COVID-19 in Indonesia: Is There a Shift from Pandemic to Endemic?

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Abstract
The world is still facing the Coronavirus Disease 2019 (COVID-19) pandemic, and the current challenge is the epidemic, which was thought to have become endemic, but it seems far from that. This article describe the recent progress of the COVID-19 globally, including in Indonesia, and what should be done towards building community health resilience. Each day, more than 500,000 new cases are being detected worldwide. This condition shows that the present pandemic is not over and still requires global vigilance. The challenge faced by the world, and Indonesia, is to develop resilient communities as a prerequisite to controlling any future epidemic. This can be achieved by adopting five strategies: strengthen and promote access to public health and social services, promote health and wellness and disaster preparedness, expand communication and collaboration, engage at-risk individuals and activate programs to protect their health, and build social connectedness.

Keywords: community health resilience, COVID-19, endemic, policy response

Introduction
Since the detection of the first cases in Wuhan City, Hubei Province, China, in December 2019, the world has been facing a pandemic caused by the Coronavirus Disease 2019 (COVID-19). After first classifying COVID-19 under Public Health Emergencies of International Concern (PHEIC), the World Health Organization (WHO) finally declared it a global pandemic on March 11, 2020, to ensure that the worldwide community and governments work together to fight the disease.1

The WHO COVID-19 dashboard data, as of June 10, 2022, shows that the virus already exists in 228 countries, affecting 532,201,219 people and causing 6,305,358 deaths.2 Based on WHO data, the highest number of cases is in Europe (222,417,177), followed by the United States of America (158,983,746), the Western Pacific (61,735,224), Southeast Asia (58,217,287), the Middle East, and Africa. Globally, the daily number of cases fluctuates and seems to be declining lately. However, the numbers are still relatively high, as shown in Figure 1, which illustrates daily new cases of COVID-19 around the world from January 2020 to June 20, 2022; as seen, the cases peaked at almost 4 million in January 2022.3

In Indonesia, as of June 12, 2022, there have been 6,059,937 cases and 156,641 deaths since March 2, 2020.4 In response to the pandemic, the Indonesian Government formed the COVID-19 Mitigation Task Force to support high-level coordination and also declared large-scale social restrictions (LSSR) to prevent the spread of the virus.5,6 Indonesia faces enormous challenges in dealing with the pandemic, such as the unpreparedness of primary health facilities, hospitals, laboratories, infrastructure, and equipment. However, Indonesia has been considered successful, with an adequate public health approach without abandoning the economically disadvantaged.

The number of cases has started to decline compared to the first year of the pandemic. Those circumstances created a polemic as to whether it has shifted to endemic. However, the different meanings of endemic, pandemic, and epidemic should be rechecked. The Center for Disease Control and Prevention defines each of these three levels of disease strictly. Endemic is the constant presence of an infectious disease in a population within a certain area. Epidemic refers to an increase, often sudden, in the number of cases of a disease, above what is...
normally expected in the population in an area. A pandemic is an epidemic that has spread to several countries and continents with massive infections.7

More than a decade ago, epidemiologists identified applicable factors for pandemics as new, infectious, fast-spreading, severe diseases with high attack rates, a wide geographic extension, and low herd immunity.8 These were all recognizable in the early COVID-19 cases around the world. The current challenge is that the epidemic, thought to have become endemic, seems far from being so. This article describes the recent progress of COVID-19 globally, including in Indonesia, and the polemic of shifting status from pandemic to endemic.

Method

This is a commentary article developed from observing the recent progress of COVID-19 cases globally and the response from the Indonesian Government. This article relies on global data on COVID-19 from open-access sources, which are the WHO dashboard, worldometers.info/coronavirus, National Agency for Disaster Management/Badan Nasional Penanggulangan Bencana (BNPB), and Databoks (databoks.katadata.co.id). Data observed consisted of daily new cases of COVID-19 globally and in Indonesia, from January 2020 to June 2022. The total number of COVID-19 cases in Indonesia crossed 6 million, and the latest positivity rate of COVID-19 cases in the Special Capital Region of Jakarta was from May to June 2022. The data were descriptively analyzed to determine the possible causes for the increase in COVID-19 cases and resultant government policy changes throughout the pandemic. The data are presented to answer the polemic of the shifting status from pandemic to endemic.

