



CSIS Commentaries is a platform where policy researchers and analysts can present their timely analysis on various strategic issues of interest, from economics, domestic political to regional affairs. Analyses presented in CSIS Commentaries represent the views of the author(s) and not the institutions they are affiliated with or CSIS Indonesia.

CSIS Commentaries DMRU-005

20 March 2020

Jakarta and the Surrounding Metropolitan Area's Hospital Readiness is Key in Mitigating the Spread of COVID-19

Mikhail Gorbachev Dom

Research Fellow, Disaster Management Research Unit, CSIS Indonesia
gorba.dom@fellow.csis.or.id

Ega Kurnia Yazid

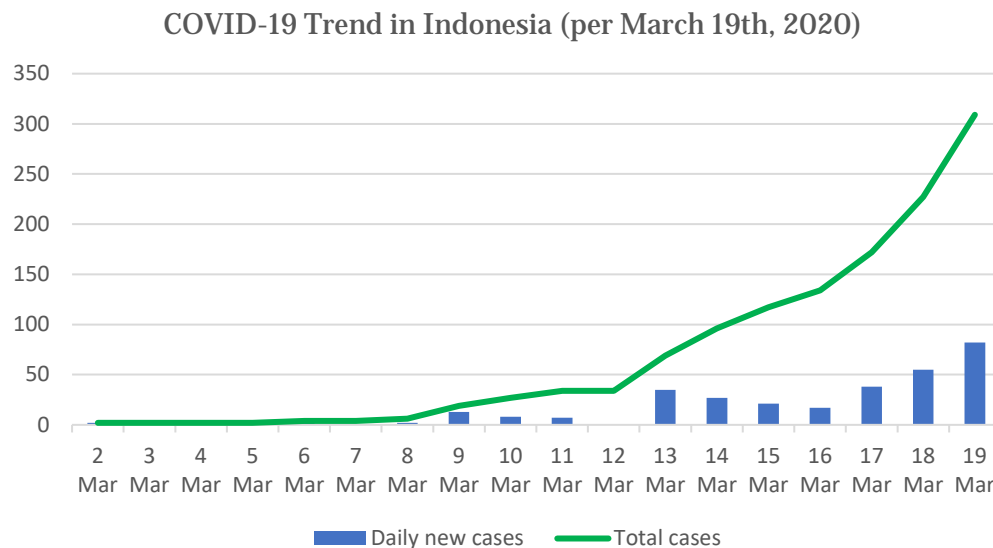
Research Intern, Disaster Management Research Unit, CSIS Indonesia
intern@dmru.csis.or.id

As COVID-19 cases in Indonesia have been increasing remarkably, Jakarta metropolitan area holds an important key role in addressing the pandemic. The availability of hospitals and healthcare facilities in the area will indicate the number of upcoming patients that the city and the metropolitan area can hold. Hence, there are two important questions that need to be answered. Does the city have adequate

capacities and preparedness against the COVID-19? If not, what are the possible strategic actions that can be done to bridge the gap? The following paragraphs will attempt to answer the two questions.

The trend of infected patients in Indonesia

Since the announcement of the first COVID-19 case in Indonesia, the infected patients' trend has been increasing exponentially. According to the available data, the daily average of infected patients' growth is around 42 percent with a total of 309 cumulative cases or the number gets double every 2-3 days¹. To this date, the mortality rate of the virus is rising to around 8 percent, and most of the victims are dominated by the group age of 50-59 years old.



Source: kawalcovid19.id

Business Insider reported that, by taking into account the R_0 or "R-naught" and the trend modeling, the upcoming trend of infected patients can be conjectured to be very dramatic number. Firstly, this coronavirus has an R_0 of 2 to 2.5, meaning that a new person can spread the disease to about 2.2 people—the number of R_0 is not fixed, it can be higher or lower as the time goes by. In other words, this number is relatively higher than regular influenza, but less contagious than SARS².

Tomas Pueyo also tried to model the spreading. If we put it into the Jakarta context, under the 'business as usual' scenario, it will result in more than one million cases in 40 days after the first announcement.³ He also noted that the identification of new patients can take 7-14 days while during the time the virus is spreading under the radar. Then, there are two approaches to estimate under the radar cases.

