that are popular and easy to use with the public such as 3M (wearing masks, washing hands, maintaining distance), and local languages were also used to ensure the public can understand the pandemic, for example using the word "*pagebluk*."[58] They also translated the health protocols into 107 languages, although by June 2021 it was mainly distributed online, not reaching people with lack of digital access.[59] The Kompas Research and Development survey in July 2021 showed a slight improvement in public's confidence of the government's ability to overcome the pandemic of 60.7 percent, an increase of about 5.1 percent from October 2020.[49]

Public satisfaction with the management of health news and publications in the second half of 2022 was considered good by the Ministry of Health survey, achieving a public satisfaction index of 3.41 out of a possible 4.00. This rating was based on feedback from 1,571 respondents, including health and human resource professionals, non-health sector individuals, and journalists.[19]

There still remains a need to improve and diversify methods of listening to public needs. There were criticisms of how health information and policies were communicated through a "top-down approach", where the government "socialises" their policies and actions, but it might not necessarily address people's concerns. An example of two way public communication during the pandemic was when New Zealand's Prime Minister, Jacinda Ardern, talked to the audience through her personal Facebook page during live broadcasts when the New Zealand government implemented a lockdown policy in March 2020. In these sessions she addressed questions from the public and provided direct responses.[60]

In light of the data collected during the COVID-19 pandemic, it is now possible to create messages specifically tailored to distinct audiences via platforms like WhatsApp, SMS, or other communication channels, thereby improving the relevance and effectiveness of public

health messages. However, to effectively deliver these targeted messages, there is a need for systematic approaches to assess the public's needs and concerns.

Contact centres, such as the National Command Centers 119, Halo Kemenkes 1500567 and Halo BPOM 1500533, manned by public complaints officers, have been serving as two way public communication channels. There is a suggestion to integrate these scattered contact centres into one for public health events to not confuse the public.[19] A transparent online platform where the public can directly monitor the feedback loop can also be considered as an addition, although offline outreach should also not be forgotten.

The Ministry of Health, along with the Ministry of Communications and Information Technology, BPOM, and other agencies, have conducted periodic media and social media listening activities to gauge public opinion as well as misinformation. To refine this effort, tracking of conversations should be categorised by priority diseases and emerging diseases or any other issues of public concerns. Additionally, engaging with the public on social media platforms should be emphasised, ensuring that responses to inquiries and concerns are prompt, informative, and help to build public trust in health communications.

Health risk communication also needs to be more engaging and clear. Studies have shown that complex jargon in health messages often deters individuals from taking preventive actions.[34] Avoiding technical terms can help enhance understanding and promote better risk mitigation without significant resource implications.[34]

Health risk references also need to be engaging and comprehensible to the public. The existing website for information on emerging infections (https://infeksiemerging.kemkes.go.id), for example, could improve its user-friendliness. While the site provides thorough and detailed information, which is beneficial for detailed understanding, it may overwhelm users seeking quick facts. Adopting a more user-friendly layout, incorporating visual elements, and improving navigation and content organisation could enhance its effectiveness. The Centers for Disease Control and Prevention's website on outbreaks can serve as a useful model in this regard, as its website is more navigable with a clearer layout, aiding in faster information retrieval. It organises content by current relevance, which is effective for public awareness.[61]

2.6. Internal and partner coordination: The Divide Between Local Voices and National Leadership

During the pandemic, the lack of coordination between the central and regional governments was apparent. There are issues of overlapping ownership of data between the

national and subnational governments agencies, making it difficult for the central government to integrate and verify COVID-19 data.[62]

Open disagreements played out in the media, such as when the central government denied Jakarta government's proposal of a total lockdown policy. They cited that policies must originate from central authorities.[63] The Jakarta government in turn accused the central authorities of being slow.[64]

Less out in the open, but equally important, frontline workers at community health centres have expressed concerns about the prevalence of one-way communication. The guidelines from the top authorities that frontline health workers receive often do not align with the real conditions they face on the ground, which makes effective implementation challenging. When it comes to budget planning, it is typically higher-level authorities who decide what's needed, despite not having a thorough understanding of the actual conditions and specific local needs. Unfortunately, these frontline workers have limited capacity to influence or communicate their concerns to higher levels of authority. There are very few channels available to convey their aspirations and feedback effectively.

Beyond these vertical coordination challenges, there's a need to broaden the scope of coordination and knowledge sharing. Effective health policy implementation often involves multiple sectors, including institutions from the financial, technology, and state apparatus and bureaucratic reform domains. These entities should be more frequently engaged in health policy and decision-making processes.

To ensure effective internal and partner coordination, the World Health Organization (WHO) has recommended **implementing mechanisms that guarantee consistent communication at regional, national, and local levels**. There should be well-defined roles for all stakeholders, along with guidelines for their functions and how to facilitate coordination among various agencies.

2.7. Addressing perception, risky behaviour and misinformation: Widening the Nets

Advancements in technology and the widespread use of digital media have made it increasingly easy for false information and rumours to spread rapidly to a wide audience. This presents a dual challenge for public health practitioners who must simultaneously combat not only the disease outbreak but also the rampant spread of false information, often termed an 'infodemic.'

