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Health System Resilience and Community Participation amidst the Covid 19 Pandemic: A Case Study of SONJO (Sambatan Jogja) in the Special Region of Yogyakarta, Indonesia

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Abstract

There is a growing concern over how the Covid-19 pandemic might affect low- and medium-income countries (LMOCs) worse compared to high-income countries. The main contributor to this aggravation is the health system is not strong enough to sustain the shock the system caused by the pandemic. Therefore, strengthening the health system resilience in LMOCs is imperative to lessen the gap between countries. The health system resilience constitutes a set of capabilities to maintain shocks, adapt to the shock and transform into actions to keep the essential functions of the health system. The essential factor contributing to the resilience of a health system is the recognition of the complexity and dynamic power relationship underlying the system, including opening access for community participation. This study aims to describe how SONJO, a community-based organization in the Special Region of Yogyakarta (SRY), Indonesia, has played a crucial role in strengthening the health system resilience in the province during the Covid-19 pandemic 2021. As the nature of the research, this study conducts a qualitative approach to collect and analyze the data. The study shows that SONJO can develop adaptive mechanisms to cope with the outbreak through the collective action of diverse actors in the health system translated from shared knowledge, coordination, and values. SONJO acts as a social broker that bridges a wide range of actors in the health system of SRY through a digital platform.

Keywords:
health system resilience; low-income countries; middle-income countries; community participation; social broker; dynamic power relation

Introduction

One year has passed since the World Health Organization (WHO) announced the Covid-19 global pandemic caused by a strain of coronavirus, the SARS-CoV2, on March 11, 2020 (Djalante et al., 2020). The global pandemic hit Indonesia when the first positive coronavirus case in this country was found on March 2, 2020 (CNN Indonesia, 2020). This finding led the national government to issue Indonesia's Large Scale Social Restriction for Accelerating Covid-19 Eradication on March 31, 2020 (Djalante et al., 2020). Despite the efforts, it did not take long for the virus to spread to several provinces, including the Special Region of Yogyakarta (SRY). The first case of Covid-19 in SRY was found on March 14, 2020 (Hizbaron et al., 2021).

Following the national policy of Large-Scale Restriction to cut the virus transmission, the provincial government of SRY has applied several measures to prevent further spread of Covid-19, such as social distancing, the closure of economic and tourism activities regulated by Governor Decree No. 65/Kep/2020, and declaring emergency status from 20 March until

29 May 2020, which was extended to 30 June, and then extended further to 30 November 2020 (Hizbaron et al., 2021). However, these efforts could not stem the rapid spread of the disease. The increasing number of coronavirus patient hospitalization cases had overwhelmed the health system in SRY as the hospitals lacked the capacity and resources to handle the high hospitalization rate (Lazuardi, 2020).

Efforts and studies were performed to find methods to alleviate pressures on the health system during crises. One of such efforts was the proposition of "resilience" (Abimbola & Topp, 2018; Barasa et al., 2017; Bhandari & Alonge, 2020; Blanchet et al., 2017; Nuzzo et al., 2019). The proposition of "resilience" is then followed by several international dialogues to discuss the theme of a resilient health system. In December 2014, the Ministers of Health and Finance of Ebola-affected countries and various international organizations held a meeting in Geneva, Switzerland, to further develop the agenda for establishing the conceptual frameworks of a resilient health system (Kieny & Dovlo, 2015). Another prominent development putting the resilient health system concept into the forefront of the international agenda was the statement of the Rockefeller Foundation that proposed a resilient health system as a global imperative to be developed (Naimoli & Saxena, 2018; van de Pas et al., 2017). Then in 2016, the Fourth Global Symposium on Health Systems Research's central theme, Resilient and Responsive Health Systems for a Changing World', put resilient health systems further forward (Naimoli & Saxena, 2018).

The importance of a resilient health system was apparent during the outbreak of Covid-19 in SRY, data from the Ministry of Health's website (https://vaksin.kemkes.go.id/#/scprovinsi) showed that SRY had the second-most active cases per 100.000 population nation-wide and also second-high mortality rate per 100.000 population nation-wide. This article uses the works of SONJO in SRY as the case of community participation in supporting a resilient health system during a crisis. SONJO, a voluntary community-led initiative, has built a network among health sector actors and non-health sector actors to strengthen the health system's resilience in SRY during the pandemic. Thus, this research would fill the gap of the current study, which often neglects the central role of community engagement in the health sector, as described by Bhandari and Alonge (2020).

The definition of a resilient health system

Before this paper explains how SONJO's operations contributed to the strengthening of a resilient health system, it is crucial to define a health system and how to characterize a resilient health system. This study utilized the definitions given by the World Health Organization (WHO) that a health system is conceptualized as one of the various organizations ranging from all public and private organizations with the resources to accelerate, preserve and nurture health as mandated (Kutzin & Sparkes, 2016). WHO describes the health system as all the actions or programs directed mainly to encourage, recover and nourish health (Nuzzo et al., 2019). These two definitions share the same purpose of a health system and highlight the broader actors supporting a health system, not limited to health sectors and actors.

The term resilience is rooted in various disciplines such as environmental science, engineering, and psychology (Haldane et al., 2017). This wide range of fields brings a unique conceptualization of resilience that acknowledges complexity and change beyond maintaining shocks in a time of crisis. The application of resilience in health system research embraces the nature of power relations outside health sectors, contributing to the health system's performance. Consequently, the conceptualization of resilience in the health system should not be prescriptive (Haldane et al., 2017).

A resilient health system is perceived as the capacity of a health system to cope with the shock by its ability to contain the shock, adapt to the new condition, and address it with the minimum required services (Bao et al., 2014; Hanefeld et al., 2018; Kieny & Dovlo, 2015; Kutzin & Sparkes, 2016). These definitions stressed how the health system becomes resilient by its capacity to contain changes, corresponding with the concept articulated (Kruk et al., 2015; Kruk et al., 2017). Accordingly, the critical concept of resilience lies in the capacity to adapt to the sudden change caused by shock or crises with robustness (Abimbola & Topp, 2018).

The characteristics of a resilient health system are aware, diverse, self-regulating, integrated, and adaptive (Barker et al., 2020; Kruk et al., 2015; Kruk et al., 2017). Awareness derives from the well-informed society of the particular adversity gained from the sufficient knowledge, information, and data that will enable them to effectively respond to the initial stage of shock. This information and knowledge are gathered from science-based information systems and drawn from the community. Diverse means the ability to detect unusual symptoms that arise both in normal conditions and in a time of crisis. This will ensure society's trust in benefiting health care facilities, accelerating access to health care providers to improve health functioning. Self-regulation is associated with the health system's readiness to face a sudden shock as it has stable procedures and infrastructures prepared to keep its functions in a changing environment. Integrated means that the health system allows diverse actors to maintain shocks and crises. Last, adaptive is the capability of the health system to transform adversity that enhances the quality of its health delivery.