Results and Discussion

After a brief decline during the last few days, the positive confirmed cases of COVID-19 in Indonesia have increased slightly, with an average of 500 cases per day. The Special Capital Region of Jakarta has shown an increasing trend of daily cases since June 7, 2022. The COVID-19 cases reported in Jakarta were 260 on June 7, 288 on June 8, 276 on June 9, and 333 cases on June 10, 2022.9

On June 10, 2022, the Minister of Health of the Republic of Indonesia explained that the Omicron subvariant BA4 and BA5 had entered Indonesia with four confirmed cases.10 This variant can avoid the immunity formed by the vaccine and spreads faster than other COVID-19 variants. Throughout the pandemic, the increase in cases has always been caused by new variants; similar trends were seen in Europe, Asia, and the United States. The Omicron subvariant is known to be more infectious than the previous severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variant.10

The COVID-19 pandemic has not only destroyed the health sector but all aspects of life, including the social and economic aspects. During the last two years, the whole world has been working relentlessly to prevent the increase in COVID-19 cases. Still, due to low awareness and discipline among the public, there are difficulties regarding the importance of implementing strict health protocols.

Various efforts and policies were implemented. However, not all achieved the expected results. Even though the number of cases has started to decrease compared to the first year of the pandemic, and there is a polemic as to whether it has shifted to endemic, new cases are still being discovered. In the last 24 hours (June 10, 2020), 574,365 new cases were found worldwide.3 This ensures that the pandemic is not over yet and still requires vigilance from all countries.

In Figure 2, since the early detection of COVID-19 in Indonesia, there has been a sharp increase in cases from
June to September 2021 due to the Delta variant. It was then followed by a slow decline for some months. Later on, another increase happened in February 2022 due to the Omicron variant. Figure 3 illustrates the cumulative number of COVID-19 cases in Indonesia from February 2020 to May 20, 2022, reaching more than 6 million.

Figure 4 shows the increase in the positivity rate of COVID-19 cases in the Special Capital Region of Jakarta from May to June 2022. The positivity rate is the proportion of positively-infected people to the total number of people tested. In response to the increase in the spread of COVID-19, the Indonesian Government, through the Ministry of Home Affairs, has extended the implementation of restrictions on community activities/Pemberlakuan Pembatasan Kegiatan Masyarakat (PPKM) from June 7 to July 4, 2022. The PPKM rules are contained in the Instruction of Minister of Home Affairs No. 29 of 2022 concerning PPKM Level 1 in the Java and Bali Regions; then, the Instruction of Minister of Home Affairs No. 30 of 2022 concerning PPKM outside Java-Bali, with only Teluk Bintuni District has PPKM Level 2. The President of the Republic of Indonesia emphasized that the PPKM will continue until COVID-19 is under control.

The COVID-19 will not automatically disappear or be over simultaneously in all countries, proven by almost 500,000 new cases daily worldwide. Uncertainties regarding the COVID-19 pandemic include the mutations of the virus, as well as the effectiveness of the vaccines to protect from new variants. The mutation abilities of COVID-19 remain its greatest danger, whereby local and national variants appeared within a few months of the global outbreak.

There are pros and cons to the transition from pandemic to endemic. While variants remain a key feature of COVID-19, there is a more structured transition, wherein the coronavirus is shifting from its existence as a pandemic to an endemic virus. The supporters argue...
that it will happen if public policy demands double and booster vaccinations for adults, combined with social distancing and wearing masks.\textsuperscript{14} The opposers argued that if no community declares victory on the outbreak, societies should demonstrate clear attitudes, practices, and policies, permitting the long-term management of COVID-19. In other words, they are managing COVID-19, not as a pandemic but progressively as an endemic, where the cases are persistent and low-level, but only in those areas with high vaccination rates. Low-vaccination rate areas will not see a shift to endemic. The pandemic may end when almost everyone has immunity, preferably because they were vaccinated or infected and survived.\textsuperscript{15} In Indonesia, the coverage of the vaccinated population has attained almost 97\% for the first vaccine dose, 81\% for the second, and 26\% for the third (booster).\textsuperscript{16} The effectiveness of boosters in preventing mortality due to COVID-19 has been documented. Analysis of 1,792,360 COVID-19 cases in Indonesia from January 1 to June 30, 2022, shows that persons who did not receive the COVID-19 vaccine were 28 times more likely to die compared to those who received a booster. While those who got the first vaccine dose were 15 times more likely to die compared to those who received a booster.\textsuperscript{17} Another study found that participants who received a booster had 90\% lower mortality due to COVID-19 than participants who did not receive a booster.\textsuperscript{18}

