



LOCAL GOVERNMENT MANAGEMENT OF HEALTH CRISES: A SYSTEMATIC REVIEW OF RESPONSES AND SUCCESSES

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Abstract: This research examines the strategies employed by local governments in managing health crises, emphasizing their role in ensuring public health resilience and minimizing adverse impacts. Using a systematic literature review with a qualitative approach, this study analyzes data from various academic articles, governmental reports, and relevant studies. The findings highlight that an essential strategy for health crisis management is the mobilization of healthcare workers to address immediate medical needs during crises. Additionally, strengthening local government capacity is crucial for effective crisis mitigation and preparedness. Key capacity-building initiatives identified include the Health Crisis Management Information System (SIPKK), Rapid Health Assessment (RHA), and the Emergency Medical Team (EMT), which enhance rapid response capabilities and coordination. This study contributes to the discourse on local governance in health crisis management by providing insights into best practices and recommending scalable models for crisis preparedness at the regional level.

Abstrak: Penelitian ini mengkaji strategi yang digunakan oleh pemerintah daerah dalam mengelola krisis kesehatan, menekankan peran mereka dalam memastikan ketahanan kesehatan masyarakat dan meminimalkan dampak buruk. Menggunakan tinjauan literatur sistematis dengan pendekatan kualitatif, penelitian ini menganalisis data dari berbagai artikel akademis, laporan pemerintah, dan studi yang relevan. Temuan ini menyoroti bahwa strategi penting dalam manajemen krisis kesehatan adalah mobilisasi petugas layanan kesehatan untuk memenuhi kebutuhan medis yang mendesak selama krisis. Selain itu, penguatan kapasitas pemerintah daerah sangat penting untuk mitigasi dan kesiapsiagaan krisis yang efektif. Inisiatif peningkatan kapasitas utama yang diidentifikasi meliputi Sistem Informasi Manajemen Krisis Kesehatan (SIPKK), Rapid Health Assessment (RHA), dan Emergency Medical Team (EMT), yang meningkatkan kemampuan respon cepat dan koordinasi. Studi ini berkontribusi pada wacana tata kelola lokal dalam manajemen krisis kesehatan dengan memberikan wawasan mengenai praktik terbaik dan

merekomendasikan model kesiapsiagaan krisis di tingkat regional yang dapat diperluas.

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INTRODUCTION

Indonesia, as a country with a high vulnerability to natural and non-natural disasters, is faced with a variety of recurring health crises (Beong et al., 2018b). These health crises can be caused by various factors, such as natural disasters (floods, earthquakes, volcanic eruptions), non-natural disasters (fires, food poisoning), and social disasters (social conflicts, social unrest). These health crises can cause various negative impacts, such as casualties, injured or sick people, displacement, and potential hazards to public health. The Government of Indonesia has taken steps to address the health crisis through various policies and regulations. One important policy is Law No. 24/2007 on Disaster Management, which is then elaborated in various regulations under it and harmonized with other laws, including Law No. 36/2009 on Health. This law states that the government, local governments and communities are responsible for the availability of resources, facilities and the implementation of comprehensive and sustainable health services in the event of a disaster (Haeril et al., 2021).

Public health is one of the fundamental aspects of a country's development. In this context, local governments have a very important role as the frontline in dealing with various health problems that arise. This role is even more critical when facing health crises, such as infectious disease outbreaks, natural disasters that impact health, and other health emergencies. Health crises not only test the capacity of the local health system but also require a rapid and effective response to minimize the impact. Therefore, health crisis management by local governments has become a major focus in an effort to increase resilience and responsiveness to emergency situations (Arsyad, 2017). As the frequency and complexity of health crises increase worldwide, research on local government strategies in health crisis management has become increasingly relevant. Lessons learned from past crises, such as the COVID-19 pandemic, highlight the importance of preparedness, intergovernmental coordination, and community engagement in mitigating public health threats. Effective crisis management is not solely dependent on physical infrastructure and resource availability but also on policy quality, crisis planning, and execution at the local level.

The purpose of this systematic literature review is to identify, analyze, and summarize strategies and best practices that have been implemented by local governments in managing health crises. By collecting and evaluating previous research, we can better understand the factors that contribute to success or failure in health crisis management. This review also seeks to fill knowledge gaps that may exist in the existing literature, as well as provide recommendations that can be applied in different local contexts.