Drawing from the complexity and dynamic power relations where the health system operates, the concept of resilience should be enriched with the governance perspective as it connects to relationships and actions between actors as well as the rules and institutions that exercise power (Blanchet et al., 2017; Hanefeld et al., 2018; Kutzin & Sparkes, 2016). To make a health system resilient, one should incorporate the capacity to maintain networks, actors, and institutions that contribute substantially to the system (Bhandari & Alonge, 2020; Blanchet et al., 2017).

van de Pas et al. (2017) criticized the approach taken by proponents of health system resilience, arguing that such conception promotes the maintenance of the status quo, excluding discussions on the power relation between actors in the health system and hindering the achievement of an alternative measurement in a given system. A case in support of this critique is the health system in Gaza, which has been seen as maintaining a social injustice to the people of Gaza. In this case, resilience exists because the people of Gaza are vulnerable and disposable in the perspective of the health system. Further, the critics argue that the proponents of resilience shifted the focus from the inequality introduced by the neoliberalist health system. The concept of health system resilience lacks critical analysis on the global health system and fails to consider alternative global structures to provide us with universally accessible health care.

As the health system resilient embraces the everyday resilience drawn from the underlying power dynamics, it is essential to note the complex adaptive systems which pose the conception of both hardware and software. Hardware is referred to as the infrastructures, commodities, human resources, and finances called 'building blocks'. System software is defined as tangible and intangible structures of management knowledge and skills, organizational systems, and procedures. This also includes values, norms, and power relations. Intangible software such as power relations among actors shows how the interaction between actors builds a foundation

of action to make the health system resilient (Barasa et al., 2017).

The discussion of the health system resilience is diverse as it is rooted in various fields of study. This also marks that this concept is relatively new in the health system discipline; thus, no conclusive definition exists. However, some key points are essential to note as the underlying concept of health system resilience. To answer the research question, this study exercises the health system resilience definition as the capacity of the health system to maintain the changing environment by absorbing it, adapting to it, and transforming with it to achieve positive health functions. To do that, the health system needs to embrace the complex and diverse setting where it operates, managing the power relations of actors both from the health sector and the non-health sector. This is based on the definition of a health system that comprises various parties which set a collective work to pursue population wellbeing as well as the central argument offered by Barasa et al. (2017) that a health system should be perceived not only by its hardware but also by its system software. This definition also echoes how community contribution plays a significant role in strengthening health system resilience.

Community participation strengthens the health system's resilience

A resilient health system can be achieved by involving community participation in the health system. Therefore, it is essential to improve the communal trust, engagement, and sense of belonging between various actors in the health system (Kieny & Dovlo, 2015; Kruk et al., 2015; Kruk et al., 2017). A health system that can integrate the community into the system will benefit from the economic resources, social capital, and community network that exist in the community (Bhandari & Alonge, 2020).

Building a strong connection within the community helps establish a healthy population, contributing to coping efforts during crises hitting the health system. This is apparent from the case of the Hospital Preparedness Program (HPP) in the United States, which shifts its focus from the conventional method, which invested most of the resources in hospital infrastructures into a community-wide health system resilience approach by developing networks that can work together in coping with the crises through the valuable supplemental capacity (Wulff et al., 2015). Any attempt to build the community resilience by developing its relation to health systems that promote the health of the population will help to strengthen the focus on tackling the social determinants of health while also working on the preparedness to handle shocks (Bhandari & Alonge, 2020; Siekmans et al., 2017; Wulff et al., 2015).

The critical role played by the community's resilience to cope with adversity is also evident during the 2014 Ebola outbreak in West Africa. During this outbreak, community engagement played a significant role in the health system's resilience. This condition was highlighted in international dialogues concerning the global response to the Ebola outbreak in 2014 (Barker et al., 2020; Bhandari & Alonge, 2020). Experience from West Africa showed that effective community engagement helps in building trust in the health system, particularly when the disruption strikes. The confidence gained for the authorities has led to more meaningful communication to work collectively during crises to strengthen health system resilience (Barker et al., 2020).

Community engagement is fruitful to health system resilience when equally providing critical information, thoughts, and feedback to develop the system's capacity to respond to the crises accordingly. It is noteworthy that community participation is not a substitution for formal government programs, particularly in the structure and infrastructure of health facilities. Instead, the community's participation in building health system resilience is a game-changer and a

substantial contribution to achieving positive health functioning and withstanding crises (Barker et al., 2020).

Method

Qualitative research is a type of research to produce social and political analysis by containing descriptions of phenomena to capture meanings, processes, and contexts that are not standardized by numbers. Qualitative research studies phenomena in their natural settings then attempts to understand the phenomena regarding the meanings people give to them (Denzin & Lincoln, 2018). This type of descriptive qualitative research is considered suitable for researching problems in social science studies that explore issues, thoughts, or narratives (Burnham, 2008; Creswell & Poth, 2018).

The research was conducted through the exploratory phase, literature study, data collection, data reduction, and continued analysis. The authors collected definitions of health system resilience, contestations, and development of such definitions using literature studies on relevant articles and books. This step was done with the objective to build the authors' knowledge about the subject and identifying the gap within the subject (Kothari, 2004, p. 28). The data collection process was carried out by collecting information from selected and relevant works from SONJO activities in the health sector, as described in Table 1. The data used in this research were collected from SONJO's