The COVID-19 has further accelerated the trend of spreading harmful misinformation, even contributing further to anti-vaxxer activism. One notable example was when nearly 800 lives have been lost worldwide due to alcohol poisoning following a rumour that high strength alcohol would combat the disease.[65]

Following global trends, the pandemic has also impacted the infodemic landscape in Indonesia. MAFINDO noted an 88% increase in misinformation debunked, from 1,221 in 2019 to 2,298 in 2020.[66] While previous hoaxes were dominated by political issues, misinformation in 2020 shifted towards health topics, with COVID-19 topics which amounted to 788 instances.[67]

As of August 2020, Indonesia is among the top five countries where rumours, stigma and conspiracy theories on COVID-19 originated.[65] By April 2022, there were 5,829 false claims and hoaxes related to Covid-19 circulating on social media. The majority of these misleading claims were found on Facebook (5,109 posts), with Twitter (577 posts), YouTube (55 posts), Instagram (52 posts), and TikTok (36 posts) also contributing to the proliferation of such misinformation.[68]

Widespread hoaxes have hindered pandemic recovery efforts in Indonesia. Rumours suggesting that hospitals and doctors are intentionally misdiagnosing individuals as COVID-19 patients for financial reasons have demotivated healthcare workers.[69,70] On May 2021, the Head of the COVID-19 Task Force, Doni Monardo, mentioned that 17% of the Indonesian population does not believe that COVID-19 truly exists. [71] Compliance with health protocols is perceived to be low in many areas, making it challenging to control the disease spread.

The lack of credible and transparent information during the pandemic allowed rumours and false news to spread quickly. Information gap at the early stage of the pandemic, when there is still lack of solid scientific evidence, created space for a deluge of misinformation to circulate online. A good practice of risk communication to quell rumours during times of uncertainty is to provide the public with honest information, highlighting what is known and acknowledging what remains uncertain.[38] However, many public officials downplayed the seriousness of the disease and even promoted their unproven curative methods.[38,72] Criticism was shut down as media company Kompas was accused of spreading misinformation when presenting data that differed from the government's, or when presenting perspectives from academics (science journalism) that again contradicted the government's data.

The confusion prompted people to look for alternative sources of information, often presented in a more engaging manner, but not necessarily trustworthy. In August 2020, a musician named Erdian Aji Prihartanto posted a 30-minute video featuring an 'expert' who made bold claims about discovering a herbal remedy that could supposedly cure COVID-19 in just a few

days. This video also included 11 other false and misleading statements. It ignited a debate about the ethical responsibilities of influencers.[73]

On the positive side, many have risen to challenge the purveyors of hoaxes, ranging from the government, academics, to communities. The Minister of Communication and Information Technology with the National Police and civil society organisations such as the Anti-Slander Society MAFINDO initiated hoax-buster[74] which debunked misinformation on the government COVID-19 website. Initiatives like "Makin Cakap Digital", "Netizen Fair", "Tular Nalar", and "Kelas Kebal Hoaks" have been carried out to target various public segments in different regions of Indonesia. With funding from the Centers for Disease Control and Prevention (CDC) in the United States, UNICEF established the Inoculation Project that includes a digital dashboard that tracks posts and the tone of posts related to COVID-19 on social media platforms.[75]

Best practices can also be found in the regions, where the subnational government engaged the local community to combat infodemics. In Salatiga, the municipal government published daily COVID-19 updates and guidelines on social services, while also soliciting comments from residents that will receive direct responses from officials. Residents were also asked in online surveys about further information and assistance they might need.[74] These initiatives can help reduce misinformation and the inclination to search for information from alternative sources.

The Directorate of Information Empowerment currently spearheads the management of hoaxes, offering various channels for the public to report them, complemented by community-driven platforms like cekhoax.id and turnbackhoax.id. However, it has been recommended that in addition to these digital based efforts, there should be offline channels established. These would enable Community Health Workers (CHWs) and other frontliners to relay information about hoaxes and other issues directly to the authorities, thus enhancing the feedback mechanism with a personal, face-to-face dimension.

There would also need to be more effort to build capacity to debunk hoaxes and address misinformation at subnational levels. Efforts must be intensified to enhance the capacity for debunking hoaxes and countering misinformation at the subnational level. Health frontliners, particularly at the district and sub-district levels, often engage directly with the community and face challenges in this area. For instance, CISDI field officers have encountered community health workers hesitant to correct COVID-19 vaccine misinformation due to confrontations with individuals who insist on accountability for any potential adverse effects following vaccination. To address these problems, the proposed joint training and planning addressing infodemics involving BNPB, the Ministry of Social Affairs, the Ministry of Health, and the Ministry of Home Affairs[19] should be executed and its impact consistently evaluated.

Chapter 3:
Plausible scenarios and Scenarios Planning

After assessing the challenges within Indonesia's risk communication landscape, the need for two-way communication, openness to feedback, collaboration between stakeholders and inclusivity emerge as recurring themes. There is a strong call for engaging all stakeholders as equal partners. But to determine the likelihood of improvement towards a more informed and resilient society, there are several scenarios to be considered based on the governance's capacities, capabilities, and current drivers, trends, and challenges, with each scenario having an equal chance of occurring.

For the risk communications' scenario, four actors are considered essentials: **central government, subnational government, the general public, and vulnerable communities**. The central government is responsible for laying the groundwork for risk communication and in charge of structuring and planning strategies. subnational governments follow the central government's guidelines but also create their own strategies, which require building local capacities. The general public is where communication happens, involving research, opinion leaders, and social and mass media. Vulnerable communities, needing specialised approaches, form a distinct category. For two latter categories, their responses would be relevant to determine the state of a scenario.

