

Health Policy Reform through Strengthening Indonesia's Health Resilience System

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Abstract. The National Health System in Indonesia is developing and being discussed more seriously after entering the COVID-19 pandemic. With a national health system and several existing tools, Indonesia needed more time to be ready to face the challenges of that time. Upstream health policies should be optimized to mobilize resources and increase the nation's efforts to build a national resilience system. This paper was built using selected policy documents up-to-date and reliable literature. By reviewing empirical evidence, the author believes and shows the role of strengthening health policies in building a robust national health resilience system. Indonesia has several policies that have the potential to become a sub-system for national health resilience. The health resilience system is formed from the health system and health resilience components, which impact creating a Healthy Indonesia. Health system resilience can be seen from stable funding, good governance, flowing and integrated information systems, risk adaptation, adequate health workforce capacity, logistics, and robust health efforts. The interaction between the health system, health resilience, and the health resilience system formed is within the umbrella of health policy, the completeness of resilience policy, and the highest public health institutions. Strengthening the role of health policy in the formation of a health resilience system in a country is one proof of health policy reform. Health policy is no longer seen as the upstream side of health programs or efforts but as an essential side in functioning a system to create a healthy country. Reforming the national health system should followed by institutional reform of The Ministry of Health to become the Ministry of Public Health, and health policy reform by strengthening health resilience.

Keywords: Health Resilience System; National Health System; Health system; Health Policy; Health Reformation

Abstrak Sistem Kesehatan Nasional di Indonesia berkembang dan lebih serius dibahas setelah memasuki masa pandemi COVID-19. Dengan sistem kesehatan nasional dan sejumlah perangkat yang ada, Indonesia tidak siap menghadapi tantangan saat itu. Kebijakan kesehatan yang ada di hulu seharusnya mampu dioptimalkan untuk menggerakkan sumber daya dan meningkatkan upaya bangsa untuk membangun sistem ketahanan nasional. Paper ini dibangun dengan memanfaatkan dokumen kebijakan, literatur mutakhir dan dapat dipercaya secara terpilih. Dengan meninjau bukti empirik, penulis meyakini dan menunjukkan peran penguatan kebijakan kesehatan terhadap terbangunnya sistem ketahanan kesehatan nasional yang kuat. Indonesia memiliki sejumlah kebijakan yang berpotensi menjadi sub sistem ketahanan kesehatan nasional. Sistem ketahanan kesehatan terbentuk dari sistem kesehatan dan komponen ketahanan kesehatan yang berdampak pada terciptanya Indonesia Sehat. Sistem ketahanan kesehatan dapat dilihat dari pendanaan yang stabil, tata kelola yang baik, sistem informasi yang mengalir dan terintegrasi, adanya adaptasi risiko, kapasitas tenaga kesehatan yang memadai, kecukupan logistik dan upaya kesehatan yang tangguh. Interaksi antara sistem kesehatan, ketahanan kesehatan dan sistem ketahanan kesehatan yang terbentuk berada di dalam payung kebijakan kesehatan, kelengkapan kebijakan ketahanan serta kelembagaan tertinggi kesehatan masyarakat. Menguatnya peran kebijakan kesehatan yang berperan dalam terbentuknya sistem ketahanan kesehatan di suatu negara merupakan salah satu bukti terjadinya reformasi kebijakan kesehatan. Kebijakan kesehatan tidak lagi dipandang sebagai sisi hulu dari program atau upaya kesehatan melainkan sisi penting pada berjalannya sebuah sistem untuk menciptakan negara yang sehat. Reformasi sistem kesehatan nasional harus diikuti dengan reformasi kelembagaan Kementerian Kesehatan menjadi Kementerian Kesehatan Masyarakat, dan reformasi kebijakan kesehatan dengan memperkuat ketahanan kesehatan.

Kata Kunci: Sistem Ketahanan Kesehatan; Sistem kesehatan nasional; system kesehatan; kebijakan kesehatan; Reformasi Kesehatan

INTRODUCTION

Indonesia has been independent and has built its civilization for over 77 years. Even though development has come a long way, Indonesia continues to build, improve, and reformulate systems in all fields for better human development,

including the health system. Since its independence, this country finally had special regulations regarding the National Health System in 2012. The existing national health system still needs to cover national resilience, tested during the COVID-19 pandemic.

