Health-Related Information & COVID-19:

A Study of Sri Lanka and Thailand

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Executive Summary

Effective pandemic response necessitates the collection of vast quantities of personally identifiable information. As part of disease surveillance, responders need to be able to identify those who have contracted the disease, trace contacts who may have been exposed, and find out where clusters may be emerging. They also need to be able to ask those who may have been exposed to quarantine, and likely follow up to check if the quarantine is being observed, as well as if those under quarantine have developed symptoms. By tracking who may have contracted the disease or been exposed to it, responders have a better chance of being able to identify how the virus is travelling and take targeted actions to mitigate its spread.

Information collection for contact tracing and quarantine monitoring can be undertaken in a variety of ways, including testing, case reporting, and interviewing infected persons to find out their travel history and whom they may have recently come into contact with, and then following up with those contacts. In addition, advances in digital technologies have given rise to newer methods. The COVID-19 pandemic has seen a proliferation of contact tracing applications around the world. Similarly, other forms of data can be harnessed, such as location and GPS data, as well as the use of call records to identify close contacts and monitor quarantines.

However, there are numerous challenges in information collection during a pandemic. Especially in a novel pandemic, as knowledge about the nature of the disease and how it spreads is still emerging, responders have to come up with response procedures quickly and often learn on the job. One of the challenges of dealing with infectious diseases, including COVID-19, is combatting the stigma associated with having contracted the disease. While it is necessary for health officials to be aware of who is infected and exposed, the social stigma associated with the disease can incentivize the unwell to hide their symptoms, posing a challenge for health officials. The use of digital technologies has also given rise to concerns about cybersecurity and the protection of personally identifiable information.

While these debates have been taking place worldwide due to the extensive global reach of COVID-19, the manner in which they play out in practice varies by context. In this research, we focus on the COVID-19 pandemic in two emerging Asia Pacific nations, Sri Lanka and Thailand, in particular on contact tracing and quarantine monitoring and enforcement.

We found that both countries relied heavily on contact tracing by leveraging extensive public health networks. The information flows are described in the report. Especially in Sri Lanka, the police and the armed forces were also heavily involved in contact tracing and quarantine monitoring and enforcement. Digital solutions for contact tracing have also been introduced in both countries, and while there have been benefits, there have also been drawbacks, including challenges related to cybersecurity and data governance. Responders also made extensive use of ICTs, including Microsoft Excel to create databases, as well as social media platforms such as WhatsApp and LINE to coordinate responses and report data. Furthermore, we found that one of the challenges to disease surveillance was not just due to reluctance to disclose to authorities themselves, but the fear of lateral surveillance and stigmatization by neighbors and acquaintances and exposure of their COVID – positive status in the media. Hence, balancing the need for data collection with the need to protect personally identifiable information was a challenge. We end by offering recommendations on areas that can be improved. We hope that these findings will be useful to policymakers and health officials in combatting future pandemics.



Introduction

Information collection (or data collection) is key to combatting a pandemic. As part of disease surveillance, responders need to be able to identify the infected, trace contacts who may have been exposed, and find out where clusters may be emerging. They also need to be able ask to those who may have been exposed to quarantine, and likely follow up to check if the quarantine is being observed, as well as if those under quarantine have developed symptoms. By tracking who may have contracted the disease or been exposed to it, responders have a better chance of being able to identify how the virus is travelling, and hopefully take targeted actions to mitigate its spread.

Some of the key ways of doing this are through testing, case reporting, and interviewing infected persons to find out their travel history and whom they may have recently come into contact with, and then following up with those contacts. Likewise, those who are directed to guarantine at home could periodically be visited by health officials to ensure that they are sticking to the quarantine. In addition, advances in communications and digital technologies have also given rise to other methods of contact tracing and guarantine monitoring. The outbreak of COVID-19 has seen a proliferation of contact tracing apps around the world.¹ It has been argued that the Sars-Cov-2 virus may spread too fast to be tracked efficiently by purely manual methods, and that apps could help to speed up this process.² Similarly, other forms of data can be harnessed, such as location and GPS data, as well as the use of call records to identify close contacts and monitor guarantines. For example, in the aftermath of the 2015 MERS outbreak, South Korea amended its Infectious Diseases Control and Prevention Act to allow the Minister of Health and Welfare and local government heads to ask law enforcement for location information of patients and those who are likely to have contracted an infectious disease.³ The head of the relevant police agency can ask telecommunications business operators and location information providers for location information, in spite of limitations under the Location Information Act and the Protection of Communication Secrets Act.⁴ Information that can be accessed under these provisions include credit card records and cellphone GPS data, without a warrant.⁵ Similarly, Taiwan has used telecommunications data to ensure that those who are required to guarantine are not moving too far from their residences by triangulating the users' cellphones locations relative to cell phone towers.⁶ These new forms of data can enhance and complement traditional ways of contact tracing and guarantine monitoring.

However, there are numerous challenges in information collection during a pandemic. Especially in a novel pandemic, as knowledge about the nature of the disease and how it spreads is still emerging, responders have to come up with response procedures quickly and often learn on the job. One of the challenges of dealing with infectious disease, including

¹ For example, see Ada Lovelace Institute (2020, July 9). *COVID-19 digital contact tracing tracker*. <u>https://www.adalovelaceinstitute.org/project/covid-19-digital-contact-tracing-tracker/</u>

² Ferretti, L., Wymant, C., Kendall, M., Zhao, L., Nurtay, A., Abeler-Dörner, L., Parker, M., Bonsall, D., & Fraser, C. (2020). Quantifying SARS-CoV-2 transmission suggests epidemic control with digital contact tracing. *Science.* 368(6491). DOI: 10.1126/science.abb6936

³ Regulating Electronic Means to Fight the Spread of COVID-19: South Korea (2020). The Law Library of Congress. <u>https://www.loc.gov/law/help/coronavirus-apps/korea.php</u>

⁴ Ibid. ⁵ Ibid.

⁶ Regulating Electronic Means to Fight the Spread of COVID-19: Taiwan (2020). The Law Library of Congress. <u>https://www.loc.gov/law/help/coronavirus-apps/taiwan.php</u>



COVID-19, is combatting the stigma associated with having contracted the disease. While it is necessary for health officials to be aware of who is infected and exposed, the social stigma associated with the disease can incentivize the unwell to hide their symptoms, posing a challenge for health officials. The use of digital technologies has also given rise to concerns about cybersecurity and the protection of personally identifiable information. The United Nations recently released a joint statement on "Data Protection and Privacy in the COVID-19 Response." It stated that (quoting below):⁷

Taking into account the UN Personal Data Protection and Privacy Principles, the UN Secretary-General's policy brief on human rights and COVID-19, and relevant health and humanitarian standards, data collection, use and processing by UN System Organizations in their operations should, at a minimum:

• Be lawful, limited in scope and time, and necessary and proportionate to specified and legitimate purposes in response to the COVID-19 pandemic;

• Ensure appropriate confidentiality, security, time-bound retention and proper destruction or deletion of data in accordance with the aforementioned purposes;

• Ensure that any data exchange adheres to applicable international law, data protection and privacy principles, and is evaluated based on proper due diligence and risks assessments;

• Be subject to any applicable mechanisms and procedures to ensure that measures taken with regard to data use are justified by and in accordance with the aforementioned principles and purposes, and cease as soon as the need for such measures is no longer present; and

• Be transparent in order to build trust in the deployment of current and future efforts alike.