Table 1.
Distribution of data set collected from SONJO's YouTube channel

No	Date of the video	YouTube Link	Duration
1	April, 6, 2020	https://www.youtube.com/watch?v=xHMPS8QxBVE	01.03.00
2	April, 15, 2020	https://www.youtube.com/watch?v=znlD7RjZFyg	01.38.20
3	May,6,2020	https://www.youtube.com/watch?v=gUp2f18hanQ	01.08.30
4	May,6,2020	https://www.youtube.com/watch?v=W7rj1ZetJBQ	01.46.38
5	14 Mei 2020	https://www.youtube.com/watch?v=msKK5WyqkvI	02.14.46
6	19 Mei 2020	https://www.youtube.com/watch?v=2Y2YhD4s9nI	01.18.11
7	June, 2, 2020	https://www.youtube.com/watch?v=IgHkQjyuFok	01.34.15
8	June, 9, 2020	https://www.youtube.com/watch?v=bSmNLQynUcM	01.57.36
9	June, 15, 2020	https://www.youtube.com/watch?v=bLM3V4aNUVE	01.58.29
10	June, 27, 2020	https://www.youtube.com/watch?v=fFoYBUBLoBQ	01.45.28
11	July, 20, 2020	https://www.youtube.com/watch?v=zIQpJcbYeDU	00.06.34
12	July, 21, 2020	https://www.youtube.com/watch?v=TDbZTgN3z4k	00.57.07
13	July, 21, 2020	https://www.youtube.com/watch?v=t3PLQjds2Gc	01.38.44
14	July, 27, 2020	https://www.youtube.com/watch?v=rKCibKfKlu8	01.53.47
15	August, 3, 2020	https://www.youtube.com/watch?v=zjDrOHUTKrs	02.09.38
16	August, 11, 2020	https://www.youtube.com/watch?v=mvikdTejTBw	01.43.56
17	August, 12, 2020	https://www.youtube.com/watch?v=TUBQygPjreA	01.48.23
18	August, 13, 2020	https://www.youtube.com/watch?v=8SXkxNWTXkc	02.09.48
19	August, 18, 2020	https://www.youtube.com/watch?v=osYtbpKigWM	02.05.00
20	August, 24, 2020	https://www.youtube.com/watch?v=LAepxPaYkDs	02.04.43
21	September,8, 2020	https://www.youtube.com/watch?v=5fOQ_8g7moQ	02.01.06
22	September,8, 2020	https://www.youtube.com/watch?v=ss4qfJcI1Fw	02.06.24
23	September,15, 2020	https://www.youtube.com/watch?v=JIrWJG6K0E8	02.04.33
24	September,27, 2020	https://www.youtube.com/watch?v=fu36EkDuNnM	02.35.00
25	October, 4, 2020	https://www.youtube.com/watch?v=3Sc83lRlBss	02.29.00
26	October, 25, 2020	https://www.youtube.com/watch?v=6CgkIhRwYiM	02.22.23
27	January, 24, 2021	https://www.youtube.com/watch?v=cwrjAs-CCP4&t=4443s	02.09.35
28	January,10, 2021	https://www.youtube.com/watch?v=1ZeIwjW_Aik	01.55.15

Source: SONJO's official YouTube channel.

official website (http://sonjo.id) and their official YouTube channel (https://www.youtube.com/channel/UCcz-S6pCEXLjWMZp9GNDpqA). The authors gathered information from 28 videos uploaded between April 06, 2020, and January 24, 2021, in line with the Covid-19 wave hit SRY. In total, these videos provided 50 hours, 46 minutes, and 9 seconds duration of data. With data collected mainly from SONJO's official documents and official YouTube channel, the data collection process did not directly involve any human participants.

The data collection process using YouTube has been a widespread practice in various disciplines. Reynolds (2011), for example, used data from protest videos uploaded on YouTube to research how protesters construct their arguments. Patterson (2017) collected data from YouTube videos to explore how biracial individuals navigate their educational experience. Oh et al. (2019) used audio data from YouTube videos for their machine learning project and were able to teach an AI algorithm to construct facial images of the person speaking. Onuora et al. (2021) developed a model that predicts the effectiveness of a YouTube cartoon video as a dissemination medium for Covid-19 related information in Nigeria.

While YouTube videos as a source of data have been prevalent, there is a criticism of this data collection method. One of the fundamental critiques is that YouTube videos might eliminate participants' consent and voices in the research. Regarding this critique, Patterson (2018) argued that YouTube's privacy standards had informed users about the accessibility of their uploaded videos and also the Fair Usage Policy, including the usage of YouTube videos in research activities. Users still maintain their agency by setting their videos as private or unlisted, disallowing the general public to access these videos. Therefore, this research's use of SONJO's YouTube videos is within YouTube's Fair Usage Policy and does not raise any ethical concerns.

Another critique questions the authenticity of the uploaded contents. In the second critique, Hookway, and Snee (2008) advanced that this concern arose from the mediated nature of online representation, especially when the sources are anonymous. For the case of this study, the identities of SONJO, its founders, and people involved in their activities are not only open to the public but also reputable, therefore reducing the concern for the authenticity of released information. Further, SONJO's YouTube channel provides recordings of public discussions with credible speakers from different, and sometimes contending, perspectives thus perhaps intentionally enabling the viewers to triangulate any information provided.

Data collected from SONJO's website and YouTube channel then analyzed using the content analysis method. Hermann (2008) described that after selecting the research question and materials, researchers need to decide the unit of analysis and coding. Margolis and Zunjarwad (2018) further discussed the possibility of performing content analysis on visual products, such as photographs and videos. Following the aforementioned steps, this research cataloged SONJO's activities into categories according to characteristics of a resilient health system. This research then utilized the categorized data to explain how SONJO's activities strengthened the health system during the Covid-19 pandemic in SRY.

Tabel 2.
Frequency of activities observed in data set

Activity	Representation
SONJO Angkringan	7 (25% of videos)
SONJO Husada	7 (25% of videos)
SONJO Pangan	4 (14.29% of videos)
SONJO Education	3 (10.71% of videos)
SONJO Event and Tourism	2 (7.14% of videos)
SONJO Migunani	2 (7.14% of videos)
SONJO Tangguh	2 (7.14% of videos)
SONJO Innovation	1 (3.57% of videos)

Source: SONJO's official YouTube channel.