The first approach is by using the historical data, he analyzed that the number of total cases including under the radar cases may be higher as 27 times than the actual reported cases. While the

¹ Kawalcovid19.id, "Tren Kasus COVID-19 di Indonesia", <https://kawalcovid19.id/>

² Business Insider, "The average coronavirus patient infects at least 2 others, suggesting the virus is far more contagious than flu", <https://www.businessinsider.sg/coronavirus-contagious-r-naught-average-patient-spread-2020-3?r=US&IR=T>

³ Tomas Pueyo, "Coronavirus: Why You Must Act Now", <https://medium.com/@tomaspuoyo/coronavirus-act-today-or-people-will-die-f4d3d9cd99ca>

second approach is to estimate the number of under the radar cases based on the number of mortality cases, which ended up as 1 death because of coronavirus represents 800 actual cases. Consequently, taking account of both approaches, the real cases (including the under the radar cases) can reach as many as 6000 cases, in business as usual scenario.

Mathematicians from Bandung Institute of Technology (ITB) also estimated the trend using the Richard curve and concluded that Indonesia's cases would culminate at 8000 cases.⁴ Almost all prediction lead to social distancing policy as an effort to flatten the curve so that the daily cases do not overload the health care capacities. Meanwhile preparing the right amount of health care facilities such as hospitals, pharmaceuticals, and testing protocols should be prioritized immediately now to mitigate the worst case.

Jakarta and its healthcare facilities

Jabodetabek (Jakarta-Bogor-Depok-Tangerang-Bekasi) metropolitan area has a key role in addressing COVID-19. The commuter within the metropolitan area is an inevitable factor to address COVID-19. Case number one, for instance, lives in Depok but works in Jakarta. In addition, 5 new cases reported by the Governor of Banten Province are linked to the Jakarta metropolitan area. In short, the Jabodetabek metropolitan area holds the strategic role in any attempt to mitigate the spread of the virus.

Data shows that overall the hospital capacity in Indonesia is 2.7 critical care beds per 100.000 population, a slightly higher than the Philippines (2.2) and slightly lower than Malaysia (3.4) where both countries are implementing lockdown to anticipate the COVID-19.⁵ Meanwhile, Indonesia has so opted for the social distancing policy and Jakarta as the epicenter has tried to control the mass transportations, schools, as well as tourist sites. Jakarta as the center of metropolitan also has to bear the highest burden as even case no. 1 and no.2 are living in Depok, but they were treated at the Infectious Diseases Hospital (RSPI) Sulianto Saroso in Jakarta. That is the reason why Jakarta has to start addressing its hospital capacity problems, which surely will not sufficient to prepare for 500-1000 cases.⁶

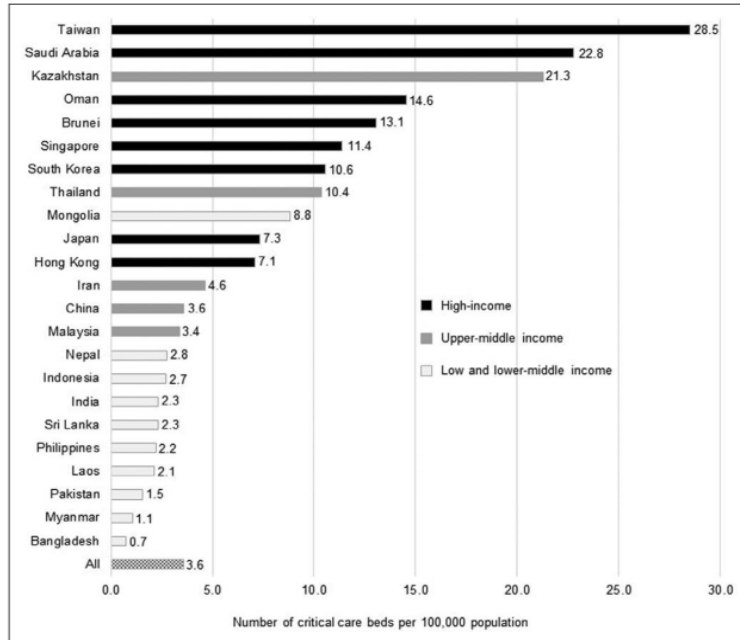
According to experiences in the other countries, from 100 percent of reported patients, only 20 percent requires hospital treatments, and 5 percent of them required Intensive Care Unit (ICU) which needed the ventilators and/or Extra Corporeal Oxygenation (ECMO).⁷ If we compare these facilities with the COVID-19 trends, which is estimated to be approximately 8000 cases, then it will require around 1600-4800 treatment beds, 400-1200 ICU beds, and 200-600 isolation beds with ventilators and/or ECMO.

⁴ Nuraini, Nuning, Kamal Khairudin, Mochamad Apri. 2020. Data dan Simulasi COVID-19 dipandang dari Pendekatan Model Matematika. Pusat Pemodelan Matematika dan Simulasi – ITB; Bandung

⁵ Phua *et al.* 2020. Critical Care Bed Capacity in Asian Countries and Region. Critical Care Medicine Journal, January 2020.