Questions surrounding how health data and related information should be collected, stored and used during epidemics do differ from how these questions are approached in non-epidemic healthcare situations. Epidemics are emergencies that have to be dealt with quickly, which means that a great deal of information needs to be collected fast. Furthermore, it is not only health officials who are involved; law enforcement and private businesses may have roles to play as well. Other forms of data that may not always be ordinarily used in healthcare settings (e.g., travel history) also need to be collected when tracking an infectious disease, which has a specifically communal aspect (i.e., a patient can transmit the infection to another person). Therefore, information and data collection and use in epidemics specifically warrants its own research and development of specific solutions and standards.

While these debates have been taking place worldwide due to the extensive global reach of COVID-19, the manner in which they play out in practice varies by context. In this research, we focus on the COVID-19 pandemic in two emerging Asia Pacific nations – Sri Lanka and Thailand, in particular on contact tracing and quarantine monitoring and enforcement. We first conducted desk research to review existing laws, policies and regulations relating to epidemics and the collection and use of health data and information in

⁷ United Nations (2020, November 18). *Joint Statement on Data Protection and Privacy in the COVID-19 Response*. <u>https://www.un.org/en/coronavirus/joint-statement-data-protection-and-privacy-covid-19-response</u>; <u>https://www.un.org/sites/un2.un.org/files/joint_statement_on_data_protection_and_privacy_in_covid-19-response.pdf</u>



both countries. Through desk research, we also found out what kinds of information gathering systems are being deployed. We then conducted key informant interviews with personnel involved in the COVID-19 response in both countries and other experts to understand their first-hand insights on what was happening on the ground. In Sri Lanka, in-depth interviews with two Sri Lankan citizens who returned to the country during the pandemic and quarantined were also conducted. A full listing of the key informants can be found in Annex 1.

It should be noted that COVID-19 is an ongoing situation as of the time of this research. We focused our study mainly on the events of the year 2020. We have done our best to present the practices that were followed in the response to COVID-19 as completely and thoroughly as possible, but it is possible that these practices may change and evolve as the pandemic continues.



Policies, Laws and Regulations

Following is a discussion of the policies, laws and regulations that relate to collection of health information and other related information. In response to the COVID-19 pandemic, specific ad hoc circulars, guidelines and regulations were issued. A fuller listing of these policies, laws, and regulations can be found in Annex 2.

Sri Lanka

One of the key legislations for dealing with epidemics in Sri Lanka is the Quarantine and Prevention of Disease Ordinance of 1897 (henceforth "Quarantine Act"). The Quarantine Act encompasses various powers, including the ability to enforce quarantine, and isolate those who have contracted the disease. Among others, the regulations can provide:

3. 1) (p): "for prescribing the reporting to such officer or officers as may be named in the regulations, by medical practitioners and persons professing to treat diseases, of cases of disease treated by them;"

3. 1. (q): "for prescribing the reporting by the householder or occupier of any house or premises to such officer or officers as may be named in the regulations of any case of serious illness occurring in any such house or premises ; and the visiting and inspecting of such case by such officer or officers;"⁸

Sri Lanka does not have laws in place regarding the collection and use of health-related information. Policies have been released with guidelines in place, including the National Policy on Health Information (2017)⁹ and the National Digital Health Guidelines and Standards ("NDHGS") Version 2.0 (2020, updated from Version 1.0 of 2016).¹⁰ The National Policy on Health Information sets out broad brush strategies for data storage and backup, data / information archiving and disposal, and data / information sharing. It touches upon the general/generic objectives of privacy and confidentiality but does not clearly define roles such as data controller / processor etc. It does not also encompass any consequences for violation of these principles. The NDHGS is meant for both the state and private sector health institutions. The standards cover a variety of areas, including digital health architecture, digital health hardware; digital health software services; network and connectivity for healthcare institutions; communication interface for websites and emails; privacy, confidentiality, security, and medical ethics; and digital health systems interoperability (p. ii). The NDGHS states that personally identifiable information should only be used for "specified, explicit and legitimate purpose" (p. 17). Furthermore, personally identifiable information shall not be disclosed without the written informed consent of the individual concerned. The NDHGS defines "consent" as follows: "consent' means any freely given, specific, informed and unambiguous indication by way of a written declaration or an affirmative action signifying a

⁸ Quarantine and Prevention of Diseases Ordinance 1897. Accessed at

https://www.lawlanka.com/lal/pages/popUp/printConsolidationPopUp.jsp?actId=1981Y17V553C on 7 April 2021

⁹ Ministry of Health, Nutrition, and Indigenous Medicine. (2017). *The National Policy on Health Information*. <u>http://www.health.gov.lk/moh_final/english/public/elfinder/files/publications/publishpolicy/NationalPolicyonHealthInformation.pdf</u>

¹⁰ Ministry of Health. (2020). *National Digital Health Guidelines and Standards* [NDHGS] 2.0. <u>http://www.health.gov.lk/moh_final/english/public/elfinder/files/publications/list_publi/NDHGS%20v2.pdf</u>



data subject's agreement to the processing of his/her personal data" (p. 17). However, the NDHGS is not yet fully implemented nationwide.

Dr. Lasantha Ranwala, Senior Registrar of Health Informatics at the Ministry of Health, Sri Lanka, told us that there are four technical working groups in the Ministry, and that he is co-chairing a technical working group focusing on data privacy, data protection, and health information security. "In [those] technical working groups also we are planning to develop some health information security guidelines for the health institutions and other than that we [are] also trying to develop some interoperability framework to connect all the information system[s] in the country [...] to share[...] information with each other." He also stated that implementation of the NDGHS was being encouraged, since all parties need to follow the same standard if data is to be shared. "It is not only for the government, it is for the whole country," he added.

There is no express constitutional right to privacy under the Constitution of Sri Lanka. Article 14A the Constitution deals with the right of access to information. In the said provision, privacy is included as an exemption, wherein information requested can be refused on the grounds that it violated privacy. However, some degree of protection for violations stemming from the breach of privacy can be claimed under the common law. An action can also potentially lie thorough *actio iniuriarum*, under the law of delict. Under the *actio iniuriarum* divulging personal information could be considered an affront to dignity or in violation of personality rights.¹¹

Sri Lanka does have a draft Personal Data Protection Bill $(2019)^{12}$ which has not yet been passed into law. The Bill defines "data concerning health" as "means personal data related to the physical or psychological health of a natural person, which includes any information that indicates his health situation or status." "Personal data" has been defined as "means any information that can identify a data subject directly or indirectly, by reference to – (a) an identifier such as a name, an identification number, location data or an online identifier, or (b) one or more factors specific to the physical, physiological, genetic, psychological, economic, cultural or social identity of that individual or natural person." It should be noted that data concerning health comes with "special categories of data" for which additional conditions for processing are afforded, described in Schedule II of the Bill. Processing of special categories of data is permissible for communicable diseases and public health emergencies under Schedule II of the Bill, even without consent.

To tackle the COVID-19 outbreak, several gazettes, circulars, and guidelines have been published that relate to information collection. An interim summary guideline was released on 26 January 2020 by the Ministry of Health.¹³ The said guideline stated that the treating physician should immediately notify the Epidemiology Unit of the Ministry of Health by phone when patients are suspected of having the COVID-19 virus. The interim guidelines also mandated that every lab request form for testing should collect a brief history of the illness.