Result

SONJO, an acronym from "Sambatan Jogja", is an informal organization coined by academics in Universitas Gadjah Mada (UGM) on March 23, 2020, as a response to the Covid-19 outbreak in the Special Region of Yogyakarta. This initiative aimed to help the vulnerable group in SRY and people at risk from the Covid-19 exposure. This organization focused on three main fields: health, education,

Table 3.
SONJO Programmes

No	Name	Description
1	SONJO Media	SONJO Media is a Whatsapp Group (WAG), which creates a space for SONJO's members and journalists to spread activities held by SONJO by creating brochures, posters and other contents for the campaign. An example of their works is Wayang (Javanesse Puppet show) documentation that contains Covid-19 information.
2	SONJO Angkringan	SONJO Angkringan is a weekly virtual discussion held in order to disseminate ideas and information on Covid-19 pandemic. This forum invites stakeholders from various backgrounds. The discussion can be accessed through SONJO's YouTube channel.
3	SONJO Pangan (food)	SONJO Pangan is a Whatsapp Group (WAG) that consists of small and medium enterprises (SMEs) in the food sector and food technology experts. The aim of this group is to solve the issues of supply and demand in the local food industry during the pandemic. Some examples of the activities are market online display, database SONJO Pangan, and digital advertisements on social media.
4	SONJO Education	SONJO Education is focused to assist students and parents in adopting a new method of teaching or online learning during the pandemic. One of the programs is to promote community-based education centers, which provide internet access and devices such as computers and smartphones to the students.
5	SONJO Tangguh	This group was initiated on January, 6, 2021 to respond to Covid-19's high transmission rate in SRY. The purpose of this movement is to build community capacity in dealing with the situation. This WAG is a meeting point for stakeholders from different backgrounds such as local government officers, medical staff, professional association, and community organizations.
6	SONJO Inovasi	This group facilitates scientists from the health sector, agriculture sector and entrepreneurs to collaborate in solving technology-related problems caused by the pandemic. One of the initiatives of this group is the Genose -a new detection tool for Covid-19 symptoms– as an alternative method for Covid-19 testing.
7	SONJO Policy	SONJO Policy was formed in December 06, 2020, as a response to the escalating confirmed cases in SRY caused by a long holiday and local leader elections. The product of this group is policy recommendation on national and regional levels.
8	SONJO Rewangan	This group was initiated by medical staff on December 14, 2020, to address the ineffectiveness of the hospital referral system by creating a database that contains timely data of a vacant hospital, a number of available beds and the condition of a patient (triage hospital). The dashboard can be accessed online in https://datastudio.google.com/reporting/d45a6f46-7802-4f1e-82bb-41f6f4f508b1/page/9X8uB
9	SONJO Database	SONJO Database plays an important role in preparing all SONJO programs and activities. The database is built using information technology to create an application, website, and dashboard as one of the main determinants to prioritize activities in SONJO. The list of SONJO Database is http://shelter.gamabox.id/analysis# (shelter monitoring), https://datastudio.google.com/embed/reporting/1xcBu3JSlLs1PHSAIBB_zZ8puKBrDD7Hi/page/daTKB (SONJO Husada).
10	SONJO Event and Tourism	This group was initiated on September 20, 2020, to help local tourism and creative industry in responding to the impacts of the pandemic. On September 25, 2021, SONJO facilitated a declaration of Yogyakarta as the Next Wedding Destination. One of the initiatives is to create a virtual wedding as a strategy to support tourism in SRY as well as to promote health protocols in the wedding industry.
11	SONJO Rukti Jenasah (health sector-funeral)	This initiative was formed on January, 25, 2021 to respond to an urgent need for the funeral of Covid-19 patients based on strict health protocols and religious principles. As the number of death cases increased, the funeral processes were no longer held by the hospital staff. Thus the community roles had been essential to address this problem. SONJO Rukti Jenasah provides a tutorial video of funeral protocol for the community.

Source : sonjo.id

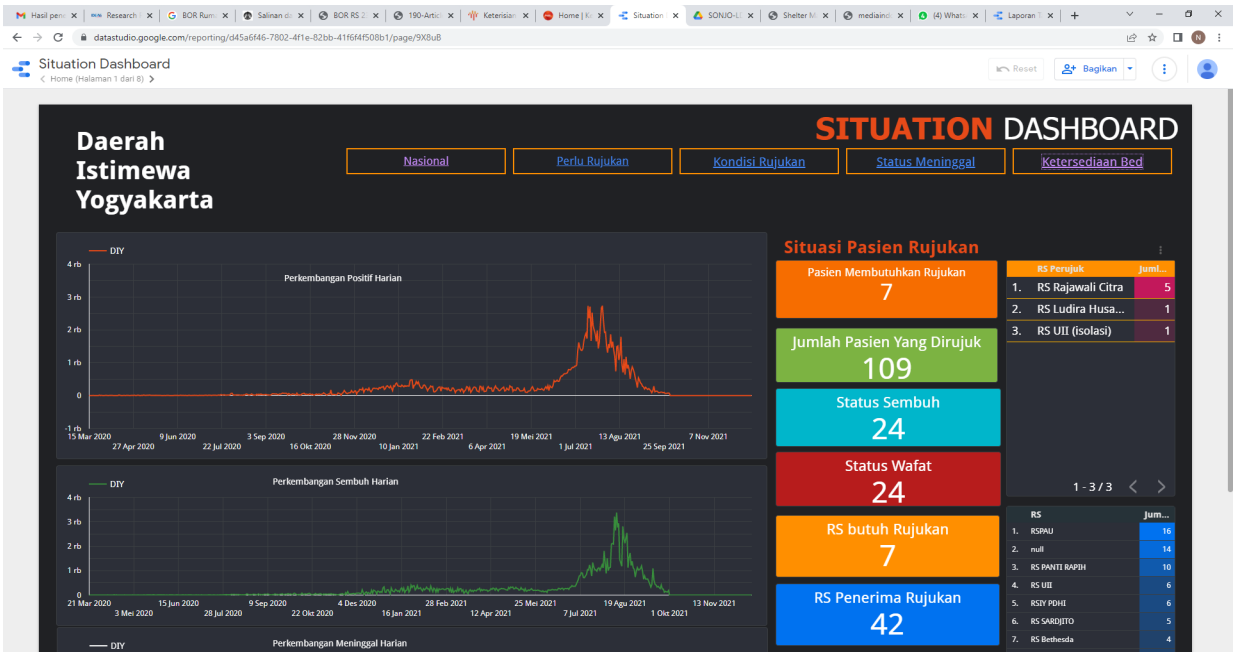
and economy. SONJO believed these three fields were the most fragile sectors hit by the pandemic.

Instead of using the conventional method, SONJO has benefited from technology information such as instant messenger applications or Whatsapp groups as the main instrument for running the program. The nature of this instant messenger application used by most of society, including low-income families, has enabled SONJO to reach people from different social backgrounds as shown by the table 3.

SONJO has established system information management such as SONJO Database, SONJO Angkringan for knowledge dissemination activities, and SONJO Media. The SONJO database is a platform designed to collect timely data and information from various stakeholders as the basis for collective action and as an input for policymakers to respond to the actual problems that arise during the pandemic. One of the most prominent examples is the hospital referral system as a crucial issue for patients (SONJO, 2020c).