Many indicators have been successfully achieved in terms of health development, but others still need to be met. The achievements of health efforts can be seen, among other things, in the increase in life expectancy of the Indonesian people. (1) In 1950, the average life expectancy of Indonesians was 40 years, while in 2023, this figure will reach 72 years. (2) Besides, the rate of infant deaths has decreased from 62 out of every 1000 live births in 1990 to 26 out of every 1000 live births in 2012. Meanwhile, uneven access of the population to health services in various regions resulting in problems of communicable diseases, stunting, and malnutrition, continue to emerge. Maternal and newborn mortality rates are also still high (adding numbers). Victims falling due to natural or non-natural disasters are still high. The level of safety and security is low, the police are never free from criminal and civil cases. These all lead to weak health resilience. The possibility of restructuring the national health system needs to be reviewed starting from whether an adequate resilience system has supported the health system so it can carry out health development.

A state has the responsibility and obligation to protect and realize the urgent needs of its citizens, including health, so that its people can live in peace, security, health, and prosperity. If this is not fulfilled, then the opposite will happen. Public health resilience is not only a basic human need but also a mandate from God and His Messenger to be carried out by the state by formulating health policies set forth in a health system with public health resilience.

Health policy is one of the public policies that is part of the health system. Components of the health system include resources, organizational structure, management, other supports, and health services. (3) In general, the influence of the non-health sector affects health, such as health politics, health economics, digital health, telemedicine, and others. It means that health policy has not yet become public policy, even if it is said that the public means health experts, health workers, health consultants, and people experiencing illness. Warnings from the Creator of the universe through the events of disaster after disaster, epidemic after epidemic to global pandemics, hoped stakeholders will realize and understand so that they have transformed into health policy as public policy.

Policies of resilience in the decolonization of public health in countries that are members of the G20 are still dominated by liberalization leadership so that developing countries can also begin to overcome public health problems in their countries (4). The existence of the G20 Forum is a momentum for global health policies that need to

be followed up through strengthening balanced health resilience between developed and developing countries. The health technology and logistics market in coping with a global pandemic has seen many imbalances in coping with the COVID-19 disease. The forum that has produced the Bali Declaration for 2022 is awaited for concrete evidence through balanced cooperation to realize one health. Through balanced collaboration, global health decolonization efforts must be proven by controlling and eliminating non-global public health diseases.

Indonesia's health policy has been felt, and its function functions among health (policymakers and service providers). However, health policies have not been widely looked at and used by other sectors outside of health. This short article will examine the fundamentals and the main pillars that underlie the national health system with health policy reforms with a public health approach.

METHOD

This study uses a document and literature review approach. A search of an online database of commonly used health literature was conducted to identify relevant literature and reports for the last five years (2018-2022). Search terms included 'health security AND frameworks' and 'health security AND health systems'. However, the content and message of this paper is actually a justification from the author by paying attention to concepts related to health systems, health resilience, and health resilience systems and their relationship to each other.

RESULTS AND DISCUSSION

National Health System

The national health system, which is often penetrated by the inclusion of mobilization globalization, proves that there is no health resilience system. Strengthening is needed, starting from risk management, which maps Indonesia's condition to geographical vulnerability, globalization, proxy battles, etc.—then continuing with preparedness, response, and recovery policies in the national health system. The National Health System (SKN) is an umbrella for health management, organized by all components of the Indonesian nation in an integrated manner, and supports each other in shocks or normal conditions that ensure optimal health status is achieved.