Health crises have unique and often unpredictable characteristics, which make handling them a challenge for local governments. In emergency situations, such as disease outbreaks or natural disasters, the speed of response and the ability to coordinate various parties determine the success of the response efforts (Hamudy, 2014; Hayati et al., 2022; Shalih & Nugroho, 2021). Studies show that the success of health crisis management is strongly influenced by factors such as strong leadership, effective communication, community involvement, and availability of adequate resources. In addition, health crisis management focuses not only on the immediate response after a crisis occurs, but also on the preparatory stages beforehand and recovery after the crisis has subsided. The preparation stage involves developing contingency plans, training health workers, simulating crisis scenarios, and strengthening the overall health system. In the recovery phase, local governments must be able to return public health conditions to normal and evaluate and improve the system to anticipate future crises. Global health continues to evolve, providing challenges for local governments in managing health crises. From infectious diseases to natural disasters that impact public health, effective health crisis management is essential to

maintain public health and minimize negative impacts.

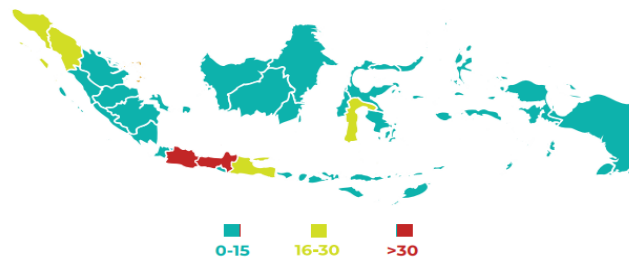


Fig 1 Distribution of Health Crisis Events in Each Province

In 2022, the distribution health crisis events in each province can be seen in the figure above as follows.

- >30 times: West Java and Central Java.
- 16 - 30 times: Aceh, North Sumatra, DKI Jakarta, East Java and South Sulawesi.
- 1 - 15 times: Riau, West Sumatra, Riau Islands, Jambi, Bengkulu, South Sumatra, Bangka Belitung Islands, Lampung, Banten, D.I Yogyakarta, Bali, West Nusa Tenggara, East Nusa Tenggara, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, North Kalimantan, North Sulawesi, Central Sulawesi, West Sulawesi, Southeast Sulawesi, North Maluku, Maluku, Papua, and West Papua.
- 0 times: Gorontalo

Throughout 2022, two provinces in Indonesia experienced the highest frequency of health crisis events, namely Central Java with 58 events and West Java with 57 events. Meanwhile, five other provinces also experienced a significant frequency of health crises, in the medium category with a range between 16 and 30 events. These provinces include Aceh with 27 events, North Sumatra with 26 events, DKI Jakarta with 22 events, East Java with 28 events, and South Sulawesi with 16 events. This phenomenon shows the complexity of health challenges faced by different regions in Indonesia during the year

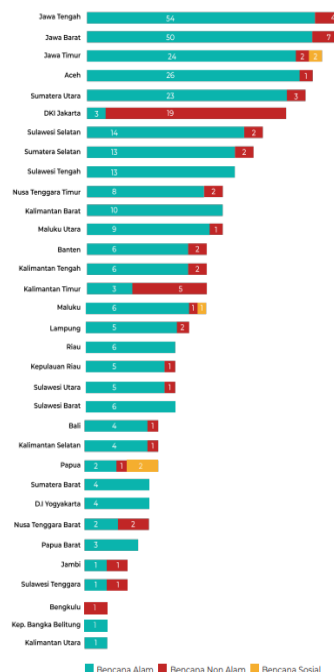


Fig 2. Types of Disasters by Incidence of Healt Crisis

The graph presented illustrates the distribution of types of health crises by cause in several provinces in Indonesia over the past year. Central Java Province recorded the highest number of health crises, with 58 events caused by natural disasters, particularly floods. On the other hand, DKI Jakarta experienced 19 health crisis events originating from non-natural disasters, such as fires. Meanwhile, in the provinces of East Java, Papua and Maluku, there were

health crisis events triggered by social disasters, namely conflicts or social unrest, with 2 events each in East Java and Papua, and 1 event in Maluku.

This pattern reflects the diverse challenges faced by provinces in managing health crises, whether caused by natural or non-natural disasters, as well as social factors. Effective management and mitigation of health crises is key to minimizing the adverse impacts, and to protecting the health and well-being of communities at the local and national levels.