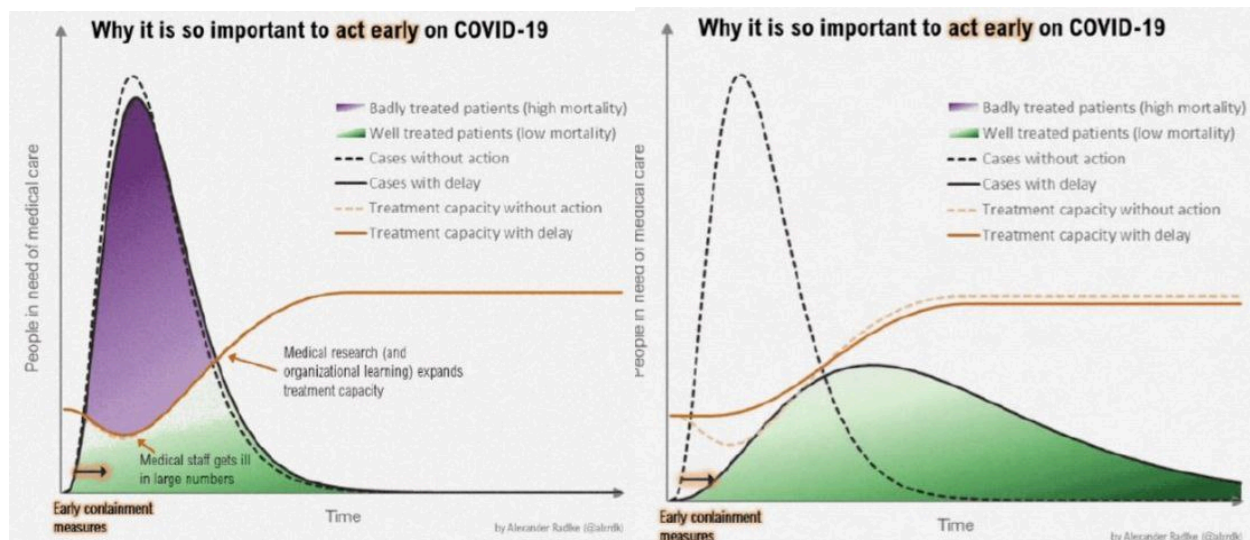
⁶ Merahputih, “Pemprov DKI tambah satu rumah sakit rujukan pasien corona”, <https://merahputih.com/post/read/pemprov-dki-tambah-satu-rumah-sakit-rujukan-pasien-corona>

⁷ Pueyo, “Coronavirus: Why You Must Act Now”.



Source: Phua *et al*, 2020⁸

According to the 2018 data, in total, Jakarta only has 181 hospitals (including private, government, and military hospitals) where not every hospital owns the ICU room, only 72 hospitals with total 432 beds. Thus, the preparation for higher number of cases will be certainly required in the Jakarta area.



Source: Alexander Radtke, 2020⁹

⁸ Phua *et al*. 2020.

⁹ <https://flowingdata.com/2020/03/09/flatten-the-coronavirus-curve/?fbclid=IwAR3sG7Mkre45ZOQMH-xwWhKZzgRF6PJfydjezgzPR8mS8BJ-DuwNqBHTjdUM>

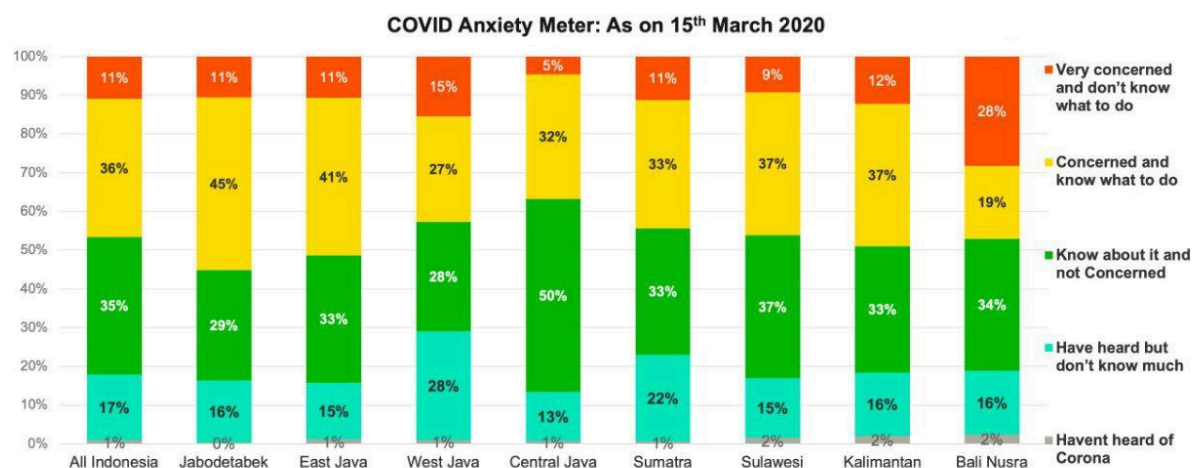
The second problem is the number of medical staff that will certainly be exhausted if the number of patients increases in exponential growth. As a result, all of these patients cannot be treated properly and will end up as mortal case or medical staff health deterioration. Medical staffs who get sick can also increase in number due to the inadequate medical equipment. A new release from WHO has considered COVID-19 as an airborne disease in certain condition.¹⁰ Therefore, it is important to equip the medical staffs with appropriate equipment.