As the increasing number of patients tested positive for Covid-19, the bed occupancy ratio (BOR) reached 93% in early January 2021, causing the chaotic health system in this province (Syambudi, 2021). During the peak of the pandemic, out of twenty-seven hospitals for Covid-19 cases, only four hospitals were operating. The remaining hospitals were lacking medical staff, as many of them had been tested positive. There were many patients unable to access the health facilities (Rudiana, 2021). There was a need to build an integrated database that would incorporate essential information about the hospital referral system, such as the number of available beds, ventilators, and intensive care units in each hospital to locate the vacant care unit for chronic patients. SONJO responded to this need by developing a network of hospital managers to provide the data as required called SONJO Rewangan. Established on 14 December 2020,

Picture 1.
Dashboard of SONJO's Hospital Referral System



Source: https://datastudio.google.com/reporting/d45a6f46-7802-4f1e-82bb-41f6f4f508b1/page/9X8uB

SONJO Rewangan uses an excel file to process all data submitted by hospital staff around SRY using a Whatsapp group (SONJO, 2020c).

Interestingly, the initiative to build this platform comes from the health sector actors such as doctors, nurses, and hospital managers, who are involved in the routine discussion SONJO manages. The information collected and analyzed through SONJO Rewangan is distributed to the community to provide them with the updated data of the hospital referral system, which helps the patient get the necessary treatment. Of 104 patients, 91 patients were able to get transferred to hospitals due to this information network (SONJO, 2020c). With the information network established by SONJO, the hospital staff and managers could work effectively to manage their shortage infrastructures, and the emergency treatment could be directed to patients in the chronic stage.

Another remarkable effort to provide the health system in SRY with the capacity to respond to the Covid-19 pandemic effectively through knowledge and information networks is the SONJO Angkringan. SONJO Angkringan contributes to disseminating knowledge to raise risk awareness through routine discussion with the related stakeholders. The session is broadcasted weekly on Sunday evenings around 7 pm to 9 pm using Zoom, YouTube channels, and their social media accounts. This platform becomes the meeting point among stakeholders from various backgrounds such as policymakers, academicians, professionals, hospital managers, and community members to discuss the prominent issues in society during the crisis.

It is important to note that some of the talks held by SONJO Angkringan gained significant attention and drove the health system actors to tackle the raised problems through collective work. In its 39th session, SONJO Angkringan discussed a resilient community as the last hope for battling the pandemic, highlighting how two districts in Bantul (Panggungharjo and Sriharjo) were able to mobilize local resources in order to control the virus transmission in their areas. The two district leaders (Lurah) explain that social capital as the existing norms has translated into collective action of the community which makes them resilient in responding to the crises. This conversation had gained attention and inspiration from other local leaders, such as Bandung, West Java, where they started a discussion to replicate this best practice into other districts (SONJO, 2021b).

Another example is when SONJO Angkringan hosted their 41st series, titled Gotong Royong Isoman Berbasis Komunitas (Self-Isolation Community based Cooperation). In this lecture, SONJO focused on addressing particular issues in self-isolation patients such as building society awareness, Covid-19 patient stigmatization and providing a telemedicine for self-isolation patients. There were practitioners from Hospital Board Director (RSUD Kota Yogyakarta), local leader in Banguntapan (Panewu Banguntapan), and religious leaders from Masjid Agung Kauman who delivered their experiences in establishing a community shelter base to address the prevalent issues of patient care (SONJO, 2021c).

SONJO also arranges for SONJO Husada Konvaselen, a group of Covid-19 survivors who donate their plasmavalen as the treatment for the patients (SONJO, 2020b). In order to address the problems during self-isolation, SONJO initiates SONJO Tangguh, a group of community networks to help Covid-19 patients during their self-isolation (SONJO, 2021b). There is even a group that aims to help the funeral of Covid-19 patients through educating existing societal structures, SONJO Rukti Jenasah (SONJO, 2021a). These initiatives were the products of the SONJO Angkringan discussions brought into concrete actions by community members (SONJO, 2020c).

Discussion

SONJO, which stands for Sambatan Jogja, has derived its term from the Javanese value of "*Sambatan*". *Sambatan's* original form is '*sambat,*' which means 'asking for help' in Javanese tradition, as Koentjaraningrat (2009) stated. *Sambatan* contains reciprocal and mutual activities where the cooperation among individuals in a given society is delivered through voluntary help and exchange of labor and is motivated by a social responsibility as part of the community (Bowen, 1986; Handoyo & Susilawati, 2021). The tradition of *sambatan* in Javanese society has been documented as social capital that becomes the essential determinant in shaping the resilient community towards disaster (Apriasari, 2021; Hamid et al., 2021; Kusumasari & Alam, 2012).

SONJO's name reflects the organization's aim. Principles of SONJO, such as empathy, solidarity, and mutual help, known as 'gotong royong', are part of the social norms that have a long history in Javanese society, especially in rural areas. Anwar et al. (2017) investigated how *sambatan*, the collective action of people in SRY, has demonstrated a strong cultural tradition that helps them shape their risk perception, social beliefs, and economic constraints. This is embedded in social and cultural values. Hence, *sambatan* is a pivotal factor that enhances community resilience as they show an ability to perform collaboration, resulting in a shared responsibility toward one another. SONJO has activated these traditional social norms of SRY in times of the Covid-19 pandemic through an equal and meaningful collaboration among stakeholders, building trust and shared responsibility to work together in responding to the crises (SONJO, 2020a).

One of the fundamental capacities of health system resilience is the capacity to anticipate and cope with uncertainties through the perception of risks (Blanchet et al., 2017). This refers to the ability of the health system to process the knowledge of risk and then translate it into action that strengthens the effort to maintain the essential health service delivery, including the resources mobilization drawn from both government agencies and the existing structure of the community (Barasa et al., 2017; Blanchet et al., 2017; Hanefeld et al., 2018).

This coping mechanism is apparent in SONJO. On 21 March 2020, it was reported that most hospitals in SRY were struggling to equip their medical staff with standardized personal protective equipment (PPE) and surgical masks, as mentioned by the Head of Communication Sardjito hospital (Rudiana, 2021). Officials also confirmed from the health department that the demand for medical equipment was high because it was an important tool to protect medical staff from this infectious disease (Sunartono, 2021). SONJO responded by gathering resources and building a database on stocks and availability of PPE and surgical masks as shown in their database (https://datastudio.google.com/embed/reporting/1xcBu3JSlLs1PHSAIBB_zZ8puKBrDD7Hi/page/daTKB). SONJO also held a public discussion through their YouTube channel to discuss how to provide PPE (SONJO, 2020e).

