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Strengthening Global Health Security: A Review of Lessons Learnt from Indonesia's COVID-19 Response

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ABSTRACT The COVID-19 pandemic has revealed how poorly prepared the world is for a pandemic and how easily viruses spread in our interconnected world. The response to COVID-19 in Indonesia has been hampered by a surge in infection and re-infection cases, an ill prepared of healthcare system, low booster vaccination coverage, the emerging of new sub variant, inconsistent implementation of public health measures, and communication barriers. Nevertheless, as infectious disease outbreaks become more frequent, it is hoped that national health security resources will be identified and strengthened. This will enable the nation to keep pace with spreading diseases and become more resilient to future threats. COVID-19 exposes strengths and weaknesses while also creating threats and opportunities. An analysis of the COVID-19 pandemic strategy was conducted using SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis based on Indonesia's experience with the response and countermeasures to COVID-19. The objective of this study is to analyse all the factors involved in the COVID-19 pandemic response so that lessons can be learned towards an effective public health emergency response. The results highlighted strengths, identified weaknesses, and provided recommendations for the future. This would be useful in responding to current threats to global health security and preparing for future ones.

INDEX TERMS COVID-19; Indonesia; global health security; SWOT analysis; pandemic.

I. INTRODUCTION

The world has been ill-equipped, unprepared, and unanticipated in the face of the COVID-19 pandemic as a public health crisis. As a result, a social, economic, and political crisis has developed. Indonesia is no exception, as are other nations around the world. Indonesia's response underwent a dynamic change during the crisis. COVID-19 was first detected in Indonesia on March 2, 2020, and the President declared a health emergency on March 31, 2020. ⁽¹⁾ An Indonesian government-led campaign, including social restrictions, prevented the worst scenarios of the COVID-19 pandemic during the second wave in 2021. Following significant restrictions on public health, social and economic restrictions are gradually lifted step by step.

Expert interviews, an online focus group discussion and a literature review, were conducted to assess Indonesia's preparedness and response strategies strengths, weaknesses, opportunities, and threats (SWOT). In China, India, Iran, Italy, Japan, Morocco, and the UAE, a SWOT analysis provides a comprehensive overview of the public health response to COVID-19. ⁽²⁻⁸⁾ Detailed SWOT analyses of strategic responses in Indonesia are presented, with main highlights in each category. It is helpful to use the analysis

results to provide a constructive critical analysis of the current potency, problems, and strategies during the COVID-19 pandemic in Indonesia and draw lessons from the situation. This study identified the following research gaps, which distinguish it from previous studies on Indonesia's COVID-19 response: This study uses the SWOT framework to qualitatively analyze Indonesia's COVID-19 response based on its strengths, weaknesses, opportunities, and threats. As a result, internal and external factors can be considered, and areas for improvement can be identified.

A focus on strengthening global health security: This study examines Indonesia's COVID-19 response concerning the broader concept of global health security. Indonesia's response to global health security is compared to global health security principles and strategies, and insights are provided regarding how Indonesia's efforts can contribute to global health security.

The study focuses on identifying lessons from the identified research gaps rather than simply describing Indonesia's response to COVID-19. Intending to guide policy and decision-making processes for future pandemic responses, it identifies opportunities for improvement and

provides recommendations to address weaknesses and threats.

This study incorporates qualitative perspectives through the SWOT framework, allowing for a deeper and more nuanced examination of Indonesia's COVID-19 response. The study considers factors such as governance, coordination, community engagement, and socio-economic challenges, which are not captured by quantitative studies. By providing a comprehensive analysis of Indonesia's COVID-19 response, specifically in the context of global health security, this study adds value to previous research. It provides valuable insights for policymakers, researchers, and practitioners in global health security and pandemic response, highlighting lessons learned and incorporating qualitative perspectives.