¹¹ Amerasinghe, C. F. (1966). In *Aspects of the Actio iniuriarum in Roman-Dutch law*. essay, Lake House Investments.

 ¹² Draft of Personal Data Protection Bill 2019. Retrieved on 7 April 2021 from <u>https://www.icta.lk/icta-assets/uploads/2021/03/DP-Bill-LD-Revised-Draft-7-1st-Feb-2021.pdf</u>
 ¹³ Ministry of Health and Indigenous Medicine (2020). Interim Summary Guidelines for Clinical Management of

¹³ Ministry of Health and Indigenous Medicine (2020). *Interim Summary Guidelines for Clinical Management of patients with novel coronavirus (2019-nCoV)*. Retrieved from

https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/InterimGuidelinesCOVID19.pdf These guidelines were sent to "Provincial Directors of Health Services, Regional Directors of Health Services, Heads/Directors of Health Institutions, Directors of National Hospital / Teaching Hospitals / Provincial & District General Hospitals, Base Hospitals, All Medical Superintendents of other Hospitals, All Consultant Community Physicians, All Regional Epidemiologists."



Other details such as patient information (name, age, sex), clinical features, presence of comorbidities, travel history, date and time of sample collection, sample type, and other laboratory investigations, are also needed. The first case of COVID-19 in Sri Lanka, a tourist from China, was detected in late January 2020.¹⁴ The patient was treated at the National Institute of Infectious Diseases (also known as Infectious Diseases Hospital, or "IDH") in Sri Lanka, and recovered and was discharged in mid-February 2020.¹⁵ On 10 March 2020, the first COVID-19 case of a Sri Lankan national within Sri Lanka was detected, a tour guide who had travelled with tourists from Italy.¹⁶ On 17 March, it was announced that all passenger arrivals to the Bandaranaike International Airport would be suspended, starting from 18 March.¹⁷ On 20 March, an island-wide curfew was imposed.¹⁸ The curfew was extended several times.

A register was required to be maintained by every healthcare institution of details of healthcare workers who had been exposed to COVID-19 (circular dated 25 March 2020).¹⁹ The register should record the name, age, sex, designation, place of work (OPD (Outpatient Department) /Ward etc.), the name of the suspected or positive patient (if known), details of exposure, date of start of self-isolation and date of completion of self-isolation. Every hospital has been required to collect general patient information (such as name, age, address, NIC or passport number), symptoms presented by the patient, travel history and evidence of close contact with a person having / at risk of contracting COVID-19, from all persons being admitted to a ward as part of the screening checklist for COVID-19 (circular dated 24 April 2020).²⁰ The public is able to call the 1390 hotline and inform the authorities if they experience symptoms of COVID-19.²¹

The easing of curfew restrictions began in May 2020²² and the curfew was lifted in the commercial capital of Colombo (except at night) in late May 2020.²³ On 04 May 2020, "Guidance on carrying out RT - PCR test for COVID-19 in work settings" was released, requiring that when a staff member or person who has visited the workplace is found to be positive, the health authorities of the area must promptly be informed. As assessment of the situation and further instructions will be given by the Consultant Community Physician, the Regional Epidemiologist, the Medical Officer of Health, or another technically competent responsible person. If a staff member or visitor to the workplace is later found to be a contact of a COVID-

¹⁷ Sri Lanka to halt all passenger arrivals at BIA. (2020, 17 Mar.). *Ada Derana*. <u>http://www.adaderana.lk/news.php?nid=61460</u>

¹⁴ First patient with coronavirus reported in Sri Lanka. (2020, Jan 27.). Colombo Page.

http://www.colombopage.com/archive_20A/Jan27_1580144354CH.php

¹⁵ Chinese coronavirus patient discharged

^{(2019, 19} Feb.) Colombo Gazette. https://colombogazette.com/2020/02/19/chinese-coronavirus-patientdischarged/

¹⁶ Jayasekera, S.A. (2020, 12 Mar.). First ever COVID 19 patient identified in Sri lanka. Daily Mirror. <u>http://www.dailymirror.lk/print/front_page/First-ever-COVID-19-patient-identified--in-Sri-lanka/238-184765</u>

¹⁸ Island-wide curfew to be imposed until Monday (2020, 20 Mar.). Ada Derana. http://www.adaderana.lk/news.php?nid=61578

¹⁹ Ministry of Health and Indigenous Medicine (2020). *Maintenance of a register for healthcare workers exposed to COVID-19 at health care institutions*. Retrieved from

https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/covid-19-register-for-health-care-workers.pdf ²⁰ Ministry of Health and Indigenous Medicine (2020). *Management of Accidental Discovery of Suspected COVID-19 Patient in the Hospital*. Retrieved from

https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/circular_for_sudden_discovery_of_a_pt.pdf ²¹ COVID-19 prevention measures to continue until after New Year – Dr. Jasinghe. (2020, 5 Apr.). *Ada Derana*. http://www.adaderana.lk/news.php?nid=62265

²² Resumption of civilian life and office work to begin from May 11. (2020, 1 May). *Colombo Page*. http://www.colombopage.com/archive_20A/May01_1588349980CH.php

²³ Srinivasan, S. (2020, 26 May). Curfew lifted in Colombo after 2 months. *The Hindu*. <u>https://www.thehindu.com/news/international/curfew-lifted-in-colombo-after-2-months/article31681382.ece</u>



19 patient, the health authorities need to be informed immediately so that a risk assessment can be conducted if needed.²⁴ In addition, the Ministry of Health released a series of "new normal" guidelines applicable to various business entities in late May 2020.²⁵ The workers/employees have been asked to submit their contact details to the employers and an assurance form indicating compliance with instructions in the guidelines - this was applicable to public buses, open markets, salons, tailors, hotels etc.²⁶ In many cases, an assurance form that the instructions are being followed is required to be submitted to the area Medical Officer of health along with copies to local government authority (municipal council / urban council / pradeshiya sabha).²⁷ Surveillance requirements have been instructed for several employers or owners for shops,²⁸ supermarkets,²⁹ and restaurants.³⁰ The relevant requirements state, "Establish an employee health surveillance system and a process of getting appropriate medical advice to them."

COVID-19 was declared a notifiable condition via circular, effective from 1 July 2020, by the Director General of Health Services, invoking the Quarantine Act.³¹ In the event of a laboratory-confirmed positive case, it is mandatory that the Epidemiology Unit be notified immediately by phone, and followed by the notification format through fax, email, or post.³² The form provided with the circular requests the collection of patient details such as name,

https://www.hpb.health.gov.lk/media/new-pdf/salons-eng.pdf

https://www.hpb.health.gov.lk/media/new-pdf/shops-eng.pdf

³² Ibid.