SKN reform must begin and end by prioritizing human beings, beginning with human investment and ending with human dignity. By providing reinforcement in (5):

- a. Financing sub-system by strengthening the quality and quantity of Universal Health Coverage (UHC). This system will protect citizens from health threats, impoverishing health spending, and unexpected spikes in demand for health services.
- b. The sub-system of primary health care for the general public and attention to special health services for the elderly and vulnerable must be strengthened. COVID-19 and disasters present a dual threat to people with chronic conditions. Strong primary health services by maintaining continuity of health services to improve infection control, support, and protect health workers.
- c. Health workforce sub-system: During crises and shocks, adequate capacity of health personnel is prepared, including reserves of health personnel who are still in the health education stage. Health education faucets to be opened wider to prevent public health needs in both emergency and safe periods.
- d. Research and development sub-system with adequate health information system. The crisis has accelerated innovative digital solutions and the use of digital data, smartphone applications to monitor quarantines, robotic devices, and artificial intelligence to track the virus and predict where it will appear next. Likewise, access to telemedicine becomes easier across health and other sectors.
- e. The health logistics sub-system, including effective vaccines for successful population immunity, provides an exit strategy against the risk of massive transmission. The government must be good at lobbying developed countries to be able to produce and permit the distribution of pharmaceutical logistics and medical devices.
- f. Community empowerment sub-system in community development and organization to activate and enhance the Healthy Living Community Movement. Participation and participation of community groups in public health efforts at the community level, community-based by continuing to activate Integrated Service Posts, Integrated Development Posts, Alert Villages, healthy families and other community groups. The government also stimulates community empowerment through the participation of private health service providers, whether hospitals, clinics or other private health services in an effort to improve the quality and equity of health services.

g. The six sub-systems above are regulated, managed neatly and responsibly with a seriousness that does not just run or carry out the rules even because of orders from superiors. Running the health system begins with a holistic health policy so that all systems operate according to health development functions and targets.

Experience from the COVID-19 pandemic, health resilience, and disease control in Indonesia is still weak. Pandemic control has yet to be accompanied by fast and reliable surveillance testing and tracing capacity, which is still low due to limited human resource capacity, surveillance laboratory networks, and inadequate data management. The COVID-19 pandemic reminds us that the SKN that has been carried out so far has not run optimally and has yet to provide a clear direction for solutions to overcome the event of a pandemic. It is appropriate if the SKN needs to be reformed, it should start with a health policy that covers the health system.(6)

Health Resilience System

Indonesia's health resilience began in May 2005 when the 58th World Health Assembly (WHA) adopted the 2005 International Health Regulations (IHR), which took effect on June 15, 2007, for all member countries, including Indonesia. Its goals and scope are to prevent, protect, control, and respond to public health emergencies related to global threats to disease, nuclear radio, chemical agents, and food safety. Each member country is mandated by IHR (2005) to develop core capacities in anticipation of national and global health resilience.(7) Unfortunately, it has not yet been continued towards a health policy for health resilience. These three health resilience financing instruments are generally related to prevention, detection, response, recovery, and sustainability. In the end, it was only realized that there was a policy gap that required supporting regulations in the form of Ministerial regulations and higher strengthening regulations equivalent to Government Regulations, such as Government Regulations on Food Security and Nutrition. Harmonization is also needed with Government Regulations; The Health Law must be revised to address the health security issue. It is also necessary to develop a national resilience index.

The proposal for the G20 Forum for the Health Sector of the G20 Presidency is in the form of 3 pillars of strengthening the global health architecture, namely building global health system resilience, harmonization of global health protocol standards, and expanding global manufacturing and research center for pandemic prevention,

preparedness and response.(8) Health systems resilience can be defined as the capacity of individuals, institutions and populations to prepare for and respond effectively to crises; maintaining core functions when a crisis hits; and on the basis of lessons learned during the crisis rearrangements are made if conditions require it.(9)

Health resilience systems at all stages by preparing preventive capacity, surveillance detection capacity, response capacity, and recovery capacity. In health financing, a health resilience system requires a stable funding capacity ranging from prevention to recovery in the event of any shock .(10) At a minimum, health financing is following their capacity. People who want to live a healthy life will have low-cost public health efforts, and people who live a lifestyle that is bad for health will have the opportunity to have high costs. Therefore, the state must be present to create financial resilience by regulating and directing healthy living efforts from all sectors of life. Healthy living funding is budgeted and allocated from households to institutional ministries by minimizing the risk of illness. The state only subsidizes poor people who want to live healthily, while also giving appreciation to healthy villages to cities and regencies.