II. ANALYSIS OF STRENGTHS

The successful response of Indonesia to the COVID-19 pandemic demonstrates the country's main strengths. To begin with, the Indonesian government learned from its first year of pandemic response and amplified public health measures immediately to decrease, contain, and prevent COVID-19. Efforts by the Indonesian government to implement public health and social restrictions followed by gradual relaxations helped slow the spread of COVID-19 in Indonesia. Furthermore, Indonesia was among the first developing country to receive COVID-19 vaccines due to its early response to vaccine diplomacy. Additionally, the government has utilised existing public infrastructure such as schools, community centres, offices, motels and buildings not used as isolation wards or quarantine centres. As a fourth point, the Indonesian tradition recognises that mutual assistance (*gotong-royong*) plays an essential role in community resilience through sharing burdens. Aside from that, the enthusiasm, motivation, and sacrifice of the health workforce, volunteers, and community were inspiring.

A. ANALYSIS OF WEAKNESSES

COVID-19 exposed more weaknesses than strengths in Indonesia's health system. In the beginning, the issue was risk communication. While a daily press briefing was broadcast on national television channels as soon as the first case was announced, the risk communication strategy was ineffective. In the absence of communication between line ministries and leaders, directions to subnational levels can be more confusing. Despite more proactive leadership and transparent initiatives in the second and third years of the pandemic, leadership and governance are still significant challenges at the national and sub-national levels. Another weakness is the lack of public health infrastructure, especially in rural areas and outside Java-Bali. Despite government efforts to add health infrastructure, it has not expanded fast enough to keep up with demand. During the pandemic, it was evident that urban slums and rural areas lacked adequate primary healthcare facilities and a workforce. There were also many inequities as far as availability, accessibility, and affordability of services were concerned. Another weakness is the intervention strategy

that emphasises curing rather than preventing and detecting early. The government has prioritised COVID-19 in dealing with the crisis since it was released in January 2021. ⁽⁹⁾ As a result, people believe it is the only solution to the pandemic. Additionally, the euphoria of the vaccination program led to the abandonment of public health measures, resulting in another surge in cases.

Human resources are another weakness of the crisis, as is poor supply chain management and health relief. As a result of this pandemic, there was an urgent need for a dedicated health workforce. However, relatively inadequate primary and secondary healthcare infrastructure and staffing in many areas resulted in overburdened healthcare workers. The inequitable distribution of health facilities and a lack of specialists and services in health facilities exacerbated the problem. As the calamity progressed, oxygen, medicines, diagnostic kits, relief materials, and personal protective equipment became increasingly critical. Lastly, social media simultaneously circulated rumours and misinformation, creating a fear pandemic. Untrusted sources of information have spread fake news and misinformation in society, causing despair and fear. In the early stages of the pandemic, only a few experts in public health and epidemiology were involved. Due to this, the infodemic spread rapidly without adequate countermeasures. Self-proclaimed health experts on social media have created more fear and panic.

B. ANALYSIS OF OPPORTUNITY

There are several signals concerning the opportunity aspect. First, public health programs are now getting the attention they deserve. As a result, the government can increase investment in the health sector and integrate health into all policy frameworks. In addition, the community also became more aware of basic personal hygiene practices such as handwashing, social distancing, and personal protection. Therefore, this crisis has improved other critical environmental health issues, such as pollution, sanitation, and preventing open defecation. Also, the pandemic is an excellent opportunity to raise public awareness about other communicable diseases that still pose a public health problem in Indonesia. These diseases include tuberculosis, malaria, HIV and AIDS, and non-communicable diseases. Second, Indonesia's young population and its status as an archipelago country influence mobilisation significantly. An archipelago's seas act as natural barriers to separate its islands. As well, the young have an advantage when it comes to immunity and recovery from infection. COVID-19 also provides an opportunity to strengthen international, national and local cooperation among development partners, non-governmental organisations, professional organisations and public and private institutions to develop plans for emergency preparedness and response as well as standard operating procedures and policies in case of potential pandemics in the future. Additionally, healthcare providers and the health workforce can be trained appropriately, primary healthcare facilities can be strengthened, and public health facilities can be upgraded. Indonesia should also take

an active role in pushing global cooperation in managing the global health crisis as a global citizen.