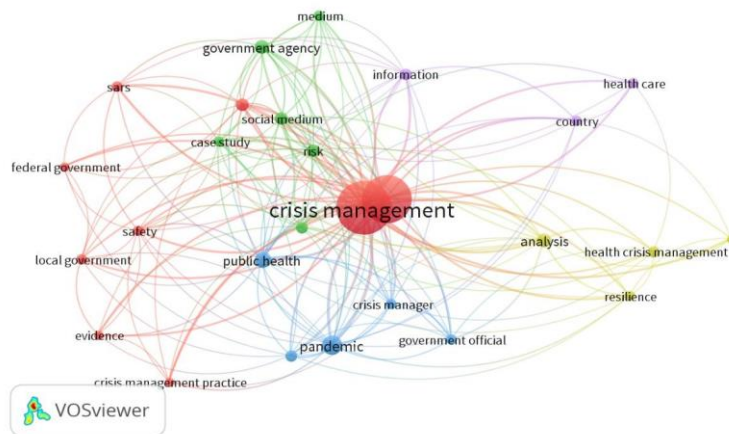


Fig 3 Visualization of VOS Viewer Overlay

One of the key takeaways from this study is the crucial role local governments play in responding to health crises, especially in a decentralized system where each region faces unique challenges. More than just policies on paper, effective crisis management requires flexibility, strong leadership, and collaboration between different agencies and communities. This research highlights how technology, preparedness training, and local engagement can make a real difference in handling emergencies. By bridging the gap between policy and real-world action, these findings provide practical insights that can help communities become more resilient and better prepared for future health crises, no matter their resources.

RESEARCH METHOD

The method used in this research is Systematic Literature Review with a qualitative approach. Francis and Baldesari (in Siswanto, 2010) explain the six stages of research as follows:

1. Establishing research questions. The research questions to be answered through this study are:
 - a. How does the local government respond to health crisis management within the local government?
 - b. How successful is health crisis management in local government?
2. Initiate literature search and collection. The literature for this study was collected from Google Scholar, which was chosen due to its comprehensive access to academic publications from credible databases, including PubMed, Scopus, SpringerLink, Wiley Online Library, ScienceDirect, and IEEE Xplore. Google Scholar enables researchers to find peer-reviewed journal articles, conference proceedings, and institutional reports from these trusted sources, ensuring the credibility and relevance of the materials used. The search was conducted using keywords aligned with the research question, namely "health crisis" and "government". These keywords were combined using the Boolean logic AND principle, ensuring that the retrieved literature specifically addressed both aspects. Additionally, to maintain source quality, preference was given to articles published in high-impact journals indexed in Scopus and Web of Science, as well as authoritative reports from organizations like the World Health Organization (WHO) and government institutions, enhancing the reliability and validity of the findings.
3. Screen and select research articles.

After the literature was collected, a two-time screening process was carried out to determine its eligibility for use. The first screening was an examination through the abstracts, and the second screening was through reading the literature in its entirety. Literature that will not be used is literature whose context is not related to the research questions and criteria that have been set. The following inclusion and exclusion criteria were used as a reference for selection:

Inclusion Criteria	Exclusion Criteria
Literature indexed on Google Scholar site	Literature not indexed on Google Scholar site
Literature published in the time span of 2018-2023	Literature published outside the 2018-2023 timeframe
Indonesian literature	Literature not in Indonesian
Literature is journal articles	Literature is not a journal article
The literature has contextual relevance to the research question	Literature lacks contextual relevance to the research question

4. Analyze and synthesize findings.
The content of the literature that passed the previous stage is then extracted and synthesized until it is presented.
5. Enforce quality control
The assessment of the quality of the literature refers to the *Prisma Checklist* 2009, the instrument contains assessment points that represent the alignment and accuracy of the title, objectives, design, sample, results and discussion related to the research question.
6. Compile the final report

RESULT AND DISCUSSION

A health crisis, like a sudden storm, can bring widespread loss of life, injury and panic. Events such as natural disasters, poisonings, and social conflicts are often the main triggers of health crises. In Indonesia, this situation often occurs and becomes a test of the nation's resilience. Based on a study by Jurnalkesmas in 2020, a health crisis can be defined as an event or series of events that cause loss of life, injury or illness, displacement, and/or potential hazards that have an impact on public health, thus requiring a rapid response that goes beyond normal habits, especially when there is insufficient health capacity (Public Health, 2020).

In dealing with a health crisis, the government plays an important role. The Minister of Health or the Head of the Health Office acts as the commander in this crisis response. The determination of the emergency status of a health crisis is based on the results of a rapid health assessment (RHA). If a disaster emergency status has been declared by the President, Governor, Regent, or Mayor, then the health crisis emergency status automatically applies without requiring additional determination by the Minister of Health or the Head of the Health Office (Indonesia, 2023)

However, overcoming health crises is not easy and full of challenges. Limited health resources, such as medical personnel and equipment, are one of the main obstacles. Uneven infrastructure, especially in remote areas, worsens the situation. In addition, low community preparedness is also a stumbling block in handling health crises. The geographical location of Indonesia, which is prone to natural disasters such as earthquakes, tsunamis and volcanic eruptions, further exacerbates this already difficult condition (Organization, 2017).