²⁴ Ministry of Health and Indigenous Medicine (2020). Guidance on Carrying Out RT - PCR Test for COVID-19 in Work Settings. Retrieved from

https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/guidance_on_carrying_out_rtpcr_test_for_covid-19.pdf

²⁵ Health Promotion Bureau (n.d.) COVID-19. Health Promotion Bureau. https://www.hpb.health.gov.lk/en/covid-19

²⁶ Ministry of Health and Indigenous Medicine (2020). Instructions for Selected Public Activities / Work Settings for the Prevention and Control of COVID-19: Tailors and Dressmakers. Retrieved from

https://www.hpb.health.gov.lk/media/new-pdf/tailors-eng.pdf; Ministry of Health and Indigenous Medicine (2020). Instructions for Selected Public Activities / Work Settings for the Prevention and Control of COVID-19: Tourism and hotel sector. Retrived from https://www.hpb.health.gov.lk/media/new-pdf/tourism-hotel-eng.pdf; Ministry of Health and Indigenous Medicine (2020). Instructions for Selected Public Activities / Work Settings for the Prevention and Control of COVID-19: Use of public buses. Retrieved from

https://www.hpb.health.gov.lk/media/new-pdf/public-buses-eng.pdf; Ministry of Health and Indigenous Medicine (2020). Instructions for Selected Public Activities / Work Settings for the Prevention and Control of COVID-19: Open markets. Retrieved from https://www.hpb.health.gov.lk/media/new-pdf/open-markets-eng.pdf; Ministry of Health and Indigenous Medicine (2020). Instructions for Selected Public Activities / Work Settings for the Prevention and Control of COVID-19: Barber and Beauty Salons. Retrieved from

²⁷ Ibid. Note: A "pradeshiya sabha" is a local government authority in Sri Lanka. According to the Pradeshiya Sabhas Act, No. 15 of 1987, the functions of a pradeshiya sabha are as follows: "The Pradeshiya Sabha constituted for each Pradeshiya Sabha area shall be the local authority within such area and be charged with the regulation, control and administration of all matters relating to public health, public utility services and public thoroughfares and generally with the protection and promotion of the comfort, convenience and welfare of the people and all amenities within such area." Pradeshiya Sabhas Act, No. 15 of 1987 (Sri Lanka). Retrieved from https://www.lawnet.gov.lk/pradeshiya-sabhas-3/

²⁸ Ministry of Health and Indigenous Medicine (2020). *Instructions for Selected Public Activities / Work Settings for* the Prevention and Control of COVID-19: Shops (General). Retrieved from

²⁹ Ministry of Health and Indigenous Medicine (2020). Instructions for Selected Public Activities / Work Settings for the Prevention and Control of COVID-19: Supermarkets https://www.hpb.health.gov.lk/media/newpdf/supermarkets-eng.pdf ³⁰ Ministry of Health and Indigenous Medicine (2020). Instructions for Selected Public Activities / Work Settings for

the Prevention and Control of COVID-19: Restaurants. Retrieved from https://www.hpb.health.gov.lk/media/newpdf/restaurants-eng.pdf

³¹ Ministry of Health and Indigenous Medicine (2020). Mandatory Notification of laboratory confirmed COVID-19 cases. Retrieved from

https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/mandatory_notification_lab_confirmed_covid_ 19.pdf



age, sex, address, district, and contact numbers (home and mobile). Symptoms should also be noted, as well as the date of onset of symptoms and date of the PCR test, among other details.

In July 2020, a cluster of cases was detected in Kandakadu,³³ but it was later reported that that the cluster had been brought under control.³⁴ In early October 2020, a COVID-19 case was detected in Minuwangoda, and curfew was imposed in the Divulapitiya and Minuwangoda police divisions.³⁵ In the following months, large numbers of cases were detected, marking what might be termed the "second wave" of COVID-19 in Sri Lanka. Regulations were passed under the Quarantine Act, by Extraordinary Gazette No. 2197/25 dated 15 October 2020 ("COVID-19 Regulations, October 2020").³⁶ Regulations 94 and 95 are specifically relevant, quoted below:

94. The employer or person in charge of any institution or work place which provides essential services or any other service which is required for maintaining national security, national economy, public health or preventing the spread of the Coronavirus Disease 2019 (COVID - 19) in any diseased locality in relation to the Coronavirus Disease 2019 (COVID - 19) shall in carrying out such services, -

(d) ensure that the body temperature of every person is measured before entering the institution or workplace

(f) maintain a record of the name, identity card number and contact details of every person entering the institution or the work place

95. A person who owns or in charge of a super market, shop, sales outlets or any other place of business which provide essential or any other service in any diseased locality in relation to the Coronavirus Disease 2019 (COVID - 19) shall -

(d) ensure that the body temperature of every person is measured before entering the premises

³³ Sri Lanka finds 300 Coronavirus cases as Kandakadu cluster expands, over 1000 to be tested. (2020, 10 July). Economy Next.

https://economynext.com/sri-lanka-finds-300-coronavirus-cases-as-kandakadu-cluster-expands-over-1000-to-be-<u>tested-71813/</u> ³⁴ Borham, M. (2020, 19 July). Kandakadu cluster under control – Dr. Jasinghe. *Sunday Observer*.

http://www.sundayobserver.lk/2020/07/19/news-features/kandakadu-cluster-under-control-%E2%80%93-drjasinghe

³⁵ Police curfew imposed in Divulapitiya and Minuwangoda. (2020, 4 Oct.). Ada Derana.

http://www.adaderana.lk/news/67715/police-curfew-imposed-in-divulapitiya-and-minuwangoda ³⁶ - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 15.10.2020. No. 2197/25. Retrieved from

https://www.chamber.lk/images/COVID19/pdf/Englishversion_2197-25_E.pdf



Thailand

Existing laws in Thailand that are of relevance include the National Health Act, B.E. 2550 (2007) (พระราชบัญญัติสุขภาพแห่งชาติ พ.ศ. 2550).³⁷ Section 7 and 8 stipulate confidentiality and integrity principles for personal health information and the rights of a person over his or her own personal health information. The Official Information Act, B.E. 2540 (1997) (พระราชบัญญัติจัอมูล ข่าวสารของราชการ พ.ศ. 2540)³⁸ Chapter 3 stipulates obligations for a state agency, including a state enterprise, when handling personal information of a Thai person and a non-Thai person who has a residence in Thailand. The National Telecommunications Commission Announcement on the protection measures for consumer rights in the areas of personal data, privacy, and freedom of communication via telecommunication networks (2006) (ประกาศ กทช. เรื่อง มาตรการคุ้มครอง สิทษิของผู้ใช้บริการโทรคมนาคมเกี่ยวกับข้อมูลส่วนบุคคล สิทษิในความเป็นส่วนตัว และเฮริภาฟในการสื่อสารถึงกันโดยทางโทรคมนาคม). ³⁹ A sectorial data protection law applies for the telecommunication service licensees, including internet access provider. Location data from the telecommunication network could be considered personal information under this law.