C. ANALYSIS OF THREATS

Monitoring and managing other public health threats is critical to achieving sustainable progress in pandemic management. COVID-19 poses the first threat to the health system if the nation treats it solely as a public health problem, neglecting other public health issues and creating new ones. Researchers have found increased non-communicable diseases and mental health problems during the COVID-19 pandemic because of people's inactivity and staying at home. As a result of paying less attention to non-COVID patients and neglecting their health needs, the health system will again be burdened more. Further, Indonesia should maintain its surveillance and disease control program throughout the country as the hot spot for emerging and re-emerging diseases.⁽¹⁰⁾ Second, a multidimensional crisis occurs when the nation fails to address any social determinants of health in order to prevent their detrimental effects on the economy and overall growth. The COVID-19 pandemic is a multi-sectoral crisis that requires multi-sectoral and global collaboration, and all sectors are essential to the country's overall socioeconomic development. A third threat is the emergence of a new super variant of COVID-19, which is resistant to treatment and immune escape. It is important to detect emerging variants early, to have a high vaccination coverage, and to conduct genomic surveillance. Additionally, the slower countries vaccinate the most at-risk population, the more variants will emerge.

For Indonesian health security issues, geographical distribution is an influential factor. Indonesia is home to many factors contributing to disease emergence and rapid spread. Geographically, Indonesia is located in the central part of the world, characterised by a high humidity level, which contributes to the occurrence of vector-borne diseases like malaria and dengue fever. In Indonesia, people often interact with animals, particularly livestock, making it a hotspot for emerging infectious diseases.

Most (75%) of EIDs are zoonotic, which means focusing on the human-animal interface, strengthening cross-departmental capacities, and coordinating ministries to combat zoonotic diseases.⁽¹¹⁾ In order to control zoonotic diseases, multi-sectoral strategies are encouraged as part of the global "One Health" approach. One health provides a systematic approach to understanding the big umbrella of disease. An interdisciplinary approach allows the organisation to provide continuous technical assistance to support sustainable early detection of infectious diseases.

The COVID-19 crisis has also been characterised by the rapid pandemic spread, which requires rapid decisions. The emergence of local and partial solutions is significant since the COVID-19 crisis impacts all sectors of society, including the medical, financial, transportation, manufacturing, and overall economic systems. Therefore, the community needs fast and innovative solutions to mitigate the consequences of the crisis as much as possible. Time pressure favours local and partial solutions, but also strong coordination among

actors to avoid contradictory strategies. It calls for an agile approach to the global COVID-19 crisis to favour the emergence of bottom-up grassroots actions while, at the same time, ensuring top-down monitoring and coordination of such activities with short feedback loops.

III. DISCUSSION AND RECOMMENDATIONS

COVID-19 has incurred enormous human, social, and economic costs and claimed millions of people's lives. The pandemic has placed a tremendous strain on healthcare services, which were already overburdened before the outbreak. During a large outbreak, the health system may become overwhelmed, limiting its ability to provide routine health care and compounding the problem. Besides causing shocks to the health sector, epidemics force the sick and their caregivers to miss work or perform poorly, leading to a decline in productivity. As a result of the containment effort, schools, enterprises, commercial establishments, transportation, and public services can be closed, which disrupts economic activity and other socially valuable activities.

The main lesson learned is that national capacity needs to be strengthened to prepare for and respond to possible public health emergencies. To accomplish this, the health system must be overhauled, including developing innovative tools to ensure the continuity of disease prevention and control activities. Furthermore, health crises are more than just a health system's responsibility; intersectoral collaboration is critical to an optimal coordinated response.