SONJO furthers its initiative with attempts to reach scientists, local producers, humanitarian agencies, government bodies, and community members to start the initiatives to curb the virus transmission in SRY through the provision of sufficient medical equipment such as surgical masks, PPEs, gloves, and face-shields. To produce the standardized medical equipment, local producers required scientific guidelines from health practitioners and scientists in making their products. SONJO addressed this challenge by developing networks connecting related stakeholders. Starting from 28 April 2020, the Faculty of Pharmaceuticals of Gadjah Mada University in SRY agreed to lend their laboratory facilities and expertise. Hence, the local producers

of medical equipment could access it freely. Under this SONJO-led initiative, the local producers managed to produce 310 samples of PPEs. These items were then distributed to 33 health institutions in SRY and other provinces such as Central Java, East Java, West Java, and the Special District of Jakarta (SONJO, 2020c, 2020d, 2020f).

Another problem that was solved is distributing the products to health care facilities and the community. The supply chains and resource mobilization are prominent issues during the crisis, including a pandemic that requires alternative distribution chains and supplemental financing to cover the costs. SONJO Husada was developed to address this issue by initiating cooperation among humanitarian agencies, particularly those with bases in the community (SONJO, 2020d). To generate funding for the medical supplies provision, SONJO Husada and humanitarian agencies, such as ACT, Lazis UNISA, LAZIS NU, NU Care, raised money through a national digital crowd-funding platform, Kitabisa.com. SONJO Husada also created a site (https://www.pedulicorona.site/) developed by the Faculty of Pharmaceuticals of Gadjah Mada University to enhance the coordination between stakeholders as well as to take the initiative accessible and transparent to the public (SONJO, 2020f).

The donation collected by SONJO Husada and its partners had raised funding that could provide health facilities and vulnerable groups with the medical equipment and logistics required. The resources were distributed through the channels and networks involved parties in SONJO Husada, ranging from hospital representatives, community-based health facilities staff, and community leaders. This network had been able to deliver the donation effectively to the targeted groups as it benefitted the informal channel or existing community structure, which was reliable and trustable (SONJO, 2020e, 2020f).

SONJO Tangguh (Community base shelter) created a crucial contribution attributed as a mechanism to adapt to adversity through the transformation of current circumstances into enabling the environment to maintain primary health care. This program aimed to ease the surge of Covid-19 patients in SRY by providing self-isolation facilities. The initiative emerged from the urgent need of the Covid-19 patients in Panggungharjo district, Bantul, to access self-isolation facilities. In February 2021, the occupancy rate of isolation facilities in Bantul reached 80% of their maximum capacities, with the number of patients with Covid-19 reaching 8,061 patients (Sidik, 2021).

Covid-19 pandemic brought the need for self-isolation facilities, which had not been prepared in SRY. SONJO Angkringan held discussions that gathered local government officials of Panggungharjo, the Head of Health Agency of Bantul, and community leaders to respond to the issue. As a result, the collaborative work had been directed to build self-isolation facilities based on community funds through open donation and joint financing between the local government of Panggungharjo and the Health Agency of Bantul. The donation and joint financing between the local governments had reached the amount of money that was able to build 19 centers of self-isolation units with a total of 230 beds (SONJO, 2020c). This initiative became a substantial supplement for the formal infrastructure of the government to maintain shocks created by the pandemic. Following this shelter development, SONJO also works to build a digital database of shelters in SRY to monitor the current situation of demand and supply need in community isolation center as presented in their online Shelter Monitoring Dashboard (http://shelter.gamabox.id/analysis#)

SONJO as a community initiative emerged as the response to the current situation in SRY during the pandemic of Covid-19. SONJO has provided crucial insight into how non-

state actors strengthen the health system's resilience. The various programs developed by SONJO bring a wide range of actors to build a collaborative network that shapes the health system's capacity in SRY to become resilient. SONJO embraces the dynamic of power relations among health system actors to enable them to interact in a complex nature which forms shared values and understanding to collaborate in achieving the healthy functioning of the society in a time of crisis. This ability to manage and integrate different actors across the health system is essential to achieving a resilient health system (Blanchet et al., 2017; Kruk et al., 2015).

In the health system literature, a social broker is an agency that helps to strengthen the health system resilience by developing a space to link diverse actors and a wide range of knowledge and information necessary to navigate risks (Blanchet et al., 2017). In the case of SONJO, SONJO had played a significant role as the social broker and managed the diversity underpinning the health system of SRY. SONJO mediated multiple actors by bridging their interests and norms through shared information, meaningful engagement, effective communication, and coordination into an integrated action towards the desirable wellbeing of the society.

Conclusion

The importance of resilience in health system literature has drawn growing attention, particularly in the low and middle-income countries that suffer severely caused by a crisis such as the Covid-19 pandemic. A resilient health system is defined as the capacity to maintain shocks, absorb, and transform them into enabling environments to ensure the essential function of health delivery to pursue positive health outcomes.

To make the health system resilient; it needs to embrace the power dynamics underlying the method where it operates, including providing access for non-state actors such as the community to strengthen the health system. The process of making the health system resilient in the face of crises by the involvement of non-state actors is outlined effectively through the work of SONJO during the pandemic of covid–19 in SRY.

SONJO is a community organization that can mobilize resources needed to respond to shocks created by the Covid-19 pandemic by creating a platform that unites diverse actors in SRY to build collective actions. The program initiated by SONJO has contributed significantly to easing the burden suffered by the vulnerable groups and strengthening the health sector's capacity to handle surge capacity caused by the increasing number of Covid-19 patients. SONJO acts as a social broker that manages a wide range of knowledge and information to navigate risk, translating it into actions to maintain the core function of health services delivery.

References

Abimbola, S., & Topp, S. M. (2018). Adaptation with robustness: The case for clarity on the use of 'resilience' in health systems and global health. *BMJ Global Health*, *3*(1), 1–3. https://doi.org/10.1136/bmjgh-2018-000758

Anwar, H. Z., Yustiningrum, R. R. E., Andriana, N., Kusumawardhani, D. T. P., Sagala, S., & Sari, A. M. (2017). Measuring Community Resilience to Natural Hazards: Case Study of Yogyakarta Province. In R. Djalante, M. Garschangen, F. Thomalla, & R. Shaw (Eds.), *Disaster Risk Reduction. Disaster Risk Reduction in Indonesia: Progress, Challenges, and Issues* (pp. 609–634). Springer.