Two key drivers, governance capacity and values, are essential elements in shaping these scenarios, as they are significant factors in the various trends identified.

3.1. Governance – Robust Institution or Incapable State?

Establishing a robust risk communication system requires a dedicated infrastructure extending from the central to local levels, encompassing comprehensive all-hazards planning and adaptable strategies tailored to diverse population segments. This effort begins with recognizing the importance of such a system through regulations and allocating the necessary budget.

While good intentions and awareness are the initial steps, structural inefficiencies and resource limitations may impede full implementation. subnational governments working to align with the central vision may face lack of capacity and resources to adopt it locally. Furthermore, there could be ambiguity regarding personnel or units responsible for these initiatives. While there potential for public and vulnerable community involvement as partners exists, resource constraints could hinder outreach and sustained engagement.

Conversely, an ample budget commitment and well-built structure and planning are also insufficient if public engagement remains superficial and tokenistic. This would mean prioritising political interests over the diverse needs of the population, using expert opinions as mere adornments while not heeding their warnings, and establishing two-way communication channels that don't genuinely address public concerns.

3.2. Value Axis - Saving Life versus Wealth and Positive Image

Amid the pandemic and various health risk cases, several patterns of dichotomy emerge centre stage in public discourse. On one side, the government strongly emphasises the need for economic recovery, which is often criticised for favouring financial concerns over people's well-being. This often manifests in initiatives aimed to minimise panic and project a positive image.

In contrast, civil society and communities have underscored that the topmost priority should be saving lives and maintaining health, asserting the importance of trust, credibility, evidence-based policies and transparency. Often forgotten and rarely on top of mind, there is also a call for inclusivity to be factored into a risk communication system to ensure justice and equity. The vulnerable groups often have least access to information resources and exposure to official information, and there has been a lack of effective systematic efforts to reach them.

These two axes serve as the primary factors in the development of risk communication scenarios, and they will be combined to generate the following four scenarios:

Scenario 1 - Green Flag: An institution with a strong foundation, guided by values that prioritise data, evidence, and inclusivity.

Scenario 2 - Good Intentions Are Not Enough: An institution that acknowledges the need for an altruistic risk communication system but lacks the capacity for its implementation.

Scenario 3 - All Looks, No Substance: An apparently robust institution that possesses all the elements of risk communication pillars but lacks genuine engagement with the public and communities, prioritising their political interests.

Scenario 4 - Red Flag: An incapable institution lacking awareness of inclusivity and altruistic values.

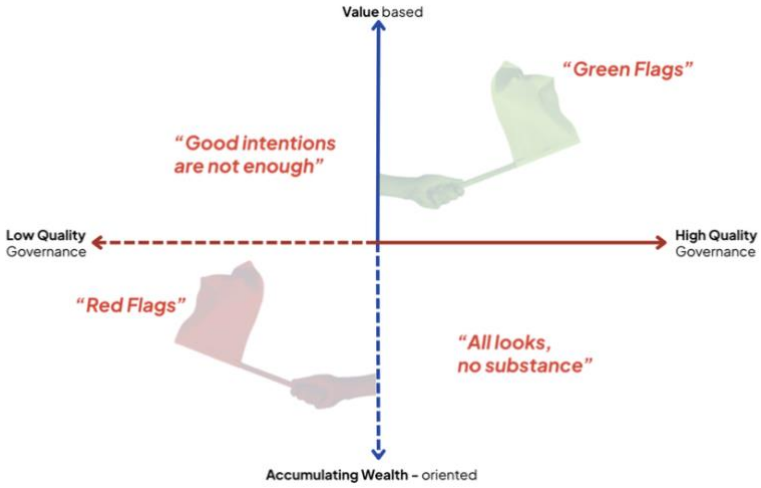

Figure 7. *Proposed plausible scenarios*

Table 1. *Proposed Scenarios for Indonesia's Risk Communications Landscape*

	Risk Communication System	Internal and Partner Coordination	Public Communication	Communication Engagement with Affected Communities	Addressing Perceptions, Risky Behaviours, and Misinformation
Green Flag Scenario 1 (knights, robust institutions)	**The central government** has set up a thorough and cohesive risk communication infrastructure, emphasising transparency, data-driven messaging, and inclusiveness. Respected health experts hold key advisory roles, and their insights are both valued and promptly implemented. There is a budget commitment to ensure the sustainability of this structure. **The subnational government** adopts and aligns with the central system, ensuring strategies and tactics used are localised. They also have designated local implementers. The local health forces are well trained in risk communications and know how to shape and distribute the messages locally. There is a budget commitment to ensure the sustainability of this structure.	**The central government** established a robust coordination mechanism between various departments and external partners. When emergency strikes, they orchestrate coordination up to local levels to ensure that everyone is on the same page. **The subnational governments** also establish a robust coordination mechanism to tackle both national and local health risks. During national emergencies, they bridge the gap between national directives and local realities and ensure that local nuances are considered in the broader strategy. They have an established and well-coordinated mechanism to notify the central government of local realities. Their feedback is addressed and reflected in	**The central government** spearheads swift, transparent, and science-backed communication with a complete disclosure of economic and medical evaluations of a health risk. They respond directly to public concerns instead of only focusing on sharing epidemiological information. **The subnational governments,** already well versed in risk communications, quickly and confidently act as relay points, quickly disseminating emergency information to their constituents while considering local cultural and logistical nuances. The **general public** benefits from a cohesive, clear, and consistent flow of information. This creates a sense of trust and understanding, as they know where to turn to for reliable information. Those information are tailored to	**The central government** establishes platforms for dialogue to ensure a two-way communication stream. They position themselves as equals and seriously take into account community feedback and needs and implement it into risk communications strategy. **The subnational governments** dig deep into their communities, addressing unique regional concerns, holding community meetings, ensuring that every voice is heard and being acted upon. **The general public** feels a strong sense of involvement, knowing that their concerns and feedback are actively sought and valued. **Vulnerable communities** find themselves actively	**The central government** established a mechanism to swiftly and effectively combat rumours, supported by designated staff and infrastructure. They proactively engage in monitoring the media, social media and community to detect and identify potential misinformation, tracing its origin and address it quickly. They roll out consistent awareness campaigns, educate the public on discerning hoaxes, and consistently relay public messages to discourage risky behaviours. **The subnational governments** identify misinformation hotspots, promoting safe behaviours suited to local cultural contexts and addressing local myths and misconceptions.