The health resilience system will strengthen the national health system by strengthening existing capacities by reducing vulnerabilities and increasing choices of solutions while opening up many opportunities so that governance is good; information systems are always functioning, can adapt to various risks, the ability of health workers is sufficient, logistics is fulfilled and have strong health efforts.(11) Results that prove that a country's national health system is already resilient or not. If there is a shock or pressure, the resilience system will test its vulnerability or capacity. If the result is a stronger transformation or a better recovery, the health system has resilience. Conversely, if the results recover but are weaker than before or a collapse occurs, the health system does not yet have resilience, as explained in Figure 1.(12)

The global pandemic has provided a powerful reminder to learn from unpleasant experiences for valuable lessons about health system preparedness and resilience.

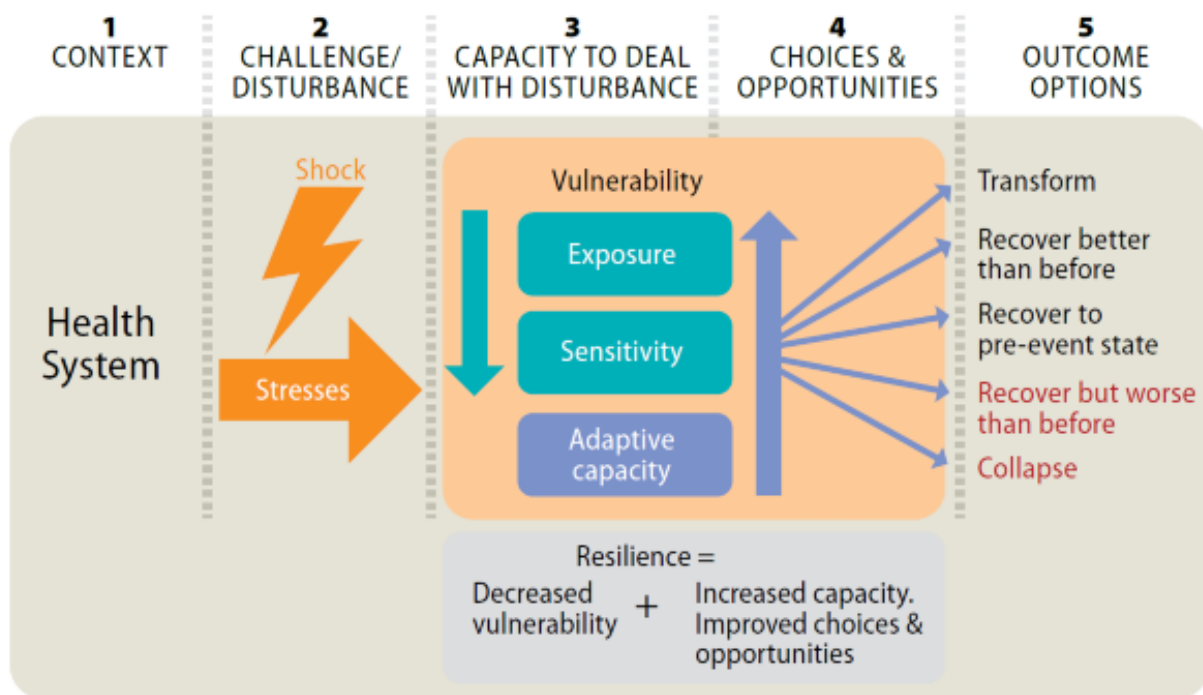
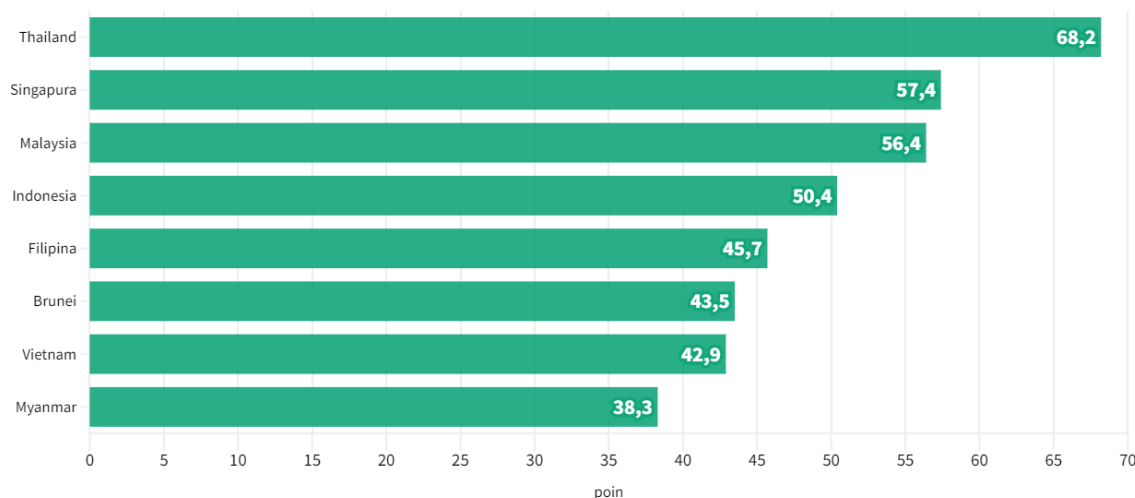