Apriasari, H. (2021). Konsep Harmoni antara Manusia, Alam dan Tuhan sebagai Sebuah Kearifan Lokal dalam Menghadapi Bencana bagi Masyarakat Jawa. *Jurnal Manajemen Bencana*, *7*(2), 133-140. http://jurnalprodi.idu.ac.id/index.php/MB/article/view/770

Bao, Y., Quan, C., Wang, L [Lijuan], & Ren, F. (2014). The role of pre-processing in twitter sentiment analysis. In D. Huang, K. H. Jo, & L. Wang (Eds.), *Intelligent Computing Methodologies. ICIC 2014. Lecture Notes in Computer Science* (pp. 615–624). Springer. https://doi.org/10.1007/978-3-319-09339-0_62

Barasa, E. W., Cloete, K., & Gilson, L. (2017). From bouncing back, to nurturing emergence: Reframing the concept of resilience in health systems strengthening. *Health Policy and Planning*, *32*(1), iii91-iii94. https://doi.org/10.1093/heapol/czx118

Barker, K. M., Ling, E. J., Fallah, M., Vandebogert, B., Kodl, Y., Macauley, R. J., Viswanath, K., & Kruk, M. E. (2020). Community engagement for health system resilience: Evidence from Liberia's Ebola epidemic. *Health Policy and Planning*, *35*(4), 416–423. https://doi.org/10.1093/heapol/czz174

Bhandari, S., & Alonge, O. (2020). Measuring the resilience of health systems in low- and middle-income countries: A focus on community resilience. *Health Research Policy and Systems*, *18*(1), 1–19. https://doi.org/10.1186/s12961-020-00594-w

Blanchet, K., Nam, S. L., Ramalingam, B., & Pozo-Martin, F. (2017). Governance and capacity to manage resilience of health systems: Towards a new conceptual framework. *International Journal of Health Policy and Management*, *6*(8), 431–435. https://doi.org/10.15171/ijhpm.2017.36

Bowen, J. R. (1986). On the Political Construction of Tradition: Gotong Royong in Indonesia. *The Journal of Asian Studies*, *45*(3), 545–561. https://doi.org/10.2307/2056530

Burnham, P. (2008). *Research Methods in Politics* (2nd ed). *Political analysis*. Palgrave Macmillan.

CNN Indonesia (2020, March 2). Jokowi Umumkan Dua WNI Positif Corona di Indonesia. *CNN Indonesia*. https://www.cnnindonesia.com/nasional/20200302111534-20-479660/jokowi-umumkan-dua-wni-positif-corona-di-indonesia

Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing among five approaches* (Fourth edition).

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). *The SAGE handbook of qualitative research* (Fifth edition). Sage Publications.

Djalante, R., Lassa, J., Setiamarga, D., Sudjatma, A., Indrawan, M., Haryanto, B., Mahfud, C., Sinapoy, M. S., Djalante, S., Rafliana, I., Gunawan, L. A., Surtiari, G. A. K., & Warsilah, H. (2020). Review and analysis of current responses to COVID-19 in Indonesia: Period of January to March 2020. *Progress in Disaster Science*, *6*, 1–9. https://doi.org/10.1016/j.pdisas.2020.100091

Haldane, V., Ong, S. E., Chuah, F. L. H., & Legido-Quigley, H. (2017). Health systems resilience: meaningful construct or catchphrase? *The Lancet*, *389*(10078), 1513. https://doi.org/10.1016/S0140-6736(17)30946-7

Hamid, N., Royyani, M. A., Muhajarah, K., & Aly, M. N. (2021). "Sambatan": A Form of Community's Local Wisdom in Facing the Threat of Abrasion in Kragan, Rembang, Indonesia. *6th International Conference on Science, Education and Technology (ISET 2020)*, 613–617. https://doi.org/10.2991/assehr.k.211125.115

Handoyo, B., & Susilawati, N. (2021). Eksistensi Tradisi Sambatan dan Ingon pada Masyarakat Petani Jawa. *Culture & Society: Journal of Anthropological Research*, *3*(1), 50–61. https://doi.org/10.24036/csjar.v3i1.92

Hanefeld, J., Mayhew, S., Legido-Quigley, H., Martineau, F., Karanikolos, M., Blanchet, K., Liverani, M., Yei Mokuwa, E., McKay, G., & Balabanova, D. (2018). Towards an understanding of resilience: Responding to health systems shocks.

Health Policy and Planning, *33*(3), 355–367. https://doi.org/10.1093/heapol/czx183

Hermann, M. G. (2008). Content Analysis. In A. Klotz & D. Prakash (Eds.), *Research methods series. Qualitative methods in international relations* (pp. 151–167). Palgrave Macmillan.

Hizbaron, D. R., Ruslanjari, D., & Mardiatno, D. (2021). Amidst covid-19 pandemic: An adaptive disaster governance in Yogyakarta, Indonesia. *Social Sciences*, *10*(3), 1–18. https://doi.org/10.3390/socsci10030092

Hookway, N., & Snee, H. (2008). The Blogosphere. In N. Fielding, R. Lee, & G. Blank (Eds.), *The SAGE Handbook of Online Research Methods* (pp. 381–398). Sage Publications, Ltd.

Kieny, M. P., & Dovlo, D. (2015). Beyond Ebola: A new agenda for resilient health systems. *The Lancet*, *385*(9963), 91–92. https://doi.org/10.1016/S0140-6736(14)62479-X

Kothari, C. (2004). *Research Methodology: Methods and Techniques*. New Age International.

Kruk, M. E., Ling, E. J., Bitton, A., Cammett, M., Cavanaugh, K., Chopra, M., El-Jardali, F., Macauley, R. J., Muraguri, M. K., Konuma, S., Marten, R., Martineau, F., Myers, M., Rasanathan, K., Ruelas, E., Soucat, A., Sugihantono, A., & Warnken, H. (2017). Building resilient health systems: A proposal for a resilience index. *BMJ (Online)*, *357*, 1–8. https://doi.org/10.1136/bmj.j2323

Kruk, M. E., Myers, M., Varpilah, S. T., & Dahn, B. T. (2015). What is a resilient health system? Lessons from Ebola. *The Lancet*, *385*(9980), 1910–1912. https://doi.org/10.1016/S0140-6736(15)60755-3

Kusumasari, B., & Alam, Q. (2012). Local wisdom-based disaster recovery model in Indonesia. *Disaster Prevention and Management: An International Journal*, *21*(3), 351–369. https://doi.org/10.1108/09653561211234525

Kutzin, J., & Sparkes, S. P. (2016). Health systems strengthening, universal health coverage, health security and resilience. *Bulletin of the World Health Organization*, *94*(1), 2. https://doi.org/10.2471/BLT.15.165050

Lazuardi, E. (2020). Pandemic and Local Measures: Witnessing Pandemic in Yogyakarta, Indonesia a City with no Lockdown. *City and Society*, *32*(2), 1–17. https://doi.org/10.1111/ciso.12309

Margolis, E., & Zunjarwad, R. (2018). Visual Research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (pp. 1039–1089). Sage Publications.