	The general public is seen as a partner, not merely as an information receiver. The system recognizes the unique needs of **vulnerable communities.** They have separate risk communications strategies and plan to ensure that they receive tailored communications that cater to their specific circumstances.	the national level actions.	their needs and help them identify the risks involved with every health decision so they can make the best decisions for themselves or their family. As communication between the government and the press is routine and frequent, leading to less drama and panic. **Vulnerable communities** receive tailored communication through channels that are most suited to them and understand the risks and the steps they need to take.	involved, their concerns prioritised, and their feedback actioned upon.	**The general public**, equipped with the ability to discern accurate information, participate in fighting against the spread of misinformation, and are empowered to make safe choices. **Vulnerable communities**, who might be specifically targeted or more susceptible to misinformation, are equipped with tools and knowledge to discern fact from fiction, ensuring their safety.

Good intentions are not enough… Scenario 2 (knights, incapable institutions)	**The central government has** created a risk communication infrastructure and has strategic planning in place. However, structural inefficiencies and lack of resources hinder full realisation. **The subnational governments**, while aligned with the central vision, grapple with their own regional challenges. **The general public** is considered a partner, but there is a lack of resources to engage them continuously. **Vulnerable communities**, while sometimes recognized in the strategies and regulations, don't often enjoy the benefits of tailored communication due to lack of capacity or resources.	**Central government** endeavours to coordinate among various entities but faces challenges due to fragmented systems and bureaucratic hurdles. **The subnational governments** try to bridge national directives with local realities but are overwhelmed by the disparities.	**The central government** genuinely wishes to deliver timely and accurate emergency information but may fall short due to system breakdowns or delays. **The subnational governments**, acting as vital relay points, may face difficulties in quickly disseminating information, leading to potential time lags. **The general public** might feel a mix of appreciation for the intent but concern over occasional lapses during crucial times. **Vulnerable communities** find that risk communications meant for them are sometimes delayed or not adequately tailored.	**The central government** has created some engagement and opened platforms for dialogue, but actual engagements might be sporadic due to resource constraints. **The subnational governments** have the on-ground pulse and have created their own community cross-section platforms, but lack the resources or tools to engage as deeply or as frequently as they wish. **The general public** values attempts for engagement but craves more consistent dialogue. **Vulnerable communities** may occasionally feel overlooked, as the sporadic engagements might not always address their unique needs.	**The central government** takes the threat of misinformation seriously and establishes a system to combat it, but it still needs improvement. There needs to be more effort for pre-debunking but it is hampered by lack of capacity or resources. **The subnational governments** grapple with local myths and try to promote safe behaviours, but the impact might be inconsistent. **The general public**, while appreciating the intent, occasionally finds itself navigating misinformation due to communication gaps. **Vulnerable communities** feel left to fend for themselves in discerning facts.
All looks, no substance Scenario 3 (knaves, robust institutions)	**The central government**, the national government, motivated primarily by self-interest, emphasises appearances. While they possess the resources to establish a robust risk communication infrastructure, their strategies	**Central government** coordinates effectively on paper, but inter-departmental or partner collaboration might be more about checking the boxes rather than substance as feedback from the field is not genuinely	**The central government** was swift in its emergency response, but issued information that conveyed a positive image rather than genuine concern. All types of communications are one-way and centralised, lacking diverse public input and	**The central government** engages with communities when it's beneficial for their image, rather than for genuine dialogue. They have tendencies to take control of the narratives and dominate the communities.	**The central government** combats misinformation selectively, addressing only what's potentially damaging to their image. **Subnational governments** might address only locally damaging misinformation,