Notably, Thailand has recently promulgated a new data protection law -- the Personal Data Protection Act B.E. 2562 (2019) or PDPA.⁴⁰ The new law adopts a broad definition of "personal data" (essentially, any information which directly or indirectly identifies an individual) as well as concepts of "data controller," "data processor," and "data subject" consistent with protection components such as consent of data subject, lawful collection, use and disclosure of personal information, privacy notice, security measures and notification of data breaches, among others.⁴¹ Despite having been passed since 27 May 2019, the law is yet to be fully enforced. Most of the law's operational provisions, including provisions relating to the rights of a data subject, the obligations of a data controller and the penalties for noncompliance, were originally scheduled to be in effect on 27 May 2020. However, this timeline was postponed for another year due to complications from the COVID-19 pandemic. The PDPA is under the supervision of the Ministry of Digital Economy and Society (DES) and the main supervising authority of the PDPA is the Office of Data Protection Committee which until now has not been appointed. The PDPA rules as exemptions the required consent from the data subjects under these circumstances – "preventing or suppressing a danger to a Person's life, body or health" (section 24) and "public interest in public health, such as protecting against cross-border dangerous contagious disease or epidemics which may be contagious or pestilent" (section 26).42

https://www.dms.go.th/backend//Content/Content_File/Information_Center/Attach/25621124013609AM_17.pd f. An unofficial English translation may be found at: <u>http://thailaws.com/law/t_laws/tlaw0368.pdf</u>

³⁸ พระราชบัญญัติข้อมูลข่าวสารของราชการ พ.ศ. 2540 (1997). Retrieved from <u>https://www.ocpb.go.th/download/pdf/act_eng_40.pdf</u>

https://www.dataguidance.com/notes/thailand-data-protection-overview

⁴² Note that quotes are taken from the unofficial English translation. พระราชบัญญัติกุ้มครองข้อมูลส่วนบุคคล พ.ศ. 2562 (2019). Retrieved from <u>https://thainetizen.org/wp-content/uploads/2019/11/thailand-personal-data-protection-act-2019-</u>th.pdf Unofficial English translation: https://thainetizen.org/docs/data-protection-cybersecurity-acts/

³⁷ พระราชบัญญัติสุขภาพแห่งชาติ พ.ศ. 2550 (2007). Retrieved from

 ³⁹ ประกาศคณะกรรมการกิจการโทรคมนาคมแห่งชาติ เรื่องมาตรการคุ้มครองสิทธิของผู้ใช้บริการ โทรคมนาคมเกี่ยวกับข้อมูลส่วนบุคคล สิทธิในความเป็นส่วนตัว และเสรีภาพในการสื่อสาร ถึงกัน โดยทาง โทรคมนาคม (2006). Retrieved from <u>http://www.ratchakitcha.soc.go.th/DATA/PDF/2549/E/088/20.PDF</u>
 ⁴⁰ Suwanprateep, D. (2020, Nov.). *Thailand - Data Protection Overview*. Data Guidance.

⁴¹ Kiratisountorn. T., Eianleng, P., Gamvros, A., & Kwok, R. (2020, Feb. 28). *Thailand Personal Data Protection Law.* Data Protection Report.

https://www.dataprotectionreport.com/2020/02/thailand-personal-data-protection-law/



In Thailand, the first confirmed cases of COVID-19 were found in January 2020. In terms of measures taken to combat COVID-19, on 1 March 2020, COVID-19 was publicly listed as a dangerous communicable disease (No. 14) under the Communicable Diseases Act B.E. 2558 (2015). On 26 March, the Thai government declared a state of emergency in all areas throughout the Kingdom and set up Center for COVID-19 Situation Administration (CCSA) at both national and provincial levels in March 2020 to effectively mitigate the pandemic in a unified effort. The Emergency Decree on Public Administration in Emergency Situations, B.E. 2548 (2005) (พระราชกำหนดการบริหารราชการในสถานการณ์ฉุกเจิน พ.ศ. 2548)⁴³ is of relevance here. Curfews and lockdown measures went into effect in varying degrees throughout the country during April 2020, hence bringing down the number of new infection cases. As locally transmitted infection rates dropped to near-zero in mid-May, easing of restrictions was gradually implemented and lockdowns lifted. Since March 2020, however, the Emergency Decree has been renewed numerous times. Much of the invoking of the decree was attributed to a series of protests against the government that began in June 2020 and continued regularly. Most recently, the Thai government on 18 November 2020 announced another extension of a nationwide emergency decree until 15 January 2021, citing the need to prevent a resurgence in COVID-19 infections during the peak New Year's travel period.

Statements, notifications and orders issued using Emergency Decree include prescribing details about measures and documents needed for an individual in order to depart another country for Thailand (Certificate of Entry, Fit to Fly Health Certificate, T8 Form self-declaration of health), measures during the stay inside Thailand (including a requirement to install a tracking application or any other application as the authority requires), and measures before leaving Thailand. These are the guidelines that Thailand's Certificate of Entry Registration System (for air travel) refer to on its website.⁴⁴ Power is also given to officers to enforce the use of tracking applications on mobile phones. ⁴⁵ Officers also have the power to ask venue managers or activity organizers to provide tracking applications for the purpose of tracking and notifying a participant who joined the gathering or any activity that may have contact risk and there is a reasonable cause to suspect that they may have an infection. ⁴⁶ Please refer Annex 2 for a list of the statements, notifications and orders issued using Emergency Decree.

In a bid to cope with the outbreak, the Ministry of Public Health in late March passed a measure requiring mandatory notification of infection cases to the concerned authority within three hours. Violators will be punished by law. Units that are generally liable in this mandatory notification scheme include suspected and confirmed COVID-19 patients, medical practitioners and hospitals, laboratories where PCR tests are conducted, and business and hotel owners.

⁴³ พระราชกำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (2005). Retrieved from http://web.krisdika.go.th/data/slideshow/File/1-TH-EMERGENCY.pdf

⁴⁴ Thailand's Certificate of Entry (COE) Registration System (for air travel) (n.d.) <u>https://coethailand.mfa.go.th/</u>

http://web.krisdika.go.th/data/slideshow/File/RegulationEN.pdf

An unofficial English translation of the decree may be found at: <u>http://web.krisdika.go.th/data/slideshow/File/1-</u> EN-EMERGENCY.pdf

⁴⁵ ข้อกำหนด ออกตามความในมาตรา 9 พระราชกำหนดการบริหารราชการในสถานการณ์ถูกเงิน พ.ศ. 2548 (งบับที่ 1) (2005). Retrieved from <u>http://web.krisdika.go.th/data/slideshow/File/RegulationTH.pdf</u> An unofficial English translation may be found at:

⁴⁶ ข้อกำหนด ออกตามความในมาตรา 9 พระราชกำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (ฉบับที่ 11) (2005). Retrieved from http://www.samutsongkhram.go.th/covid/attachments/article/171/T_0031.PDF



Information Collection and Use During COVID-19

Information collection can be divided into broadly two categories:

- 1. Information collection undertaken by health authorities and other state authorities
- 2. Information collection requirements imposed on third parties (e.g., businesses, workplaces, etc.)

There are also broadly two modes of collecting information:

- 1. "Paper based" information collection in the field through interviewing patients, close contacts, and those in quarantine, and requesting them to fill forms. This data may be digitized later on.
- 2. Use of apps and technologies. This can include:
 - a. Dedicated applications developed for responding to COVID-19
 - b. Use of existing social media applications (e.g., WhatsApp, LINE).
 - c. Use of other forms of data (e.g., call records, collaborating with existing apps such as ridesharing apps).



Contact Tracing and Disease Surveillance

"Paper-Based" Contact Tracing in the Field

Sri Lanka

Aggregated national-level COVID-19 statistics are published online and regularly updated by the Health Promotion Bureau (HPB) of Sri Lanka, which maintains a "COVID-19 Dashboard" on their website.⁴⁷ These include total figures for confirmed cases, deaths, recovered and discharged, and suspected and hospitalized. Daily figures are also provided for new cases, deaths, and recovered and discharged.