Naimoli, J. F., & Saxena, S. (2018). Realizing their potential to become learning organizations to foster health system resilience: Opportunities and challenges for health ministries in low-and middle-income countries. *Health Policy and Planning*, *33*(10), 1083–1095. https://doi.org/10.1093/heapol/czy100

Nuzzo, J. B., Meyer, D., Snyder, M., Ravi, S. J., Lapascu, A., Souleles, J., Andrada, C. I., & Bishai, D. (2019). What makes health systems resilient against infectious disease outbreaks and natural hazards? Results from a scoping review. *BMC Public Health*, *19*(1), 1–9. https://doi.org/10.1186/s12889-019-7707-z

Oh, T.-H., Dekel, T., Kim, C., Mosseri, I., Freeman, W. T., Rubinstein, M., & Matusik, W. (2019, May 23). *Speech2Face: Learning the Face Behind a Voice*. http://arxiv.org/pdf/1905.09773v1

Onuora, C., Torti Obasi, N., Ezeah, G. H., & Gever, V. C. (2021). Effect of dramatized health messages: Modelling predictors of the impact of COVID-19 YouTube animated cartoons on health behaviour of social media users in Nigeria. *International Sociology*, *36*(1), 124–140. https://doi.org/10.1177/0268580920961333

Patterson, A. N. (2017). 'I need somebody to hear me': YouTube and identity expression

of biracial individuals. *Multicultural Education Review*, *9*(2), 105–116. https://doi.org/10.1080/2005615X.2017.1313020

Patterson, A. N. (2018). YouTube Generated Video Clips as Qualitative Research Data: One Researcher's Reflections on the Process. *Qualitative Inquiry*, *24*(10), 759–767. https://doi.org/10.1177/1077800418788107

Reynolds, E. (2011). Enticing a challengeable in arguments. *Pragmatics. Quarterly Publication of the International Pragmatics Association (IPrA)*, *21*(3), 411–430. https://doi.org/10.1075/prag.21.3.06rey

Rudiana, P. A. (2021, January 15). Hospitals in Special Region of Yogyakarta enter emergency state, don't let the health system collapses because of covid-19 (DIY Darurat Rumah Sakit, Jangan Biarkan Jadi Kolaps Gegara COVID). *IDN Times*. https://jogja.idntimes.com/news/jogja/pito-agustin-rudiana/diy-darurat-rumah-sakit-jangan-biarkan-jadi-kolaps-gegara-covid

Sidik, H. (2021, February 20). Health Dept: Isolation Occupancy in Bantul reached 80% (Dinkes: Keterisian tempat isolasi COVID-19 di Bantul capai 80 persen). *Antaranews*. https://www.antaranews.com/berita/2010390/dinkes-keterisian-tempat-isolasi-covid-19-di-bantul-capai-80-persen

Siekmans, K., Sohani, S., Boima, T., Koffa, F., Basil, L., & Laaziz, S. (2017). Community-based health care is an essential component of a resilient health system: Evidence from Ebola outbreak in Liberia. *BMC Public Health*, *17*(1), 1–10. https://doi.org/10.1186/s12889-016-4012-y

SONJO. (2020a). *Building Social Capital to Anticipate Long-term Pandemic*. Yogyakarta. Retrieved from https://www.youtube.com/watch?v=W7rj1ZetJBQ

SONJO. (2020b). *Covid-19 Convalescent Plasma Donor*. Yogyakarta. Retrieved from https://www.youtube.com/watch?v=Sef6Q8jHjOg

SONJO. (2020c). *Living Document SONJO*. SONJO. Retrieved from https://sonjo.id/sonjo/living-document-sonjo/

SONJO. (2020d). *SONJO Husada: Maintaining PPE Supply for Frontline Workers*. Yogyakarta. Retrieved from https://www.youtube.com/watch?v=2Y2YhD4s9nI

SONJO. (2020e). *Strategies to Purchase PPEs during Pandemic*. Yogyakarta. Retrieved from https://www.youtube.com/watch?v=znlD7RjZFyg

SONJO. (2020f). *Synergy for the Future of Health Services*. Yogyakarta. Retrieved from https://www.youtube.com/watch?v=t3PLQjds2Gc

SONJO. (2021a). *Funeral Rites during the pandemics: Myths and Realities*. Yogyakarta. Retrieved from https://www.youtube.com/watch?v=M3SVVb_5w1E

SONJO. (2021b). *Resilient Community - the Last Fortress against Covid-19*. Yogyakarta. Retrieved from https://www.youtube.com/watch?v=1ZeIwjW_Aik

SONJO. (2021c). *Working Together, Self-Isolation Based on Community Care*. Retrieved from https://www.youtube.com/watch?v=cwrjAs-CCP4&t=3s

Sunartono (2021, June 19). The government of Special Region of Yogyakarta calls for aids on PPEs (Pemda DIY Masih Terbuka Menampung Bantuan APD untuk Penanganan Covid-19). *Harian Jogja*. Retrieved from https://jogjapolitan.harianjogja.com/read/2020/06/19/510/1042256/pemda-diy-masih-terbuka-menampung-bantuan-apd-untuk-penanganan-covid-19

Syambudi, I. (2021, January 15). Covid-19 emergency in Yogyakarta: Collapsed hospitals and rising death rate (Yogyakarta Darurat COVID-19: Rumah Sakit Kolaps, Kematian Melonjak). *Tirto*. Retrieved from https://tirto.id/yogyakarta-darurat-covid-19-rumah-sakit-kolaps-kematian-melonjak-f9eP

van de Pas, R., Ashour, M., Kapilashrami, A., & Fustukian, S. (2017). Interrogating resilience in health systems development. *Health Policy and Planning*, *32*(September), iii88-iii90. https://doi.org/10.1093/heapol/czx110

Wulff, K., Donato, D., & Lurie, N. (2015). What is health resilience and how can we build it? *Annual Review of Public Health*, *36*, 361–374. https://doi.org/10.1146/annurev-publhealth-031914-122829