Figure 1. Health Systems with Resilient Capacity (13)

The existence of a country's health resilience has an influence on the health system's resilience as well as making the health resilience system. Thailand is a country with the highest resilience index in Southeast Asia. With many indicators

developed to measure the health system resilience of Southeast Asian countries, Thailand has the highest health system security score of 68.2 out of 100, as shown in Figure 2 (14)



Source: Nuclear Initiative (NTI), Johns Hopkins Center for Healty Security

Figure 2. Global Resilience Index in Southeast Asian Countries

After being investigated and withdrawn, it turns out that Thailand has a pretty good health policy, starting with the highest health institution in the form of the Ministry of Public Health. Health financing is good through Universal Health Coverage. Universal Health Coverage is key to the successful management of the COVID-19 health crisis in Thailand.(15) UHC's important role in strengthening Thailand's health resilience during a global pandemic. UHC is one of the fundamental keys to successfully providing a timely response to COVID-19 and other related essential health services without discrimination in helping Thai people access their health services. Residents can access free Coronavirus inspection, testing, treatment, and quarantine. During the pandemic, Thailand has learned important lessons, including that COVID-19 has proven UHC's benefits, making the national health system solid and resilient. UHC responds to an effective emergency response during a public health crisis. Thus, UHC is the key to increasing global health resilience and realizing sustainable health development.(16)

Health Policy Reform

A country's health sovereignty is achieved and felt if every citizen has the right and health resilience independently and sustainably and obtains affordable and stable health services, especially in crises or shocks. As citizens sometimes feel that the policy has not provided equal prosperity and welfare for the population, this is undoubtedly a consideration for formulating a health policy. If there is a discrepancy, there is nothing wrong for us to make corrections together, and it is not a step backward.

Health policy should be a public policy that constantly experiences dynamics and developments from policy formulation, implementation, and evaluation. Along with the increasingly complex and dynamic development of health problems, it is necessary to carry out health policy reforms to determine better policies. In sustainable health development, it is necessary to carry out policy reforms from its foundation by taking lessons from resilience and the national health system, as explained in Figure 3.