The world has made significant progress immunizing almost 70\% of people worldwide with at least one dose against COVID-19, although this rate is only 14.8\% in low-income countries.\textsuperscript{19} At the same time, health experts have raised concerns about the declining effectiveness of certain vaccines, including those developed in China. The risk of prematurely believing that the pandemic is shifting towards endemic status is that the world will be unprepared to face a more dangerous variant of the virus against which existing vaccines may be ineffective.\textsuperscript{20}

A current publication in the New England Journal of Medicine explained that omicron subvariants BA.2.12.1, BA.4, and BA.5 were more likely to escape neutralizing antibodies induced by both previous infection and vaccination than prior omicron subvariants BA.1 and BA.2.\textsuperscript{21} The BA.2 variant now makes up around 86\% of all sequenced cases globally and is known to be more transmissible than the BA.1 and BA.1.1.\textsuperscript{19,21} Omicron may develop mutations to escape the immunity elicited by BA.1 infection, suggesting that BA.1-derived vaccine boosters may not achieve broad-spectrum protection against new Omicron variants.\textsuperscript{22} Other researchers also said that Omicron BA.4 and BA.5 variants show reduced neutralization by serum triple AstraZeneca or Pfizer vaccines compared to BA.1 and BA.2. Hence, a significant reduction in the neutralization of BA and BA.5 raises the possibility of Omicron reinfections. However, scientists continue to emphasize the importance of vaccines to avoid the devastating effect of the virus.\textsuperscript{23}

Since the vaccination does not cover all populations worldwide, at this time, it cannot be claimed that COVID-19 is endemic. The R0, the basic number for reproduction, the number of increasing cases without any intervention can be referred to determine whether it is reaching an endemic stage.\textsuperscript{24} If R0<1, it will be considered endemic, and this condition will prove that COVID-19 will not spread in the future. Hence, vaccination continues to be a powerful strategy to reduce community transmission. Diagnostic tests still need to be carried out, health protocols must still be implemented, and antiviral treatment is still required. The point is that people cannot be complacent but need to remain cautious and realistically monitor active cases because COVID-19 is still mutating.

At the same time, testing rates are reducing globally, which hinders monitoring the evolution of the virus, and almost one billion people in lower-income countries remain unvaccinated.\textsuperscript{25} Vaccine supply has indeed improved, but issues related to political commitment, oper-
The Task Force reviewed two public health and healthcare systems and to improve the ability of a community to use its assets is to strengthen Community Health Resilience (CHR) stated that “the requisite to be able to control any epidemic in the future. Indonesia in the future is the need for resilience as a pre global health. The US Department of Health and Human Services, considered on public health interventions to control COVID-19. The Task Force reviewed two public health interventions: institutional measures and behavioral-change measures. Among institutional measures, the successful strategies toward COVID-19 control are the government measures to minimize interpersonal contact; ensure early and widespread community testing, promote contact tracing, provide quarantine of contacts and isolation of cases and vaccination; strengthen health systems, including those for testing and vaccination, as well as services addressing other health needs; provide consistent public communications and reliable political leadership. The behavioral-change measure found that changes in public behaviors characterize the primary defense mechanism against COVID-19. The highly-effective vaccines are ineffective at the population level unless huge numbers of people agree to be vaccinated. Human behavior in terms of performing health protocols is the key to managing the COVID-19 pandemic; protective behaviors will still be essential, assuming only partial protection by vaccinating. The statement above is in line with the WHO’s five priorities for the next five years, consisting of: first, promoting health by addressing the root causes of disease and creating the conditions for good health and well-being; second, providing health services by reorienting health systems towards primary health care as the foundation of universal health coverage; third, protecting health by strengthening the global architecture for health emergency preparedness, response, and resilience; fourth, powering progress by harnessing science, research, innovation, data, and digital technologies; and fifth, performing by building a stronger WHO that delivers results, and is reinforced to play its leading role in global health. The challenge faced by the world and Indonesia in the future is the need for resilience as a pre-requisite to be able to control any epidemic in the future. The US Department of Health and Human Services, Community Health Resilience (CHR) stated that “the ability of a community to use its assets is to strengthen public health and healthcare systems and to improve the community’s physical, behavioral, and social health to withstand, adapt to, and recover from adversity.”