	often overlook the diverse needs of the people. Experts are primarily used as window dressing, often echoing governmental viewpoints rather than offering independent insights. **Subnational governments** might prioritise regional concerns, sometimes undermining a cohesive communication strategy. Decision-makers, although likely competent, lack a diverse representation. As a result, decisions concerning vulnerable groups might be insufficiently informed. **The general public and vulnerable communities** are not considered partners, but as mere recipients of communication. They are not afforded avenues to engage with government officials or contribute to the dialogue.	translated into action or policy. There is also no clear mechanism to escalate feedback to appropriate departments. **Subnational governments**, while appearing aligned, might prioritise local gains over national coordination. Each entity prioritises its own self-interest, and bureaucratic rigidity hampers collective coordination and solution-finding.	engagement. **Subnational governments** also prioritise their own image, possibly downplaying issues and overplaying successes. **The general public**, while receiving prompt communications, might question the authenticity of messages. Their opinions and concerns are not validated. **Vulnerable communities** might feel left out because emergency communications are tailored more to manage perceptions than to address genuine risks.	**Subnational governments** might engage more actively during high-visibility events or issues, while everyday concerns get less attention. **The general public**, while engaging in dialogues, feel like passive participants in a pre-decided narrative as their feedback is not taken into account. **Vulnerable communities**, despite the engagements, might sense that their concerns are being appropriated for optics rather than being genuinely addressed.	sometimes even propagating narratives that suit them. **The general public**, while having access to official channels, might seek alternative information sources due to trust deficits. **Vulnerable communities**, while probably being a focus in a public campaign, might feel that stigmatisation or targeted misinformation are often glossed over.
Red Flag Scenario 4 (knaves, incapable institutions)	**The central government**, motivated by self-interest and hampered by inefficiencies, haphazardly sets-up a communication system that is not evidence-based and disregards people's needs. **Subnational governments**	**The central government** lacks a consistent coordination framework for risk communications, often resorting to makeshift measures. Their primary aim is to assuage public fears and project a positive image, rather than	**The central government's** responses are reactionary and don't genuinely address the crisis. They might also disregard the seriousness of the crisis, resorting to using influencers to create a positive image. Their messages are more focused on managing	**The central government** might engage in tokenistic efforts, more for image management than genuine dialogue. **Subnational governments** might hold sporadic engagements, often	**The central government** addresses misinformation selectively, focusing on managing its own image rather than public welfare. They might even claim evidence-based information as hoaxes when it doesn't fit their positive image.

	have almost non-existent capacity for risk communication. During crises they would only rely on central directives but they will only implement it sporadically if it fits the image they want to build. **The general public and the vulnerable communities** are left to fend for themselves as they struggles to decipher mixed messages and assess their genuine nature. There is no genuine attempt to engage them.	thoroughly addressing the underlying crisis. **Local authorities,** burdened by their inefficiencies, struggle to synchronise with central units. In times of crisis, they are often paralyzed, lacking the ability to interpret central directives, or choose to ignore it. They don't adapt messages to fit local nuances. This absence of centralised coordination leads to various officials suggesting divergent, and often not evidence-backed, solutions to the crisis.	perceptions and appeasing panic for fear of economic and political repercussions. **Subnational governments**, while trying to maintain their own image, might add to the chaos with delayed or skewed information only to benefit their self appearance and positive image. The lack of coordination between the national and subnational entities results in disjointed and confusing messages. **The general public** are left to their own devices, trying to sift through the noise to find genuine information. Some fell for hoaxes and misinformation, and most grew to distrust official channels. **Vulnerable communities**, in these trying times, often feel abandoned or misled, struggling to find tailored communications. They could only rely on agents of change in their own community to convey messages that fit their needs.	without any genuine follow-through. **The general public** feels unheard or sidelined in the grand narrative. **Vulnerable communities** might occasionally be paraded for optics, but their concerns often go unaddressed.	**Subnational governments**, hampered by their own challenges, might occasionally amplify misinformation or fail to combat it. They are even afraid to address it for fear of repercussions. **The general public**, sceptical of official channels, often relies on informal networks, leading to the potential spread of misinformation. **Vulnerable communities**, without a reliable source of information, are at a higher risk of being swayed by misinformation.

Based on the horizon scanning and from experts' insights gathered during this process, Indonesia is situated mostly at scenario two, except for internal and partner coordination, which leans on scenario three.

- **In the realm of risk communication system, the current state resembles scenario two.** The central government, already aware of the importance of risk communication, has already created a risk communication and community engagement structure and strategy planning in place. However, structural inefficiencies and lack of resources hinder full realisation. There is still no dedicated risk communication structure in the region.

- **For internal and partner coordination,** while there are institutions in place to tackle risk communication challenges, there is a gap in mechanisms to relay field feedback to central authorities. The tendency for government agencies to operate in silos exacerbates the issue. This fits the description of scenario three.

- **Public communication was at scenario four during the pandemic**, where the reactive responses, inconsistencies and disregard for evidence and science have led to public distrust. **Currently there has been improvement to scenario two** where there are more tools to address health risks, from various regulations, guidelines to more diversified communications methods and channels. However, local capacities still need to be strengthened and there is also a lack of operational guidelines to reach vulnerable communities.

- **Community engagement in health risk communication varies across regions**. There have been initiatives to maintain collaboration with civil society at the central level, but there needs to be stronger community engagement in the regions. With the absence of a holistic strategy and clear quality indicators, engagement quality is inconsistent, aligning it with scenario two.

- **Initiatives to address perceptions, risky behaviours, and misinformation** have emerged, initiated by both the government and civil society groups. Yet, to truly mitigate these challenges, there's a pressing need to amplify community involvement in the regions and adopt public feedback mechanisms. This situation is also reflective of scenario two.

Chapter 4:
Recommendations: Towards People Centred Risk Communications

In the preceding chapters, we analysed both the challenges and progress within Indonesia's risk communication landscape. Although awareness of its importance is growing, marked by established regulations and collaborative efforts, substantial opportunities remain to enhance its overall effectiveness.

To achieve the gold standard of scenario one, which emphasises a strong foundation, meaningful public engagement, and a commitment to data-driven and altruistic values, a comprehensive transition is imperative. Currently, several aspects of risk communication and public engagement reflect scenarios two through three, signalling both awareness and gaps. These scenarios highlight the need for not just good intentions, but also robust, actionable strategies. It's crucial to evolve from mere awareness and superficial structures to an institutionalised, evidence-based, and inclusive approach.