Health crisis management is like a battle against time (Maulana, 2021). A quick and appropriate response is essential to save lives and reduce the negative impact of the crisis. In this precarious situation, collaboration between various parties is key to getting out of the crisis. The government, non-governmental organizations, private sector, and communities must work together to create effective solutions.

Appropriate policies are the main foundation of health crisis management (Pane et al., 2018). The government needs to formulate and implement crisis-responsive policies, supported by accurate data and analysis. These policies should cover various aspects, from prevention, emergency response, to post-crisis recovery. In addition, there needs to be a monitoring and evaluation mechanism to ensure that the policies implemented are effective and can be adjusted as needed.

Adequate infrastructure is also a bulwark against health crises. Health facilities such as hospitals, health centers, and clinics must be equipped with adequate medical equipment and trained health workers. In addition, basic infrastructure such as roads, communications, and transportation must be in good condition to ensure quick access to crisis sites and delivery of aid. The government needs to invest in the development of this infrastructure, especially in disaster-prone area.

Health crisis management can be likened to a battle against time. In an emergency situation, every second counts and a quick and appropriate response is essential to save lives and minimize the impact of the crisis. For this reason, collaboration between all parties, including the government, non-governmental organizations, the private sector, and the community, is the key to getting out of this critical situation. The right policies, adequate infrastructure, and a well-prepared society are a stronghold in facing the storm of a health crisis that can come at any time.

Appropriate policies are needed to effectively address the health crisis. The government must formulate policies based on accurate data and analysis. This policy should cover aspects of prevention, emergency response, and post-crisis recovery. In addition, it is important to have a monitoring and evaluation mechanism to ensure that the policy is effective and can be adapted according to dynamic field conditions.

Local Government Response to Health Crisis Management

The response of local governments in managing health crises in the local government environment is crucial. Local governments must provide the best, fast, and appropriate services in managing health crises. This step is needed to save lives, prevent disability, and ensure that all needs in health services are properly met. One concrete form of local government response is through the mobilization of health workers. This mobilization aims to meet the needs of medical personnel in serving communities affected by the health crisis, so that health service needs can be met and health programs can run in accordance with the minimum standards of health services (Maqfirah et al., 2022).

Health workforce mobilization involves sending medical personnel to areas of need, either on a temporary or permanent basis. This includes sending doctors, nurses, and other health workers to areas affected by a health crisis (Carolina, 2021). In addition, local governments can also mobilize health workers from other unaffected areas to provide assistance.

The health crisis in Indonesia faces significant hurdles. Limited health resources are one of the main stumbling blocks. Insufficient medical personnel, lack of adequate medical equipment, as well as the supply of medicines that are not always available, are problems that are often faced when a crisis occurs. Unequal health infrastructure, especially in remote areas, also worsens the situation. Many health facilities in these areas are not equipped with advanced medical equipment or even enough medical personnel.

In addition, low community preparedness adds to the complexity of health crisis management. Many people do not have adequate knowledge and skills to deal with health emergencies (Arifin & Salman, 2022). Education on the importance of preparedness and the actions to be taken during a crisis is often suboptimal. Indonesia's geographical location, which is prone to natural disasters such as earthquakes, tsunamis and volcanic eruptions, also exacerbates the situation. With a vast territory consisting of thousands of islands, coordinating emergency responses is particularly challenging (Organization, 2017).

To overcome the challenges of limited health resources, it is necessary to increase capacity and preparedness (Prayesti et al., 2020). The government needs to conduct regular training and simulations for health workers so that they are prepared to deal with various emergency situations. This training program should include knowledge and skills in crisis

management, use of emergency medical equipment, and coordination between medical teams and related agencies.

In addition, capacity building also includes the provision of adequate and modern medical equipment. The government must ensure that health facilities are equipped with the necessary equipment to handle a health crisis. Procurement of medical equipment should be done efficiently and in a timely manner so that it is ready to be used when a crisis occurs.

Good coordination between agencies is essential to ensure a coordinated and effective response to a health crisis (SUSANTI & Anggara, 2021). Local governments need to establish a health crisis command center that serves as a coordination center. This command center should be able to coordinate various crisis management efforts, from the mobilization of health workers, logistics distribution, to communication with the community.

Inter-agency synergies also include cooperation with non-governmental organizations, the private sector and communities. Non-governmental organizations and the private sector can provide additional support in the form of logistical, technical and human resources. Meanwhile, the community must also be involved in crisis management efforts through education and active participation.