HEALTH POLICY REFORM

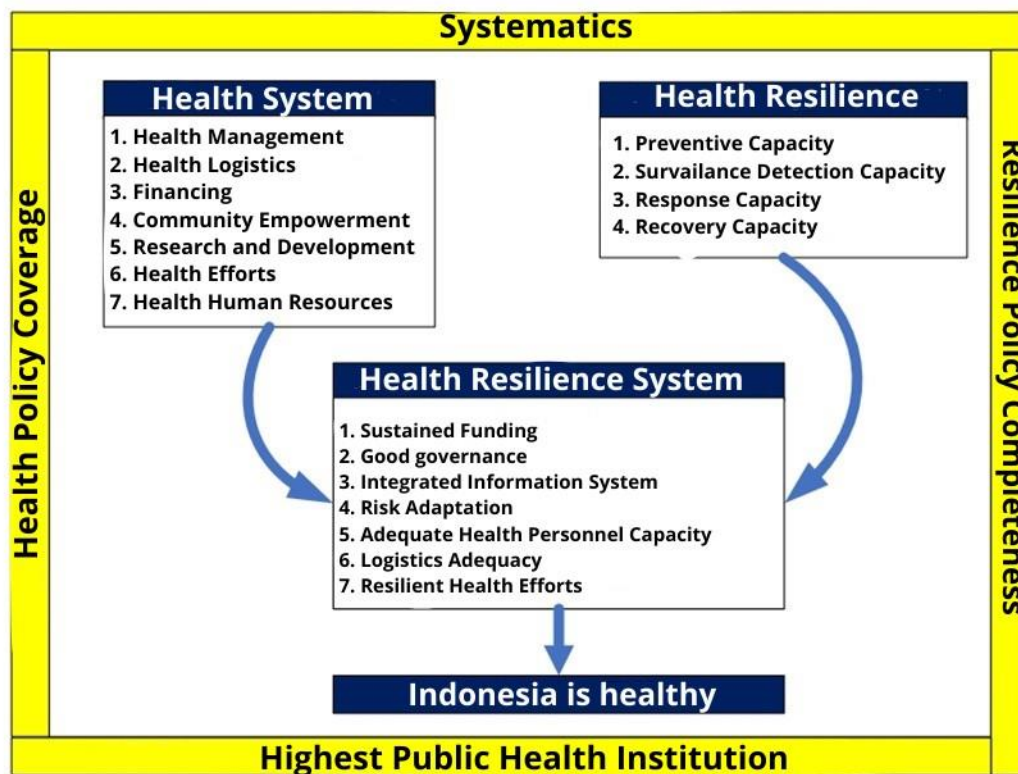


Figure 3. Policy Reform through Strengthening Indonesia's Health Resilience System

From the experience of pandemic shocks and disasters that often occur in Indonesia, there are four health policy reform efforts through strengthening Indonesia's health resilience system, namely:

1. The systematics of health policy in Indonesia, which was initially born without planning, with preparation planning by the strategic plan to build the state's vision of building a healthy Indonesia. Health policies seem less responsive if a disease emerges and develops, such as a health policy made after an incident with a health problem. Reform begins with the systematics of health policy, starting from the general/generalist and strategic as a framework for health development, and the next stage is to fill in and assemble it with specific policies. National health system policy should be the body of health development.

In policy reform on policy systematics, it is necessary to follow the principles of regulation in the preparation of policies (17):

- a. The principle of *Lex superior derogat legi inferiori*; Lower rules may not conflict with higher rules. Thus, the higher regulations will override the lower regulations. This principle

applies to two or more hierarchically unequal regulations that contradict each other.

- b. Principle of *Lex Specialis Derogat Legi Generali*; More specific rules override more general rules. This applies to 2 or more regulations that are hierarchically equal and regulate the same material.

- c. Principle of *Lex Posterior Derogat Legi Priori*; The new regulations override the old regulations. This principle aims to prevent legal uncertainty that may arise when two or more regulations are of equal hierarchical level.

It is hoped that the locomotive for health policy reform in the early stages of health policy systematics following the principles above will be carried out first, so that it will facilitate the next stage.

2. The highest institution of public health:

After the systematics of health policy was organized, the next reform was to carry out the policy by making the Ministry of Public Health advance the country's health through public health milestones. The vision of a healthy Indonesia has been in the cabinet of the

Indonesian government for a long time, but until now there has been no implementation of a Healthy Indonesia like in countries that have implemented the Ministry of Public Health to achieve a healthy state and a strong nation. For example, what happened in Qatar, where from 20 November to 18 December 2022 the World Cup took place, making one health momentum through the sport of football by providing 3 pillars (18):

a. Health promotion – through strategic collaboration with government and sports stakeholders, reaching billions of people, through football and other sports, with actions to promote healthy living, with a focus on physical activity, healthy diet, tobacco control and mental health.

b. Health resilience – putting safety and security at the center of all major sporting events for the benefit of fans, players and staff.

c. Health communication – spreading impactful messages and campaigns to people to help them be healthy and safe.