One key aspect is **to build a risk communications strategy that is people-centred**. The strategy should be designed to resonate with diverse public segments, ensuring inclusivity at every juncture. Such a model, grounded in trust, credibility, and evidence-based practices, not only serves the immediate needs of the people but also fortifies the long-term relationship between the public and the institutions aiming to protect them.

We propose a series of activities that are developed from the five pillars:

- **Developing a risk communications system that effectively extends to local levels and addresses the concerns of the community, with specific terms of reference.** A starting point is capacity and stakeholder mapping to determine the gap and ensure an effective mix of skills for risk communication roles are present within teams at all levels. These teams should be equipped with an integrated, multi-hazard risk communication plan that is regularly tested and updated, customised based on public segments and priority health risk concerns. Use or conduct thorough research into the attitudes, beliefs, and behaviours of the target group.

  Capacity building is crucial to ensure high-calibre strategy and messaging. Risk communication training should be administered to health workers and state officials,

ensuring that they are equipped to address challenges proactively. Training modules should include methods to extend outreach efforts targeting vulnerable communities.

Additionally, as the government needs to collaborate closely with experts during a crisis, it is important to foster deeper engagement by training epidemiologists and other public health specialists in risk communications to help them better address the public. A dedicated platform fostering consistent communication and coordination with expert groups would help this effort.

To sustain these efforts, there should be a dedicated budget allocated for risk communication and community engagements. This includes exploring various funding sources to ensure risk communication and community engagements remain a priority, regardless of budget constraints. Routine monitoring and evaluation systems should be established to see if risk communication strategies are effective and this information should be shared with the public.

- **Stronger feedback mechanisms and minimised silos for better internal and partner coordination.** To bridge the gap between on-ground realities and top-level authority's instructions, it's essential to establish a two-way feedback system that seamlessly connects subnational government units, partners, and frontline health workers, ensuring consistent and informed decision-making.

- **Building public trust through evidence-based and inclusive public communication.** Prioritise developing key messages that are centred around population health needs and based on evidence, rather than serving the self-interest of the political players. Prioritise transparency and honesty, be sure to inform the public what is known, and do not be afraid to communicate uncertainty. Involve experts and community representatives in the development of key messages and ensure messages are tailored to the specific health needs of the population. It is also important to constantly evaluate their effectiveness through regular monitoring and public feedback mechanisms.

  Prioritise outreach to vulnerable populations by creating a comprehensive communications campaign that is tailored to the unique needs of different vulnerable communities. This strategy should be delivered through mediums that are accessible and appropriate for them. It is imperative to engage in inclusive participation at the local level, involving key stakeholders and community leaders in the development and refinement of the strategy.

- **Create meaningful and sustainable engagement with diverse communities.** Continue collaboration and open more consistent lines of communications with civil

society and vulnerable groups, provide them with regular updates on the situation, engage them in the development of communication materials and strategies, and facilitate their access to relevant information and resources. Further, boost youth involvement by creating collaborative participative space.

Engage community leaders and community health workers who have deep-rooted connections to households routinely, especially in early phases of a crisis, to ensure their cooperation. Their influence can significantly enhance public adherence to protective behaviours.

- **Continue and expand collaboration in fighting infodemics.** Collaborate with media outlets, social media platforms, civil society groups, and other stakeholders to promote accurate and reliable information and combat misinformation. Bolster real-time public engagement and establish systems like regional fact-checking units and a 24/7 hoax reporting platform. Frontline health workers should also be equipped with creating regular campaigns and materials that emphasise the importance of verifying information before sharing it, as well as providing resources and tools to help people identify and report false information.

  Enhanced coordination among government entities at all levels is crucial and should be supplemented by continuous digital literacy training for frontline health workers. Collaborative forums across sectors and partnerships with media, influencers, and platform providers will further strengthen the proactive measures. Implementing regular information gap assessments and integrating robust media monitoring systems are also essential.

For a more detailed breakdown of the recommendations, please refer to the table provided below.

Table 2. *Proposed Goals, Targets, and Indicators (GTIs) for Indonesia's Risk Communications Landscape*

Pillars	Goal		Target		Indicator	
Risk Communication System	**1**	Develop a solid risk communications structure down to the subnational level	1.1	Improving risk communication functions at all levels	1.1.1	Continue capacity and stakeholder mapping for risk communication at subnational level in all provinces to be completed by 2026
					1.1.2	Determining the appropriate skill mix for risk communication functions at all levels by 2026
					1.1.3	A unified vision and strategy for risk communication function and focal points of coordination at the Ministry of Health, the Ministry of Home Affairs and the Ministry of Communications and Information Technology and other relevant institutions by 2025
					1.1.4	Establishment of dedicated risk communication functions at subnational level be completed by 2027
					1.1.5	Increase the number of emergency communication specialists at all levels annually
			1.2	Increasing capacity in risk communication	1.2.1	Identification and mapping of risk communication capacities at all levels annually
					1.2.2	Risk communications capacity training for personnels at risk communication functions, health personnel and state apparatus at all levels annually
					1.2.3	Risk communications capacity training for personnels at risk communication functions, health personnel and state apparatus at all levels to expand outreach to vulnerable communities annually
				Provide dedicated budget for risk communication	1.3.1	Budget tagging for priority health risk issues at minimum at the Ministry of Health and the Ministry of Communications and Information Technology.