Public education and awareness about the importance of health crisis preparedness must be improved. Effective education programs should be developed and implemented to provide appropriate information that is easily understood by the community. Awareness campaigns through mass media, community outreach, and distribution of educational materials such as brochures and posters can help increase community awareness and preparedness (Pratiwi, 2021). With increased public awareness, it is expected that they can actively participate in efforts to prevent and manage health crises. A well-prepared and knowledgeable community can respond quickly and appropriately when a crisis occurs, and work with the crisis management team to reduce the impact of the crisis (Beong et al., 2018a, 2018b). Information technology has an important role in health crisis management. The use of technologies such as health information systems, tracking applications, and telemedicine can improve the effectiveness of crisis response. Health information systems can assist in real-time data collection and analysis, which is critical for quick and informed decision-making. Tracking apps can be used to monitor the spread of disease and identify contacts that need to be isolated. Telemedicine enables remote medical consultations, which is especially useful in hard-to-reach areas.

Health crisis management in Indonesia faces various challenges, but with coordinated and sustained efforts, these challenges can be overcome. Compared to countries with well-established crisis management systems, such as Japan and Germany, Indonesia still faces gaps in health system resilience, inter-agency coordination, and resource allocation. However, lessons can be drawn from these countries, where rigorous disaster preparedness training, integrated health emergency frameworks, and advanced early warning systems have significantly improved crisis response efficiency. To enhance its crisis management capacity, Indonesia needs to strengthen the capacity of health workers, establish regular monitoring and evaluation mechanisms, improve coordination between agencies, ensure adequate logistical and financial support, and increase public education and awareness (Rimadeni et al., 2023). By adopting best practices from countries with strong crisis management models, Indonesia can further optimize the effectiveness of the Health Crisis Management Team (TMKK). With synergy from various parties and continuous improvement, it is expected that local governments in Indonesia can provide high-quality health services and build a crisis-ready health system, comparable to those in countries with more developed emergency response frameworks.

In order to deal with increasingly complex health crises, local governments have taken various strategic steps to improve the capacity and preparedness of health workers. These measures aim to ensure that health workers are able to respond to health crises quickly and effectively, so that the impact can be minimized. The following are some of the efforts made to improve the capacity of health workers as a form of health crisis mitigation and preparedness (Widayati & Husain, 2023).

One of the efforts made is the implementation of the Health Crisis Management Information System (SIPKK). SIPKK is designed to collect, process, and disseminate information

related to health crises quickly and accurately. This system allows local governments to get a clear picture of the ongoing crisis situation, including data on the number of victims, types of illness or injury, and urgent medical needs (Ramadhan et al., 2016). With accurate and real-time information, strategic decisions can be made more precisely, and coordination between various related agencies can be carried out more effectively. The implementation of SIPKK also helps to minimize delays in response and improve the efficiency of health crisis management.

In addition to SIPKK, Rapid Health Assessment (RHA) is also an important part of health worker capacity building efforts. RHA is a process of data collection and situation analysis conducted to assess the severity of a health crisis and determine appropriate response needs. Through RHA, health workers can identify the priority actions that need to be taken as well as the allocation of resources required. This process involves various data collection methods, such as field surveys, interviews with relevant parties, and secondary data analysis. The results of the RHA form the basis for formulating an effective and efficient plan of action in handling a health crisis.

An Emergency Medical Team (EMT) is a specialized team formed to deal with casualties and injuries in health crisis situations. The formation of EMT is a strategic step in ensuring that medical treatment can be carried out quickly and professionally. EMTs consist of health workers who have received special training in handling emergency situations, including skills in trauma management, triage, and patient stabilization. The team is also equipped with adequate medical equipment to support their operations in the field. The presence of EMTs is crucial in providing a quick and appropriate initial response, which can save lives and reduce the severity of injuries. Logistics management is also an important focus in health crisis management efforts. Local governments must ensure the availability of medicines, medical equipment and other logistics needed to manage health crises. This involves effective supply chain management, from planning needs, procurement, distribution, to monitoring the use of logistics in the field. In a crisis situation, the availability of adequate and timely logistics determines the success of the response. Therefore, local governments need to have a resilient and flexible logistics system that is able to adapt quickly to changes in the situation on the ground.

In addition, Table Top Exercise (TTx) is one of the methods used to train health crisis preparedness and response. TTx is a simulation conducted in the form of a table discussion, where various health crisis scenarios are presented and discussed by the response team. Through TTx, health workers and stakeholders can test their contingency plans, identify weaknesses and shortcomings, and develop more effective solutions and strategies. TTx also helps in improving coordination and communication between teams, so that the response can be more organized and targeted.

A Contingency Plan (CCP) is a document that contains steps to be taken to deal with a health crisis. It is prepared based on the results of risk analysis and capacity evaluation, and considers various possible crisis scenarios that may occur. This document includes standard operating procedures, coordination mechanisms, resource allocation, and communication strategies. The Renkon aims to provide clear and systematic guidance for health workers and related parties in dealing with crisis situations. Periodic drafting and updating of the Renkon is essential to ensure that the document is always relevant and ready to be used when needed.