As a result of the COVID-19 crisis, every region of a country is likely to be affected differently. The strength of the nation's resources before the pandemic may not be the same during the recovery phase. In addition, the strengths that made the nation prosperous and thriving in the past may differ from those that will help it recover post-pandemic. Meanwhile, it is inevitable that weaknesses will change and, unfortunately, sometimes expand during a crisis. It is essential to recognise that there are opportunities in every crisis.

Vaccines have raised hopes of ending pandemics within the next few months or years. There have been some encouraging signs of emerging systemic changes due to the pandemic, including advances in digital healthcare delivery and better care integration. Vaccines for COVID-19 need to be accessible to all, and the virus needs to be contained and mitigated. But, investing adequately in primary care, health promotion, and disease prevention is also essential to make health systems more robust and resilient.

INDONESIA'S RESPONSE TO COVID-19 COULD CONTRIBUTE TO PREVIOUS RESEARCH IN GLOBAL HEALTH SECURITY.

The COVID-19 pandemic has highlighted the importance of effective governance in managing health emergencies. Several lessons can be learned from Indonesia, including the importance of strong leadership, clear communication, and coordination among the various levels of government. In addition, Indonesia's response to COVID-19 may have

demonstrated the importance of addressing bureaucratic barriers, inter-agency coordination, and policy implementation challenges. As a result of these governance factors, it is possible to allocate resources efficiently, implement preventive measures, and coordinate response efforts to health emergencies, changing the outcome of global health security. Coordinating responses to health emergencies is crucial. The practical and efficient response to health emergencies can contribute to preventing and mitigating disease spread and global health security threats. Indonesia's COVID-19 response illustrates the importance of coordination between government agencies, healthcare institutions, and international partners. As part of this process, communication channels could be streamlined, data and information could be shared, and response strategies could be aligned. Engaging the community is essential to addressing health emergencies. It is important to engage communities, build trust, and promote community-led responses as lessons learned from Indonesia's response to COVID-19. Community involvement could be achieved by raising awareness, educating communities about prevention measures, and involving them in decision-making. Engagement of community members can improve compliance with public health measures, improve health-seeking behaviours, and increase community resilience, which are vital for global health security preparedness and response.

Socioeconomic challenges can significantly impact a health emergency. Among the lessons learned from Indonesia's COVID-19 response are issues related to healthcare access, economic disparities, and social determinants of health. It may involve strengthening healthcare systems, ensuring equitable access to healthcare services, and addressing socioeconomic inequalities. Global health security requires addressing socioeconomic challenges and mitigating their impact on vulnerable populations to address health emergencies comprehensively.

By analysing these factors in Indonesia's COVID-19 response, this study could provide insight into non-quantitative lessons learned that quantitative studies on global health security have yet to capture. Health emergencies are complex and multifaceted, and these arguments can contribute to understanding future strategies for global health security preparedness and response.

This type of study may be limited by the following factors: This study may have a limited scope and may not capture the full complexity and diversity of Indonesia's COVID-19 response. Different regions or communities within Indonesia may have different contextual differences and nuances that are not considered. COVID-19 pandemic is a rapidly evolving situation, and lessons learned from Indonesia's response may not apply or be relevant in the future. A new development may impact the study's findings, and the situation may change. As Indonesia's COVID-19 response may have unique characteristics, resources, and challenges, the findings of this type of study may not be directly applicable to other contexts or countries.

It is important to consider these potential limitations when interpreting the results of such a study and to use them as a basis for future research. Researchers have also used rigorous research methods to overcome its limitations, included diverse perspectives, and ensured transparency when reporting their findings to enhance their validity and reliability.

IV. CONCLUSION

The COVID-19 pandemic proved to be a test for the Indonesian public health system and other sectors. A pandemic like COVID-19 has exposed both strengths and weaknesses. A public health crisis like COVID-19 calls for a retrospective analysis of health capacity and other health-related factors. This study aims to provide a constructive critical analysis of Indonesia's current potency, problems, and strategies during the COVID-19 pandemic and draw lessons from it. As the world has learned from frequent epidemics during the past few years, infectious diseases have no boundaries. Therefore, our efforts to stop the current pandemic and be better prepared to respond to future global health crises must also transcend national borders. With the knowledge gained from these experiences, Indonesia and the world will be better prepared to deal with future global health security threats.