			1.3		1.3.2	Budget tagging for priority health risk issues at subnational governments.
					1.3.3	Increase budget allocation according to budget tagging analysis.
					1.3.4	Diversification of funding sources for risk communication, such as the use of blended funding annually
	2	Improving risk communications planning	2.1	Improving the risk communication plan to focus more on the needs and concerns of the people.	2.1.1	Public survey on priority risk communication issues deployed in 2025, to gauge public need on risk communications and responses to current risk communications campaigns. Survey to be updated regularly.
					2.1.2	Segmentation of the Indonesian population for risk communication by 2026, to be updated every two years
					2.1.3	Regular update of all-hazards risk communication strategy
					2.1.4	Refining crisis phases and level for all hazards by 2026
					2.1.5	Tailored risk communication strategy at subnational level based on the central government risk communications guideline by 2027, updated annually
			2.2	Improving the risk communication plan for vulnerable communities	2.2.1	Participative mapping of vulnerable groups with a cross-sector team, involving members of vulnerable communities starting 2025. Must include physical, social, economic and environmental vulnerabilities.
					2.2.2	Complete database of vulnerable communities by 2026, to be updated regularly
					2.2.3	Formation of all-hazards risk communication plan for vulnerable groups, with comprehensive operational strategy (national level at 2026 and subnational level at 2027)

			2.3	Identifying influential stakeholders	2.3.1	Mapping political actors, updated regularly
					2.3.2	Mapping local opinion leaders, updated regularly
					2.3.3	Mapping private sectors leaders, updated regularly
			2.4	Deeper engagement with experts	2.4.1	Risk communication training for epidemiologists and other public health experts starting 2025, conducted annually
					2.4.2	Dedicated communication and coordination platform with experts by 2025, conducted annually
					2.4.3	Creation of research hub between government, health experts and universities starting 2025, to be expanded to all provinces
	3	Improving monitoring and evaluation	3.1	Improvement of monitoring and evaluation indicators that includes inclusivity	3.1.1	Technical guideline issued by 2026 that defines indicators for monitoring and evaluation for risk communications that would include inclusivity and meaningful community engagement.
			3.2	Regular audits	3.2.1	Regular monitoring and evaluation report for risk communications and community engagement available for the public yearly. aiming to achieve a Trust Index of above 60% by 2029.
Internal and Partner Coordination	**4**	Stronger communication and collaboration with internal entities and partners	4.1	Improved two-way communication	4.1.1	Established feedback mechanism system reaching local government entities, partners and frontline health workers by 2026
Public Communications	**5**	Expanding communication coverage	5.1	Diversification of communication channels	5.1.1	Content publication in media serving geographically isolated or less accessible communities (radio, community radio, local newspapers). Increase coverage 20% annually

				Collaboration with civil society and vulnerable groups	5.1.2	Increased number of collaborators by 10% annually
				Expand outreach to vulnerable communities	5.1.3	Increased percentage of information outreach by 10% annually
	6	Strengthening the ability to listen to public need	6.1	Establishing two-way communication mechanism for the public	6.1.1	Establish an open feedback loop for the general public online, starting 2025
					6.1.2	Establish an integrated community health feedback mechanism for communities in rural areas or areas with lack of digital access, starting 2026. This system would facilitate direct, in-person feedback opportunities.
					6.1.3	Regular media and social media monitoring for emerging infections and priority health risks, at national and subnational level
			6.2	Continuous monitoring and evaluation	6.2.1	Routine reports of follow-ups from the feedback mechanism
			6.3	Regular media and social media monitoring for emerging infections and priority health risks, at national and subnational level	6.3.1	Media and social media monitoring reports produced weekly, starting 2025
		Increasing	7.1	Improving data and information	7.1.1	Regular updating of health risk data in each region from 2025

	7	public trust		transparency	7.1.2	Regular updating of health risk cases and follow-ups
			7.2	Evidence-based communication	7.2.1	Updated and routine information on key identified health risk based on health experts consultation
			7.3	Monitoring and evaluating public's health risk perception through survey	7.3.1	Survey to be deployed starting 2025 and updated regularly.
	8	Refining messaging to ensure it is clear and relatable to the general audience.	8.1	Enhancing the creation of compelling health messages to make them more accessible to the public.	8.1.1	Routine capacity building for risk communication personnels on health messaging
					8.1.2	Collaborations with universities, communication experts and communities for message design
					8.1.3	Regular message testing to different audience segments and communities
			8.2	Tailored messages to wider and diverse audiences	8.2.1	Guidelines on different type of messaging based on audience segmentation and channels starting 2025
					8.2.2	Guidelines on different type of messaging, channels and formats for vulnerable groups by 2026 for national level, by 2027 for subnational level
		Improving owned media channels	9.1	Improving https://infeksiemerging.kemkes.g	9.1.1	Rewriting content to ensure it is clear, concise, and accessible to a broader audience by 2025