Capacity building of health workers also involves training and continuing education. Local governments need to provide comprehensive and continuous training programs for health workers, including training in emergency response, use of health information technology, and crisis management skills. Continuing education helps health workers to stay updated with the latest developments in the health field, including the latest innovations and technologies that can be applied in health crisis management. In addition, training also covers psychosocial aspects, such as stress management and psychological support, which are crucial in stressful crisis situations.

The use of information technology also plays an important role in improving the capacity of health workers. In addition to SIPKK, various other health information applications and systems can be used to support crisis management operations. For example, contact tracing applications to monitor the spread of infectious diseases, telemedicine systems to provide remote

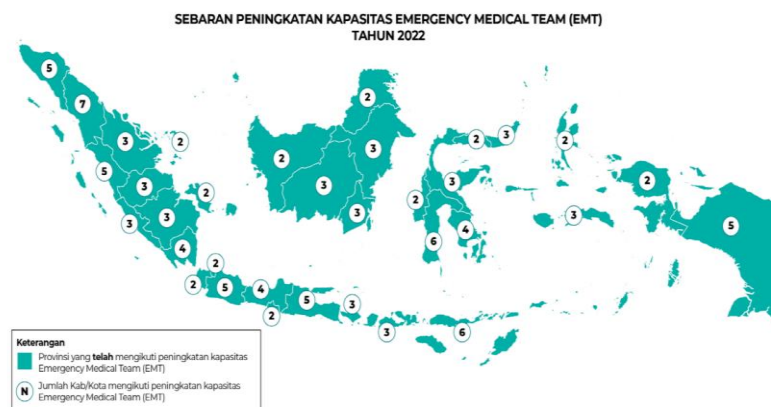
medical consultations, and digital communication platforms to facilitate coordination between response teams. The integration of information technology in the health system enables faster response, better coordination and more informed decision-making based on accurate data.

Community participation is also a key element in health crisis management. Local governments need to actively involve the community in health crisis preparedness and response efforts. Education and socialization to the community regarding crisis prevention and response measures, such as disease spread prevention measures, use of personal protective equipment, and evacuation procedures, are essential to increase community awareness and preparedness. In addition, community participation in simulation activities and preparedness drills also helps build community capacity in dealing with health crises.

Overall, capacity building of health workers by local governments is a very important step in dealing with health crises. Through the implementation of sophisticated information systems, comprehensive training, the establishment of professional response teams, efficient logistics management, preparedness simulations, careful contingency planning, and active community involvement, local governments can increase resilience and responsiveness in dealing with health emergencies. These efforts not only contribute to more effective crisis management, but also build a more resilient health system that is ready to face future challenges.

Based on the book "Health Crisis Management in 2022" published by the Ministry of Health of the Republic of Indonesia in 2023, the Health Crisis Center took strategic steps to increase capacity in responding to health crisis events. One of the efforts made is Emergency Medical Team (EMT) training. This EMT training aims to improve regional preparedness in dealing with disasters that have the potential to cause health crises. This training has been conducted in 34 provinces and 114 districts/cities throughout Indonesia.

Fig 4 Distribution of Emergency Medical Team (EMT) Capacity Building 2022



The hope is that the regions that receive this training will have EMT teams that are ready and able to mitigate and be prepared when a disaster with the potential for a health crisis occurs. Those who have participated in the Emergency Medical Team (EMT) training are as follows.

A. The success of health crisis management in local government

The success of health crisis management in local government is demonstrated by the existence of a health crisis management team. Health crisis management is a team formed to manage and address health crises that occur. The team consists of members from different agencies, including the Ministry of Health, Provincial Health Office, and community organizations. They have different roles in managing a health crisis, such as designing, preparing, and coordinating crisis mitigation policies and plans.

Health Crisis Management has several functions including designing and preparing crisis mitigation plans, coordinating crisis mitigation policies and plans, improving health preparedness and resilience, and conducting health pre-crisis and post-crisis activities. Based on the data above, it can be seen that in the second quarter, the achievement of the first activity

performance indicator, namely the number of provinces that have a Health Crisis Management Team in supporting health resilience (DHMT), has succeeded in reaching 8 provinces out of a target of 10 provinces or around 80%. Meanwhile, the second activity performance indicator, namely the percentage of health crises handled by districts / cities in 1 year, has succeeded in achieving 100% of districts / cities that have been handled in accordance with the target and in the third performance indicator, namely the percentage of integrated and trained Medical Emergency Teams in districts / cities in supporting health resilience, has reached 2 districts / cities or around 4.6%.