Health policy coverage

This reform is no less important in determining what policy and which will become the umbrella for health policy. Now it's still confusing which one is the umbrella for Indonesia's health policy? Is it Law No. 36/2009 concerning health or Presidential Regulation No. 72 of 2012 concerning the National Health System?. If it is the Health Law, the regulation is not yet a system that unites all health components. If Presidential Regulation No. 72 of 2012 concerning the National Health System is the umbrella for health policy, why is the layout in a lower regulation than the law? This is where the initial policy systematics must be reformed. In our view, there are two ways: first, to make a law on the National Health System as soon as possible while at the same time arranging the order and map of the national health policy based on health resilience. Second, by making an omnibus health law policy that corrects wrong policies and continues health policies that are already appropriate. For specific policies such as the practice of medicine, nursing, mental health, midwifery, etc., follow the systematics and umbrella of the national development system in national health development.

If the health policy umbrella is clear, existing health policies can be harmonized based on a precise sequence and systematic regulation.

Policy streamlining can start from urgent or cito elective for national health development.

Complete resilience policy

No Indonesian health resilience policy has a firm health resilience policy. None of them have been able to support efforts to realize solid national health resilience. The existing health policy has yet to become a robust national health system. It has only become a health service provider.

A health policy that complements it with public health resilience will be able to provide welfare that results in declining disease trends and even disappearing. If a severe disturbance happens, it will be resolved immediately and does not result in shock, let alone shut down; it can mobilize existing resources, protect the community and the environment, and demand that in public health efforts.

From the 1945 Constitution, there is an unfinished state obligation to protect its citizens by maintaining their health so that they become citizens who are healthy, productive and independent, happy. For this reason, the state is obliged to protect it by strengthening existing health policies with public health resilience that characterizes the resilience of the Indonesian nation.

CONCLUSION

The health resilience system is formed from the health and health resilience components that impact creating a Healthy Indonesia. Health system resilience can be seen from stable funding, good governance, flowing and integrated information systems, risk adaptation, adequate health workforce capacity, logistics, and robust health efforts. The interaction between the health system, health resilience, and the health resilience system formed is within the umbrella of health policy, the completeness of resilience policy, and the highest public health institutions. Strengthening the role of health policy in the formation of a health resilience system in a country is one proof of health policy reform. It is because health policy is no longer seen as the upstream side of health programs or efforts but rather as an essential side in functioning a system to create a healthy country.

The public health emergency turned into a global crisis, which is now under control, has prompted all countries to reform their national health systems by strengthening resilience for public health transformation. Reforming the national health system alone is not enough if it is not based on policy reforms, including systematic health policy

reform, institutional reform of The Ministry of Health to become the Ministry of Public Health, and health policy reform by strengthening health resilience.

RECOMMENDATIONS

For Indonesia, as a member of the International Cooperation forum, this momentum is immediately pro-active to prevent the national health system's powerlessness from repeating in the face of unexpected severe shocks by prioritizing the wisdom and independence of the Indonesian nation.