Currently, the COVID-19 test can be done at 12 labs in Indonesia, where three of them are located at Jakarta. If Jakarta joined the rapid test policy as some province already did, then it will not be efficient and will waste the budget due to its relatively high number of false-positive or false-negative. Thus, the patients will need to be tested again by the designated labs which will cost the same amount of money. Eventually, the result of the rapid test that then are referred to the hospitals will also lower the hospital capacity because of the possible high false-positive.

Although the Jakarta healthcare facility is relatively better than other regions in the country, it will still not be sufficient considering the ten million Jakarta population, and even 14 million if we include the Bodetabek area.

The citizen literacy on COVID-19 can be an indicator of how social distancing will affect the number of cases. Even though the literacy in the Jabodetabek area is relatively higher, the effectivity of social distancing can be said only 45 percent. It means that we still have approximately eight million people within the population under the COVID-19 hazard. In addition, hospitals will not only handle COVID-19, as there are several diseases amidst the situation, such as dengue.

Majority of Indonesians still not very Concerned about COVID. Concern levels higher in Big Cities.
Panic levels high in Bali Nusra



KANTAR

Note : Sample size of 1259

Source: Kantar, 2020.¹¹

¹⁰ <https://www.cnbc.com/id/106445956?view=story>

¹¹ Kantar Consulting, <https://consulting.kantar.com>

Having said all of the above, increasing the readiness in terms of hospital numbers in Jabodetabek metropolitan area can be achieved by including private hospitals that are also required to improve their capacity. Furthermore, assistance from foreign country can also be considered. Italy, for instance, received assistance from China with 10,000 ventilators, two millions masks, and 20 thousands protective suits.¹² We can also request assistance from partner countries either by Government to Government (G to G) approach or Business to Business (B to B) approach to improve our private hospitals readiness.

All of these require the government budget's flexibility. Now it is plausible after the issuance of the regulation of the Minister of Finance no. 19/PMK.07/2020, which was just signed on March 16th. Moreover, society and private sector are encouraged also participate to fight against the COVID-19. For instance, state-owned enterprise prepared Hotel Patra Comfort as an isolation room for COVID-19 cases¹³.

Many policies have been put in place in an attempt to flatten the curve. We have to appreciate the government's decision to close the schools and to encourage social distancing in public spaces. The government can also optimize the effort by producing a national protocol for volunteers who want to help, particularly in the process of assisting the self-quarantine for suspected patients. Establishing an online medical check-up platform will be also helpful so that the number of cases can be estimated more accurately.

Conclusion

All in all, the exponential growth of the COVID-19 cases in Jakarta forces the city to quickly develop adequate healthcare facilities, bearing in mind the gap that might happen in the worst scenario. Multiple recommendations are discuss above, including preparing more isolated area for the patients, encouraging private sector such as private hospitals as well as public or community service organizations' hospitals, producing national's self-quarantine protocol and recruiting volunteers particularly in assisting patients who got the symptoms to self-quarantine themselves, and finally cooperating with an online medical check-up application or online platform to track and to estimate the potential cases.

CSIS Indonesia, Pakarti Centre Building, Indonesia 10160
Tel: (62-21) 386 5532 | Fax: (62-21) 384 7517
csis.or.id

¹² World Economic Forum, 2020, "China is sending medical experts and supplies to help Italy fight coronavirus" <https://www.weforum.org/agenda/2020/03/coronavirus-COVID-19-italy-china-supplies/>

¹³ CNN, 2020, "Erick Thohir Sulap Hotel Patra Jadi RS Khusus Corona", <https://m.cnnindonesia.com/ekonomi/20200317201100-92-484344/erick-thohir-sulap-hotel-patra-jadi-rs-khusus-corona>