In the third quarter, the achievement of several indicators was not much different from the previous period. For the first activity performance indicator, the number of provinces that have Health Crisis Management Teams in supporting health resilience (DHMT) is 8 provinces from the target of 10 provinces or around 80%. Then in the second activity performance indicator, namely the percentage of health crises handled by districts / cities in 1 year, it is in accordance with the target, namely 100% of districts / cities that have been handled. Then in the third activity performance indicator, namely the percentage of integrated and trained Medical Emergency Teams in districts / cities in supporting health resilience, it has also succeeded in reaching 127 districts / cities from a target of 43 districts / cities or around 295%. This indicates that in the second quarter the third activity performance indicator has succeeded in achieving 25%, namely 129 districts / cities.

Whereas in the fourth quarter the first activity performance indicator has successfully achieved the achievement of 18 provinces from the target of 14 provinces or around 128% of the predetermined target. This indicates that the first activity performance indicator has succeeded in achieving the accumulated target of 34 provinces or around 100%. Meanwhile, the second activity performance indicator has succeeded in achieving 100% of the districts / cities that have been overcome. Then in the third activity performance indicator, the percentage of integrated and trained Medical Emergency Teams in districts / cities in supporting health resilience is 25% or 127 districts / cities, in accordance with the achievement of this indicator which was previously achieved in the second quarter.

Local governments, in their role of maintaining public health, are faced with various potential health crises. For this reason, a Health Crisis Management Team (TMKK) was formed to deal with various health crises. Based on data on the achievement of performance indicators, it appears that TMKK in various regions has shown good performance. This is evidenced by the high percentage of target achievement, even exceeding the target in several indicators. Performance Indicator 2, which shows the percentage of health crisis response by districts/cities, always reaches 100%. While efforts have been made to improve resilience and response to health crises in Indonesia, there are still a number of challenges that need to be faced and addressed. One of the main challenges is the low percentage of integrated and trained Emergency Medical Teams (EMS). This challenge must be taken seriously so that health crisis response can be optimized and effective. The low percentage of integrated and trained MFIs indicates that there are still gaps in the capacity of human resources tasked with handling health crises. Poorly trained teams may not have the necessary skills and knowledge to effectively respond to emergency situations. Therefore, improving the training and integration of MCH should be a top priority. A comprehensive and continuous training program is essential to ensure that all MTC members have the necessary skills in handling medical emergencies.

Periodic monitoring and evaluation of the achievements of the Health Crisis Management Team (TMKK) performance indicators is also necessary to ensure the effectiveness of the programs and policies implemented. Periodic evaluations allow local governments to measure the extent to which the programs that have been implemented have successfully achieved the set objectives. In addition, through evaluation, local governments can identify weaknesses and shortcomings in program implementation, and make necessary improvements.

The monitoring and evaluation process should involve collecting accurate and relevant data. This data can include the number and type of health crises handled, response time, success rate, and feedback from affected communities. Based on this data, an in-depth analysis can be conducted to identify factors that influence the achievement of performance indicators. These

factors may include aspects such as available resources, level of training and skills of health workers, and coordination between agencies.

Coordination between relevant agencies in TMKK also needs to be strengthened. Effective coordination between various government agencies, including health departments, social services, disaster services, and other relevant agencies, is essential to ensure a coordinated and efficient response to a health crisis (ELIZABETH, 2022). Without good coordination, crisis management efforts can be fragmented, which can result in a slow and ineffective response.

To improve coordination, it is necessary to establish a clear and structured coordination mechanism. This may include the establishment of a health crisis command center at the local level responsible for coordinating all crisis response efforts. This command center can serve as a focal point for communication, decision-making and coordination of resources. TMKK capacity also needs to be enhanced through training and simulation. Periodic training involving realistic crisis scenarios can help TMKK members develop the necessary skills and knowledge to handle different types of health crises. Simulations also allow TMKK members to practice in a safe and controlled environment, so they can better prepare for real emergency situations.

In addition to technical training, training in aspects of crisis management, such as logistics management, risk communication, and post-crisis recovery, is also important. This training can help TMKK members to have a holistic understanding of crisis management and improve their ability to manage complex situations. Adequate logistical support and financing are also important factors in successful health crisis management. Local governments must ensure that there are sufficient resources, including medicines, medical equipment, and other supplies needed to manage a health crisis. In addition, adequate budget allocations must be provided to support various programs and activities related to health crisis management. Good logistics management involves careful planning, efficient procurement, rapid distribution, and close monitoring of resource use. In crisis situations, rapid and timely response is essential to ensure that medical needs are met and the impact of the crisis is minimized. Public education and awareness on the importance of health crisis preparedness also needs to be improved. Communities should be provided with appropriate and easy-to-understand information on ways to prevent and respond to health crises. Education programs can include awareness campaigns through mass media, community outreach, and distribution of educational materials such as brochures and posters.