Contact Tracing by Health Officials and Authorities

The chart below depicts the reporting structure once a positive COVID-19 test result is found in a laboratory, as explained to us by in a KII with a Medical Officer Community Health Unit, Provincial Directorate of Health Services.

Figure 1

Journey of a positive COVID-19 test result 48



⁴⁷ Health Promotion Bureau. (n.d.). COVID-19 : Live Situational Analysis Dashboard of Sri Lanka. Health Promotion Bureau.

https://hpb.health.gov.lk/covid19-dashboard/

⁴⁸ Source: Key informant Interview with a Medical Officer Community Health Unit, Provincial Directorate of Health Services. Note that NOCPCO stands for "National Operation Center for Prevention of COVID-19 Outbreak." Headed by General Shavendra Silva. See Sri Lanka Army (n.d.) *National Operation Centre for Prevention of COVID* -19 Outbreak. <u>https://alt.army.lk/covid19/</u>



The Regional Epidemiologist (RE) and the Medical Officer of Health (MOH) organize the transportation of the patient to a designated COVID-19 hospital. The NOCPCO is involved in determining to which hospital the patient should be sent to. The RE, MOH and Public Health Inspectors (PHIs) trace the first-degree contacts of the patient and send these contacts to quarantine centers, while second degree contacts are directed to quarantine at home.⁴⁹ The information asked from the patient includes: name, age, sex, ID number, Grama Niladhari (GN) division,⁵⁰ marital status, number of children, home contacts, travel history (where they went, who they stayed with, how they travelled). The interviewee also told us that in their province, they also map positive cases by GN division to look for the emergence of clusters as part of disease surveillance. This is the responsibility of the RE as well.

Dr. Prabhath Ranasinghe, a Consultant Community Physician (CCP) in Matale District, Central Province, explained to us how information collection and database creation took place in his district. He emphasized that some procedures could vary by district, and that the practices followed in Matale were not necessarily the same in all districts. He described the main "public health team members" as the RE, MOH, PHI, and CCP (himself) who are involved in case investigation at the district and community levels. This team is the first to visit the COVID-positive patient. Sometimes, they coordinate with the police to ensure that the health team is the first to visit the patient and their family, to reduce possible fear in the patient and family. The team gives the patient and family reassurances, and gives them information about the disease and precautions they can take. They discuss their travel history and contacts. Important information is noted down on paper in the field, and then transferred to databases in the form of excel sheets. The databases include information such as name, age, gender, occupation, possible contacts with a COVID positive or suspected person, how many days the person visited the district. "So because [of] all these databases, we have quite a bit of information [...] so depending on that information specially about the name, the address, and the MOH area and the PHI range also it is easy for us to trace," he explained. The databases are developed for different categories, including for COVID-positive patients, those quarantined at designated facilities, and those quarantined at home. Data can also be shared at the more granular MOH level or the broader provincial level and with the Epidemiology Unit, though the more detailed database is at the district level.

Furthermore, Dr. Ranasinghe said that after returning to the MOH office from the field, the team discusses the information they have gathered together. "We discuss about the history, [...] mapping and the timeline. We draw on the whiteboard to understand the scenario and also to decide who are the most important contacts to be tested first like that. So it's [...] teamwork, [a] huge kind of, you know, intellectual work after collecting all these primary data from the patient or from the family," he elaborated. After the history is taken, Dr. Ranasinghe explained that they look at where the patient has travelled and trace first- and second-degree contacts. The risk level of the contacts is assessed, and it is decided on this basis who should be quarantined and who needs to be tested. PHIs follow up on those undergoing home quarantine, but it is sometimes difficult practically to visit those in quarantine because of the limited number of PHIs. Hence, the PHIs have been advised to contact those in quarantine over the phone, even though they may not be able to visit daily, and follow up for around fourteen days on whether those in quarantine have developed symptoms. Furthermore, their RE writes a daily summary of important information from the databases and emails it to the

⁴⁹ Who goes to quarantine centers and who has to quarantine at home may change over time with the different waves of COVID-19.

⁵⁰ The GN division is the lowest administrative division in Sri Lanka.



Regional Director of Health Services (RDHS), himself, the relevant provincial level CCP and the Provincial Director. In the quarantine centers, there is a designated medical officer usually from the forces, and this doctor coordinates with the health officials when needed. Dr. Ranasinghe also added that some random testing is done in areas deemed to be "high-risk." As examples of these areas, he mentioned economic centers, and large-scale work settings such as garment factories. OPD settings in major hospitals were identified as sentinel sites for routine surveillance of COVID-19.

Coordination between districts also takes place. Another Consultant Community Physician from a different province we interviewed stated, "Usually if we receive some information from [an]other district about [a COVID-19] positive patient contact, we convey this message to the relevant Regional Epidemiologist." The CCP also noted that there were informal methods of communication and exchanging information as well. For instance, the CCP is in a WhatsApp group with CCPs from other districts and provinces and a few Regional Epidemiologists, as well as a health official from the army. Sometimes, Viber groups are also used among the health officials to communicate regarding gaps in the information about PCR samples. The CCP stated that the WhatsApp and Viber groups are closed groups, and information is shared only among health staff. Furthermore, the CCP spoke about the coordination between the health officials and law enforcement – "The police and the security forces also will help if something needs to be attended [to], if some people are not following the advice of the PHI or the MOH. Sometimes the police and security will accompany the health staff." In terms of quarantine, the CCP noted that the NOCPCO also decides to which centers contacts may be sent for quarantine.

Furthermore, a hospital administrator⁵¹ told us that some of the information sharing systems between health officials and with other officials such as law enforcement arose somewhat spontaneously, as a way of coping with an unexcepted situation. The administrator explained what happened if a person in the hospital ended up testing positive for COVID-19, in their experience:

"As an administrator, [the Epidemiology Unit] will contact us. And that means this lab [where the tests are analyzed] was informing the Epidemiology Unit. That was done so that the area PHI, that is the Public Health Inspector, and the area Medical Officer of Health, so that the field staff would know. And also during the first phase of this epidemic, like there was very aggressive contact tracing also. So they shared this information probably with the law enforcing agencies as well. So that is how I think, actually this was never spelt out to us in a circular, or you know we didn't know the exact sort of algorithm of how this happened. [...] it is a bit of a tricky situation to comment on, actually. But it certainly contributed to the early curbing of the escalation [in the first wave], you know?" The administrator added that personal connections between the health professionals also contributed to the exchange of important information – "They will always tell us that your hospital has [some] patients who are positive."

Dr. Kushlani Jayatilleke, Consultant Microbiologist, Sri Jayewardenepura General Hospital,⁵² explained to us what happened if a patient in the hospital was suspected of having COVID, and the patient was tested. When the sample is given for testing, details of the person such as age, sex, telephone number, ID number, and address, are sent to the police. This information usually goes through the medical records officer of the hospital. The police then follow up with the guardian of the patient to check the patient's status. The police are also

⁵¹ Note that this is not a COVID designated treatment hospital.

⁵² Note that this is not a COVID designated treatment hospital.



informed of the number of COVID-19 tests done daily. A daily update is also sent from the laboratory to the Epidemiology Unit on the number of tests done. When results are available, a daily update is also given to the Ministry of Health database, maintained at the Planning Unit, including the number of samples, how many patients were tested for the first time, how many repeat tests, the number of positive results, the number of inconclusive results, etc. The PHI of the hospital is also notified, who notifies the area MOH of the COVID-positive person. Dr. Jayatilleke also explained that once test results are available, she fills an excel sheet with the details of the patients and the results and sends this to the Epidemiology Unit daily.