REFERENCES

- [1.] COVID-19 developments in Indonesia [Internet]. AHK Indonesien. [cited 2021 Nov 25]. Available from: <https://indonesien.ahk.de/en/infocenter/news/news-details/covid-19-developments-in-indonesia>
- [2.] Wang J, Wang Z. Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis of China's Prevention and Control Strategy for the COVID-19 Epidemic. *Int J Environ Res Public Health* [Internet]. 2020 Jan [cited 2021 Nov 23];17(7):2235. Available from: <https://www.mdpi.com/1660-4601/17/7/2235>
- [3.] Shimizu K. A SWOT Analysis of the Guidelines on Prevention of HIV/AIDS in Japan in the Context of COVID-19. *Infect Dis Rep* [Internet]. 2021 Dec [cited 2021 Nov 23];13(4):949–56. Available from: <https://www.mdpi.com/2036-7449/13/4/87>
- [4.] Thakur H. A Strengths, Weaknesses, Opportunities, and Threats Analysis of Public Health in India in the Context of COVID-19 Pandemic. *Indian J Community Med Off Publ Indian Assoc Prev Soc Med* [Internet]. 2021 [cited 2021 Nov 23];46(1):1–3. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8117898/>
- [5.] Barkia A, Laamrani H, Belalia A, Benmamoun A, Khader Y. Morocco's National Response to the COVID-19 Pandemic: Public Health Challenges and Lessons Learned. *JMIR Public Health Surveill* [Internet]. 2021 Sep 17 [cited 2021 Nov 23];7(9):e31930. Available from: <https://publichealth.jmir.org/2021/9/e31930>
- [6.] Abbas Zaher W, Ahamed F, Ganesan S, Warren K, Koshy A. COVID-19 Crisis Management: Lessons From the United Arab Emirates Leaders. *Front Public Health* [Internet]. 2021 Oct 29 [cited 2021 Nov 23];9:724494. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8585940/>
- [7.] Torri E, Sbrogio LG, Di Rosa E, Cinquetti S, Francia F, Ferro A. Italian Public Health Response to the COVID-19 Pandemic: Case Report from the Field, Insights and Challenges for the Department of Prevention. *Int J Environ Res Public Health* [Internet]. 2020 Jan [cited 2021 Nov 23];17(10):3666. Available from: <https://www.mdpi.com/1660-4601/17/10/3666>
- [8.] Sajadi H, Hartley K. COVID-19 pandemic response in Iran: a dynamic

- perspective on policy capacity. *J Asian Public Policy* [Internet]. 2021 Jun 2 [cited 2021 Nov 23];0(0):1–22. Available from: <https://doi.org/10.1080/17516234.2021.1930682>
- [9.] Vaksinasi COVID-19 di Indonesia Dimulai, Nakes Takut Protokol Kesehatan Mengendur [Internet]. 2021 [cited 2021 Nov 25]. Available from: <https://www.abc.net.au/indonesian/2021-01-13/vaksinasi-covid-19-dimulai-jokowi-jadi-orang-pertama-disuntik/13050392>
- [10.] Coker RJ, Hunter BM, Rudge JW, Liverani M, Hanvoravongchai P. Emerging infectious diseases in southeast Asia: regional challenges to control. *Lancet Lond Engl* [Internet]. 2011 [cited 2021 Nov 25];377(9765):599–609. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7159088/>
- [11.] 11. Al EDB et. Zoonotic Disease Programs for Enhancing Global Health Security - Volume 23, Supplement—December 2017 - Emerging Infectious Diseases journal - CDC. [cited 2019 May 29]; Available from: https://wwwnc.cdc.gov/eid/article/23/13/17-0544_article