With increased public awareness, it is expected that they can actively participate in efforts to prevent and manage health crises. For example, people who understand the importance of vaccination will be more likely to comply with immunization programs, which can help prevent the spread of infectious diseases during a health crisis. To achieve all of this, continuous efforts and synergy from various parties are required. Local governments, relevant agencies, non-governmental organizations, the private sector, and communities must work together in harmony to build a resilient and crisis-ready health system. This collaboration is essential to ensure that all available resources can be optimally utilized and responses to crises can be carried out quickly and efficiently. Local governments must continue to innovate and look for new ways to improve resilience and response to health crises. This can include the application of information technology in crisis management systems, the development of online-based training programs, and the application of best practices from other regions that have been successful in handling health crises.

CONCLUSION

The health crisis in Indonesia is one of the main issues that local governments must face. This situation requires a rapid and effective response to protect the public and ensure the continuity of health services. In the face of health crises, local governments have taken various strategic steps to improve the resilience of the health system, including the establishment of Health Crisis Management Teams (TMKK) and capacity building of health workers. The Health Crisis Management Team (TMKK) is an important initiative that aims to coordinate responses to health crises in various regions. Based on performance indicator data, TMKK has performed well

in some regions, although there are still challenges to overcome. One of the main challenges is the low percentage of integrated and trained Emergency Medical Teams (EMS). This indicates the need for further efforts to ensure that all teams involved in health crisis management have adequate capacity and can work synergistically. To improve the effectiveness of health crisis management, regular monitoring and evaluation is crucial. By conducting continuous monitoring, local governments can identify weaknesses in the system and take necessary corrective measures. Evaluation also allows to measure the success of the programs that have been implemented and determine if there is a need for strategy modification.

Strengthening inter-agency coordination is also key in improving responses to health crises. Good coordination between the various parties involved, including government agencies, non-governmental organizations, and the private sector, is essential to ensure a coordinated and efficient response. Through strong coordination, various resources can be optimally utilized, and responses to crises can be carried out more quickly and effectively. Providing adequate logistics and financing is also an important component of health crisis management. Local governments must ensure that there are sufficient stocks of medicines, medical equipment and other resources to deal with crisis situations. In addition, adequate budget allocation is needed to support various programs and activities related to health crisis management. Public education and awareness are also important factors in increasing resilience to health crises. Communities should be provided with appropriate information on how to prevent and manage health crises. Education programs can include health awareness campaigns, emergency preparedness training, and distribution of easy-to-understand educational materials. With increased community awareness, they can actively participate in health crisis prevention and response efforts.

Synergy from various parties, including the government, non-governmental organizations, and communities, is crucial in building strong health resilience. Local governments cannot work alone in dealing with health crises; collaboration with various stakeholders is needed to ensure an effective response. Non-governmental organizations and the private sector can contribute by providing additional resources, technical support, and logistical assistance. Communities also play an important role in supporting government efforts by complying with health protocols and participating in preparedness programs. Overall, health crisis management efforts in Indonesia have shown positive results, but much work remains to be done to achieve optimal resilience. Regular monitoring and evaluation, strengthening coordination between agencies, increasing TMKK capacity, providing logistics and financing, as well as education and public awareness need to be carried out continuously. With synergy from various parties, Indonesia can build a resilient health system that is ready to face various potential health crises in the future.

Efforts to improve the capacity of health workers, particularly in terms of information systems and technology, also play an important role in the response to health crises. The Health Crisis Management Information System (SIPKK), for example, has helped in collecting, processing and disseminating information related to health crises quickly and accurately. With timely and accurate information, local governments can make better and faster decisions in responding to emergency situations. Rapid Health Assessment (RHA) is also an important tool in assessing health crisis situations and determining response needs. The rapid process of data collection and analysis allows local governments to quickly determine the severity of the crisis and take the necessary steps. The use of RHA as part of a health crisis response shows how important it is to have accurate data and rapid analysis in emergency situations. In addition, the establishment of the Emergency Medical Team (EMT) has increased the capacity for immediate response to casualties and injuries. EMTs consist of health workers trained in emergency situations and equipped with adequate medical equipment. The presence of EMTs is essential to provide a rapid and appropriate medical response, which can save lives and reduce the impact of injuries.

Future research should focus on evaluating the long-term impact of crisis management policies, exploring the role of artificial intelligence and big data in early warning systems, and assessing the effectiveness of public-private partnerships in managing health emergencies. By adopting evidence-based strategies and fostering synergy across various sectors, Indonesia can

develop a resilient, adaptive, and future-ready health crisis management system capable of mitigating the impacts of future health crises.

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