Five strategies can be adopted from the National Preparedness and Response Science Board’s Community Health Resilience to build resilient communities. The first strategy is strengthening and promoting access to public health, healthcare, and social services. It is needed to support health resilience during disasters and emergencies, whereby people know how to access care and are not limited by actual or perceived barriers to services. The second is promoting health and wellness alongside disaster preparedness. To enable people to face daily life as well as disaster-related challenges, information and education on public health, emergency preparedness, and community health resilience interventions should be delivered. The third is expanding communications and collaboration. There is a need to build networks that include social services, behavioral health, community organizations, businesses, academics, at-risk individuals, and faith-based stakeholders, in addition to traditional public health, healthcare, and emergency management partners. The fourth is engaging at-risk individuals and the programs that serve them, and taking an active part in protecting their health and aiding their community’s resilience, strengthening the community as a whole. The fifth is building social connectedness. People are more empowered to help one another after a significant disturbance in communities, then building social connectedness can be an important emergency preparedness action. Beyond COVID-19, health systems must be able to provide quick responses while continuing to deliver essential health interventions and public health functions where financing arrangements will be a crucial element of this resilience.

Learning lessons from the Northeast and Southeast Asian countries, South Korea and Vietnam have been very successful in managing the COVID-19 crisis. Their death rates per 100,000 population were well below those of many Western countries, implying more effective crisis management than in many other parts of the world. While their populations undoubtedly suffered and their economies contracted, the damage was not nearly as severe as elsewhere. Both South Korea and Vietnam demonstrated state effectiveness in their planning and management of the pandemic. Hopefully, the COVID-19 pandemic would likewise help strengthen public health and healthcare systems and improve the community’s health resilience in the future, in Indonesia and globally.

Conclusion

COVID-19 cases have started showing a decline as compared to the first year of the pandemic. However, new cases are still being discovered; therefore, there is
no apparent shifting from the pandemic to the endemic stage. Thus, the health protocols should be continued, vaccination should be completed, diagnostic tests need to be carried out, and the most important step to be taken is to implement five strategies to build community health resilience for anticipating and successfully managing any such situation in the future.

Abbreviations
COVID-19: Coronavirus Disease 2019; PHEIC: Public Health Emergencies of International Concern; WHO: World Health Organization; LSSR: Large-Scale Social Restrictions; BNPB: Badan Nasional Penanggulangan Bencana; SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus-2; PPKM: Pemberlakuan Pembatasan Kegiatan Masyarakat; CHR: Community Health Resilience.

Ethics Approval and Consent to Participate
Not applicable.

Competing Interest
The authors have no conflict of interest.

Availability of Data and Materials
The data and materials are available publicly in the mass media quoted in this article.

Authors’ Contribution
LH conceptualized, drafted, and revised the manuscript, as well as provided the final approval of the version to be published. KNS provided valuable input and data to be used in this article.