REFERENCES

- (1) In terms of health development, many indicators have been successfully achieved but others have not been met. The achievements of health efforts can be seen, among other things, in the increase in life expectancy of the Indonesian people. (Asia Pacific Observatory on Health Systems and Policies, 2017)
- (2) Anniversary WHO ke-75, Menkes Budi Sebut Banyak Kontribusinya untuk Indonesia [Internet]. Sehat Negeriku. 2023 [cited 2023 Sep 29]. Available from: <https://sehatnegeriku.kemkes.go.id/baca/rilis-media/20230321/5042609/anniversary-who-ke-75-menkes-budi-sebut-banyak-kontribusinya-untuk-indonesia/>
- (3) Cassels A. Health sector reform: Key issues in less developed countries. *Journal of International Development*. 1995 May;7(3):329–47.
- (4) Paris. Mengawal Kepemimpinan Strategis Indonesia dalam Dekolonisasi Kesehatan Global - Universitas Gadjah Mada [Internet]. 2022 [cited 2023 Sep 29]. Available from: <https://ugm.ac.id/id/berita/23017-mengawal-kepemimpinan-strategis-indonesia-dalam-dekolonisasi-kesehatan-global>
- (5) Buku Putih. Reformasi Sistem Kesehatan Nasional. Direktorat Kesehatan dan Gizi Masyarakat, Kedepatian Pembangunan Manusia, Masyarakat, dan Kebudayaan, Kementerian PPN/Bappenas, 2022 https://perpustakaan.bappenas.go.id/e-library/file_upload/koleksi/migrasi-data-publikasi/file/Policy_Paper/Buku%20Putih%20Reformasi%20SKN.pdf
- (6) World Economic Forum. How to build a better health system: 8 expert essays [Internet]. World Economic Forum. 2020. Available from: <https://www.weforum.org/agenda/2020/10/how-to-build-a-better-health-system/>
- (7) Pusat Analisis Determinan Kesehatan. Kemenkes. Analisis Pembiayaan Ketahanan Kesehatan, 2019
- (8) Saksono, Dante. Indonesia and G20 Presidency: Health Working Group Priority Issues and Progress, 2022
- (9) Kruk ME, Myers M, Varpilah ST, Dahn BT. What is a resilient health system? Lessons from Ebola. *The Lancet*. 2015 May;385(9980):1910–2. <https://www.thelancet.com/action/showPdf?pii=S0140-6736%2815%2960755-3>
- (10) World Economic Forum. How to build a better health system: 8 expert essays [Internet]. World Economic Forum. 2020. Available from: <https://www.weforum.org/agenda/2020/10/how-to-build-a-better-health-system/>
- (11) Olu, OLushayo, 2017. Resilient Health System as Conceptual Framework for Strengthening public Health Disaster Risk Management: An African Viewpoint. WHO, Kigali Rwanda
- (12) European Commission. communication from the commission On effective, accessible and resilient health systems, 2014
- (13) Strengthening Health Resilience to Climate Change [Internet]. [cited 2023 Sep 29]. Available from: https://www.who.int/docs/default-source/climate-change/technical-briefing---health-resilience-to-climate-change.pdf?sfvrsn=b0772759_1&download=true#:~:text=An%20essential%20step%20in%20building
- (14) M Ivan Mahdi. Ketahanan Kesehatan Indonesia Peringkat 4 di Asean pada 2021 [Internet]. DataIndonesia.id. dataIndonesia; 2022. Available from: <https://dataIndonesia.id/ragam/detail/ketahanan-kesehatan-indonesia-peringkat-4-di-asean-pada-2021>
- (15) Paris. Empowering Communities & Strengthening Resilience [Internet]. Thailand: Asian Disaster Preparedness Center; 2015 [cited 2023 Sep 29]. Available from: http://www.adpc.net/igo/category/ID927/doc/2015-cGw3AM-ADPC-ADPC_Empowering_communities_Thailand.pdf
- (16) National Health Security Office. UHC increases Thailand' health resilience [Internet]. 2020 [cited 2023 Sep 29]. Available from: <https://eng.nhso.go.th/view/1/DescriptionNews/UHC-increases-Thailand-health-resilience/221/EN-US>
- (17) Prinsip “lex superior derogat legi inferiori” harus digunakan, Seluruh Peraturan Daerah (Perda) Harus tunduk pada KUHP [Internet]. ICJR. 2015 [cited 2023 Sep 29]. Available

from: <https://icjr.or.id/prinsip-lex-superior-derogat-legi-inferiori-harus-digunakan-seluruh-peraturan-daerah-perda-harus-tunduk-pada-kuhp/>

- (18) Qatar rated among “World’s Best” in Health Care System: Numbeo Index 2021 [Internet]. Qatar Day. [cited 2023 Sep 29]. Available from: <http://archive.qatarday.com/news/local/qatar-rated-among-worlds-best-in-health-care-system-numbeo-index-2021/82804>