	9			o.id/ website's usability	9.1.2	Restructuring the website's content by 2025
					9.1.3	Ensuring that the website is accessible to users with disabilities, which includes colour contrast adjustments, screen reader compatibility, and keyboard navigation, by 2025
	10	Strengthening media partnerships	10.1	Increase media collaboration	10.1.1	Established a permanent communication hub with journalists which includes scientists and health experts by 2025
					10.1.2	Weekly press briefings with the media regarding health risks, with regular press conferences and releases during crisis time.
			10.2	Enhance media capacity	10.2.1	Yearly media training on risk communication, involving health experts
	11	Strengthening meaningful collaboration with Key Opinion Leaders (KOL)	11.1	Maintain collaboration with KOL	11.1.1	Mapping and stakeholder mapping of reputable KOL, updated every six months
					11.1.2	Regular collaborations with KOL, from macro to micro influencers down to subnational levels
			11.2	Enhance KOL capacity on risk communications	11.2.1	Capacity training for KOL at national and subnational levels annually
			11.3	Mechanisms for monitoring information accountability and validity by KOL	11.3.1	Technical guideline by 2026

Engagement with Affected Communities	**12**	Creating meaningful communication hubs within communities for improved engagement.	12.1	Improve existing collaboration networks with civil society groups	12.1.1	Database and stakeholder mapping for CSOs all over Indonesia by 2025
					12.1.2	Increase number of communication hubs between government and CSOs at national and subnational levels and initiate routine engagements in all provinces
					12.1.3	Routine evaluation of government and CSO meaningful collaborations annually
			12.2	Improve engagement with vulnerable groups	12.2.1	Database and stakeholder mapping for vulnerable communities all over Indonesia completed by 2026
					12.2.2	Creation of communication hubs between government and vulnerable groups at national and subnational levels
					12.2.3	Enhance partnerships and active involvement with Civil Society Organizations (CSOs) that serve as crucial connectors to vulnerable communities in each province.
			12.3	Strengthen risk communication collaboration with local communities' leaders	12.3.1	Involving local opinion leaders and community health workers at local level risk communication functions and initiate routine engagements
					12.3.2	Creation of communication hub between government and local opinion leaders
					12.3.3	Community health centre train at least 100 cadres annually over the next five years for risk communications
			12.4	Improve engagement with youth	12.4.1	Creation of communication hubs between government and youth at national and subnational levels
					12.4.2	Creation of participative space for youth at national and subnational level. Increase by 10% yearly.

Addressing perception, risky behaviour and misinformation	**13**	Improving efforts to combating hoax/misinformation real time	13.1	Strengthen public engagement to combat hoax/misinformation	13.1.1	Increase the number of coordination forums for hoax debunking that involve CSOs, government officials, experts, and vulnerable groups at the subnational level.
					13.1.2	Establishment of crowdsourcing system for debunking hoax/misinformation by 2026
					13.1.3	Increase number of independent units for fact checking by 10% yearly, ensuring it is available in regions
			13.2	Improve coordination between government entities	13.2.1	Establishment of permanent function to combat hoax between government entities at all national and subnational levels
		Enhancing proactive measures against hoaxes and misinformation	14.1	Increase capacity in digital literacy and combating hoax/misinformation	14.1.1	Continue implementing digital literacy capacity building to frontline health workers at national and subnational levels
					14.1.2	Implement digital literacy capacity building for the elderly and vulnerable communities at national and subnational levels, in collaboration with CSOs, starting 2026
					14.1.3	Annual capacity building to combat hoax front frontline health workers working in communities, including community health worker
					14.1.4	Collaborating with TV channels to increase knowledge about hoaxes, conducted annually
				Strengthen collaboration with media, influencers, and communities for hoax debunking	14.2.1	Publication of technical guideline on identifying hoaxes, how to apply it to local language and distribute it to appropriate channels starting 2026
					14.2.2	Collaboration forum between different sectors in the regions

	14		14.2		14.2.3	Collaboration with platform providers to support relevant content
					14.2.4	Increase network of debunkers about 10 percent annually
			14.3	Improve system to proactively mitigate hoax and misinformation	14.3.1	Mapping information gaps and its roots cause in every region, updated monthly
					14.3.2	Addressing information gap through specific targeted contents routinely
					14.3.3	Collaborating with media to publish regular pre-debunking content, starting 2025
					14.3.4	Improve media and social media monitoring system in the regions
					14.3.5	Publish data and information on health risk routinely
			14.4	Collaboration with digital platform	14.4.1	Information on health risk pre-debunking to consistently be at the top of search starting 2025
					14.4.2	Establish collaboration with digital platform to publish pre-debunking content, starting 2025

Chapter 5:
Conclusion

The exploration of risk communication within Indonesia's health system has illuminated both the strides made and the challenges that persist. The establishment of frameworks, regulations and the initiation of multisectoral coordination efforts reflect a governmental recognition of the importance of health communication. Yet, the journey towards a truly integrated and people-centred risk communication system remains underway. There remains a need for enhanced two-way communication, where local insights from frontliners and community feedback directly inform policy and a venue for dialogue, discussion, and conversations to bridge the gap between technical language and inclusive messaging. The pandemic has also cast a spotlight on the gaps in reaching and incorporating the voices of vulnerable populations and ensuring inclusivity in health messaging.

As the country moves forward, it is imperative that the lessons learned from the pandemic catalyse reforms in risk communication strategies. This means adopting a more nuanced and phase-based approach that considers the diverse geographical, cultural, and socioeconomic landscapes of Indonesia. By fostering a collaborative environment where public experiences, recommendations and concerns influence national and sub-national decision-making, and by recognizing the critical role of clear, empathetic, and consistent messaging, Indonesia can build a resilient health system. Such a system would not only withstand future emergencies but also empower its citizens with the knowledge and tools to protect their health proactively, individually as well as within their family and social environments.

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