In addition, Dr. Jayatilleke explained the mechanism followed in her hospital for monitoring the exposure of health workers to COVID-19. She stated that there are two ways a health worker could be exposed - either in the hospital or in their communities. Health workers were actively monitored for symptoms, and those who displayed symptoms were tested for COVID-19. They also obtained the details of the healthcare workers, including their permanent address, where they live, temporary address, and with whom they live. If a cluster emerges in a certain area, it can be checked if any health workers are coming from those areas, and decide if they should come into work or not and to monitor them for symptoms. If a healthcare worker is exposed to a known COVID patient, the administrators and technical group of the hospital will meet, and the degree of exposure will be assessed, as well as next steps (e.g. if the health worker needs to guarantine). The PHI of the hospital and the Epidemiology Unit will be informed so that contacts of the worker can be guarantined if the worker's exposure to the COVID-19 patient is judged to be significant. Before the health worker in question comes to work again, a PCR test is done, even if the worker was asymptomatic.

Third-Party Contact Tracing

Contact tracing is also undertaken by third parties. Supermarkets, restaurants, and public transport such as buses record the personal details of people using the service, including names, addresses, and cellphone numbers.⁵³ This is done manually through pen and paper,⁵⁴ or by the use of the QR code-based solution, that will be discussed later.

For example, three-wheeler drivers and taxi services have been asked to keep a record of their passengers in case contact tracing is needed.⁵⁵ Similarly, hotels and tourism sector, are required to maintain details of persons who visit / use the service - "Strict identity and contact details should be maintained of all employees and guests (inhouse and day guests)." 56

In October 2020, at the beginning of the "second wave," the Police Media Spokesperson DIG (Deputy Inspector General) Ajith Rohana asked the heads of public and

http://www.newswire.lk/2020/10/12/public-three-wheel-drivers-requested-to-maintain-log-for-contact-tracing/ ⁵⁶ Ministry of Health and Indigenous Medicine (2020). Instructions for Selected Public Activities / Work Settings for

the Prevention and Control of COVID-19: Tourism and hotel sector. Retrieved from

⁵³ Wahid, M. (2020, 12 Nov.). Contact tracing raises privacy concerns. *Daily Mirror*.

http://www.dailymirror.lk/news-features/Contact-tracing-raises-privacy-concerns/131-199697 54 Ibid

⁵⁵ Public, three-wheel drivers requested to maintain log for contact tracing. (2020, 12 Oct.). Newswire.



private institutions to update employees' personal information, in case such information was required for the COVID-19 response.⁵⁷

We observe that in Sri Lanka, while formal guidance and mandatory measures were given in the form of circulars and guidelines, there was also a degree of informality in the information sharing procedures as health officials and other responders had to react quickly to a novel and fast spreading infectious disease.

Thailand

According to a senior official at the communicable disease division, Department of Disease Control (DDC),⁵⁸ Ministry of Public Health three main types of data are collected and used for the control of the COVID-19 pandemic: 1) Data on infected cases, 2) Data on people at risk of contracting COVID-19, and 3) response data.

Data on infected cases include those confirmed cases via PCR tests and PUI (Patient Under Investigation) cases. Those at risk of contracting the virus include those who have been in the same settings as the infected, while response data refers to data routinely collected by related agencies or organizations that can be useful in contact tracing and control of the pandemic. For instance, passengers' name list, which are data ordinarily collected by airlines, may be requested by related agencies / authorities in the event that there is a passenger on a certain flight that has been confirmed to be infected with COVID-19.

As far as the process of case notification is concerned, the epidemiological section of the Department of Disease Control will verify the lab result before conducting further investigation and paper-based contact tracing. The infected patients will have to sign consent forms before they fill out standard disease surveillance and contact tracing forms in which their name, gender, age, place of treatment, result of treatment, lab results, and referrals among other details will be taken by responsible epidemiological staff members. The senior official assures that the data limitation and purpose specification are observed throughout the contact tracing investigation.

The Case of Prachuap Khiri Khan Province

We focused our study of "paper-based" field data collection processes on Prachuap Khiri Khan, one of the Western Provinces of Thailand. It is also an important resort town with well-known beaches. The province was selected because of its small size and the fact that it borders Myanmar, where the prevalence of COVID-19 has been consistently high.

Following the DDC's initial monitoring of the COVID-19 outbreak in December 2019, the Prachuap Khiri Khan Provincial Public Health Office issued an Order No. 172/2562 (December 27, 2019) to appoint a committee according to the Communicable Diseases Act

⁵⁷ Heads of institutions urged to update employee details within 3 days. (2020, 13 Oct.). *Ada Derana*. <u>http://www.adaderana.lk/news.php?nid=68060</u>

⁵⁸ This department was previously known as the "Department of Communicable Disease Control" (CDC). Its name was recently changed to Department of Disease Control (DDC). For consistency, we will use the current name and abbreviation (DDC) throughout this report.



and establish the Center for COVID-19 Situation Administration (CCSA) for Prachuap Khiri Khan Province to monitor and support public health operations of the government and the private sector, as well as to provide health assistance to the public.

The Governor of Prachuap Khiri Khan was appointed as the director of the Center. He in turn appointed a Working Group for the Prachuap Khiri Khan CCSA⁵⁹ who were assigned responsibilities related to prevention and control of COVID-19 in the province including the collection and processing of data on infected and at-risk groups who have migrated to Prachuap Khiri Khan province. The office is supervised by the local administrative bodies (governor, district chief, etc.) while data collection and flow follow the structure of CCSA at provincial level (see chart below).

Figure 2

Provincial structure of COVID-19 situation administration: the case of Prachuab Khiri Khan



Structure of COVID-19 situation administration at provincial level

Once the national CCSA had assessed the situation of the COVID-19 outbreak nationally and internationally, it notified the provincial CCSA to keep watch and quarantine people from the countries of origin with severe outbreaks (high-risk countries). In Prachuap Khiri Khan, there are three international checkpoints: Hua Hin Airport, Prachuap Port - Bang Saphan, and Dan Singkhon Border Trade Service Center.

Therefore, the immigration offices of all three checkpoints would monitor people from high-risk countries (including provinces) that the CCSA indicated severe outbreaks. When persons from the said origins were found, their personal data including their names, dates, and times of arrival, as well as their addresses in Prachuap Kiri Khan would be sent to the provincial CCSA. Then, the provincial CCSA ordered the district CCSA and the COVID-19 teams in the subdistricts specified by the persons passing the checkpoints to collect individuals'

⁵⁹ The Working Group for the Prachuap Khiri Khan CCSA was chosen from all provincial administrative offices. Almost all of them serve as the committee at the Provincial Center for Disease Control and Prevention as well. A Working Group of the district CCSA also held managing positions at the district offices. The team was formed under the state of emergency. A working group for the sub-district CCSA (the COVID-19 team) include Subdistrict Health Promoting Hospitals, Village Health Volunteers, Sub-district Administrative Organizations, Subdistrict Heads, Village Chiefs, Deputy District Chiefs (appointed to serve at the sub-district level), and police officers.



data. The Village Health Volunteers (VHVs)⁶⁰ and Village Chiefs were the main data collectors with support from the Director of Sub-district Health Promoting Hospitals for the healthrelated data collection.