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References
1. World Health Organization (WHO). Coronavirus diseases (COVID-19) pandemic. World Health Organization; 2020.
2. World Health Organization (WHO). WHO Coronavirus (COVID-19) Dashboard. World Health Organization; 2022.
3. Worldometer. COVID-19 Coronavirus Pandemic. Worldometer; 2022.
4. Badan Nasional Penanggulangan Bencana (BNPB) Indonesia. Peta sebaran COVID-19. Badan Nasional Penanggulangan Bencana; 2022.
5. Presiden Republik Indonesia. Peraturan Pemerintah Republik Indonesia Nomor 21 Tahun 2020 tentang Pemerasan Sosial Berskala Besar dalam Rangka Percepatan Penanganan Corona Virus Disease 2019 (COVID-19). Jakarta: Presiden Republik Indonesia; 2020. p. 8. SK No 022846 A.
6. Presiden Republik Indonesia. Keputusan Presiden Republik Indonesia Nomor 7 Tahun 2020 tentang Gugus Tugas Percepatan Penanganan Coronavirus Disease 2019 (COVID-19). Jakarta: Presiden Republik Indonesia; 2020. p. 8. SK No 010737 A.
7. The Centers for Disease Control and Prevention. Principles of epidemiology in public health practice, 3rd edition. Deputy Director for Public Health Science and Surveillance, Epidemiology, and Laboratory Services, Division of Scientific Education and Professional Development; 2020.
8. Morens DM, Folkers GK, Fauci AS. What is a pandemic? J Infect Dis. 2009; 200 (7): 1018–21.
9. Hapsari MA. Kasus COVID-19 di DKI Jakarta melonjak, Pemprov sebut banyak faktor penyebab. Kompas; 2022.
10. Halidi R, Varwati L, Menkes Budi. Omicron subvariant BA.4 dan BA.5 terdeteksi di Indonesia. Suara; 2022.
11. Annur. CM. Waspada positivity rate COVID-19 di Jakarta mulai naik. Databoks; 2022.
12. Bramasta, DB. Daftar lengkap daerah PPKM di seluruh Indonesia. Worldometer; 2022.
13. Ariawan I, Riono P, Farid MN, Jusril H, Wahyuningsih W. Analisis kebijakan vaksinasi COVID-19 dalam melawan pandemi COVID-19 di Indonesia. [PowerPoint Presentation]. 2022.
14. Gottlieb S. A second major seasonal virus won’t leave us any choice. The Atlantic; 2021.
15. Yong, Ed. How the Pandemic Now Ends. The Atlantic; 2021.
16. Kementerian Kesehatan Republik Indonesia. Vaksinasi COVID-19 nasional per 14 July 2022. Kementerian Kesehatan Republik Indonesia; 2022.
17. Arief S, Buya ST, Nurlaela, Tefika. As efforts to control the Omicron variant continue, Indonesia still under pandemic. Gulf Times; 2022.
18. Arbel R, Hammerman A, Serifanko R, Friger M, Perets A, Netzer D, et al. BNT162b2 vaccine booster and mortality due to Covid-19. N Engl J Med 2021; 385: 2413-20.
19. Gulf Times. Covid-19 far from becoming endemic: WHO. Gulf Times; 2022.
20. Klobucista, C. When will COVID-19 become endemic? Council on Foreign Relations; 2022.
21. Bachmann NP, Miller J, Collier AY, Ventura JD, Yu J, Rowe M, et al. Neutralization escape by SARS-CoV-2 Omicron subvariants BA.2.12.1, BA.4, and BA.5. N Engl J Med. 2022; 387: 86-8.
22. Cao Y, Yismayi A, Jian F, et al. BA.2.12.1, BA.4 and BA.5 escape antibodies elicited by Omicron infection. Nature. 2022.
23. Tuedprakhon A, Nutralai R, Dijokaitl-Guraliuc A, Zhou D, Ginn, HM, Selvaraj M, et al. Antibody escape of SARS-CoV-2 Omicron BA.4 and BA.5 from vaccine and BA.1 serum. Cell. 2022; 185 (4): 2422–33.
24. Achaiah NC, Subbarajasetty SB, Shetty RM. R0 and Re of COVID-19: can we predict when the pandemic outbreak will be contained? Indian J Crit Care Med. 2020; 24 (11): 1125–7.
25. World Health Organization. WHO Director-General’s live speech at 2nd global COVID summit – May 12 2022. World Health Organization; 2022.
26. Lee JK, Bollen C, Amor YB, Bush SR, Colombo F, Gaviria A, et al. Institutional and behaviour-change interventions to support COVID-19 public health measures: a review by the Lancet commission task force on public health measures to suppress the pandemic. Int Heal. 2021; 13 (5): 399-409.
27. World Health Organization (WHO). WHO Director-General’s opening address at Walk the Talk: the health for all challenge – May 22 2022. World Health Organization; 2022.
28. US Department of Health and Human Services. Community resilience.
29. Hanson K. Introducing The Lancet global health commission on financing primary health care: putting people at the centre. The Lancet Global Health. 2022; 10 (1): E20-1.

30. Turner M, Kwon S-H, O’Donnell M. State effectiveness and crises in East and Southeast Asia: the case of COVID-19. Sustainability. 2022; 14 (12): 7216.