Collection of personal data at the village level was aimed to serve as the primary database for the COVID-19 teams in monitoring the 14-day guarantined persons.⁶¹ while data collection at the district and provincial levels serves as the primary database for the assessment of outbreak situations of the province and for preparation and procurement of medical equipment as well as budgeting.

Up to the present, Prachuap Khiri Khan province has collected personal data of seven major groups of people as follows:

- 1) Groups from high-risk countries (CCSA specified the countries and passed down the orders through the chain of command)
- 2) Groups traveling from Bangkok Metropolitan Region after the lockdown was lifted.
- 3) Groups arriving from Phuket after the Lockdown was lifted.
- 4) Groups in contact with people from the high-risk areas (Provincial CCSA would send low-risk groups for home quarantine in the communities where they reside.)
- 5) Foreigners living in the province (who were asked for cooperation to register to receive tests, assuming that the virus was spread from foreigners), health workers, migrant workers, prisoners, garbage collectors, and transport workers. Prachuap Khiri Khan Provincial CCSA decided to proactively perform COVID-19 tests because other at-risk groups had already been tested and guarantined.
- 6) Groups arriving from other areas and came to live in the community (this group was specified by the provincial CCSA for fear of being at-risk)
- 7) At-Risk persons, who were classified as Patient under Investigation (PUI), as well as hospital patients who were diagnosed with COVID-19, were guarantined and treated until cured. Investigation of patients' history to establish the timeline and identify the locations to which they had gone and people with whom they came in close contact in order to determine these people's levels of risk and to be tested for infection. If found to be infected, they would be guarantined at the hospital,

⁶⁰ VHVs emerged in the Thai health system as part of the fourth National Health Development Plan (1976) starting first of all as an experimental project in 20 provinces covering one sub-district in all districts of the province. VHVs are voted by the Village Development Committee meeting, health reporter groups and the sub-district public health personnel. At present the Ministry of Public Health has more than a million VHVs covering all areas of the country with one VHV overseeing a population of 20 households within the vicinity. (SCG Foundation. (n.d.). อสม. กองกำลังชุมชนสู้ศึกโควิค-19. Retrieved November 21, 2020 from https://www.scgfoundation.org/covid19/)

In the beginning, VHVs worked voluntarily and received no remuneration. Later on, in 2009 the Ministry of Public Health offered its financial support for a sum of 600 baht per month as motivation as well as to assure greater mobility in the work taken on by VHVs. The government later increased the amount to 1,000 baht as an incentive in December 2018. (The Human Resources for Health Research and Development Office. (n.d.). anin งานวิจัยและพัฒนากำลังคนค้านสุขภาพ (สวค.). Retrieved November 21, 2020 from https://hrdo.org/) There is currently a policy proposed by the Minister and Deputy of Public Health in the government of Gen. Pravut Chan-o-cha pending approval for an increase from 1,000 to 2,500 baht.

Moreover, the efforts of the VHVs during the COVID-19 pandemic resulted in VHVs receiving seven months of 500 baht per month extra payment or a total of 3,500 baht per person. On September 22, 2020 the cabinet approved another 3 months (October-December) making it a total of 10 months. (พวงชมพู ประเสริฐ. (2020, September 24). สวัสดิการ-การกิจอสม. ในวิกฤติโควิด19ที่ยังไม่จบ [Welfare-VHVs' missions during COVID-19 continue]. Bangkokbiznews. Retrieved from https://www.bangkokbiznews.com/news/detail/899251)

⁶¹ Prachuap Khiri Khan has prepared a venue for local guarantine but, when put into operation, returnees from high-risk areas refused to be guarantined there. The authority then allowed self-guarantine at home with strict monitoring by the COVID-19 team.



otherwise, they would be determined as low-risk persons and to self-quarantine at home for 14 days. (The data collection and processing were the responsibility of the Provincial Public Health Office.)

The information collection in the villages was the responsibility of the COVID-19 teams. The Steps in data collection were as follows:

- 1) The COVID-19 teams were to seek at-risk persons (according to the name list and types received from CCSA and reported by villagers) for 14-day quarantine.
- 2) The "COVID-19 teams" interviewed the persons for personal history and records the information using the forms of the Village Health Volunteers and the Village Chiefs, as well as completing the form of the DDC (processed by the Sub-district Health Promoting Hospitals).
- 3) Directors of the Sub-district Health Promoting Hospitals (SHPH) assigned responsibility to Village Health Volunteers (VHVs) in the area to monitor and keep watch of the at-risk persons in quarantine and took daily temperature and made records to submit to the SHPH daily via LINE App or by phone (When the village health volunteers finished taking the temperature for 14 days, the record sheets would be sent to be filed at the SHPH). In case delinquencies by the quarantined persons were found, namely, the person(s) leaving the quarantine to mingle with the community for example, (mostly reported by the members of the community,) warnings would be issued. Violations are punishable by law and enforced by the police.
- 4) The Sub-district Health Promoting Hospitals (SHPHs) processed the data according to (3) via Excel format to be submitted to the Sub-district EOC (Emergency Operations Center) and District Public Health Office daily (at 10:00 hrs.).

The data from the VHVs were in two formats.

- Daily Record form used by the village health volunteers details name-surname, gender, age, nationality, reported date, report source, travel-from country, travelfrom province/city, date of arrival in Thailand, quarantine address, Mapping (latitude & longitude), people sharing the same house/room, guardian e.g., fooddelivering persons (relative/father/mother/friend/hotel/others), monitoring start date, daily temperature, responsible persons (hand-written, manually input).
- 2) The VHV form of COVID-19 is a name list of at-risk group under the surveillance for COVID-19 in the community with details on name-surname of at-risk persons, phone number, monitoring, screening of at-risk groups (those coming from abroad or traveling from Bangkok Metropolitan Region/whose in close contact with people in at-risk areas), as well as home visits to persons at-risk (who are under quarantine/who have completed the 14-day quarantine/or who have significant symptoms and have been referred to officers). Though filling in the COVID-19 form is the responsibility of the VHVs, the data entry into the computer is supported by SHPH because VHVs have limited computer skills. (See diagram below)



Figure 3



Diagram depicting flow of personal data used in COVID-19 control at provincial level

The above-mentioned data was used to assess the situation in each province, to come up with appropriate measures to stop the spread of COVID-19, or in case of an outbreak, the province must prepare to deploy personnel, medical equipment, facilities, etc. At the village level, the data was used to ensure compliance of persons in quarantine in order for them to be cleared as infection-free and able to come into contact with the community. Once the quarantine period is complete, a letter is issued so locals felt safe around the individual out of home quarantine.

Access to information of persons in quarantine was limited to only those relevant persons involved. The VHVs only knew the information that they collected and did not disclose the information to other people (even family members) except for their supervisors such as the SHPHs, DPHOs (District Public Health Office) and Provincial Public Health Office. Sharing or disclosure of information was done in the same manner. Information was only shared or disclosed to supervisors. But generally, the volunteers would only disclose the overall number of persons in quarantine and their status. Information was recorded manually and submitted to SHPH and filed when completed.

Access to the digitally recorded information belonging to SHPHs and the District Public Health Office and Provincial Public Health Office, was granted via different passwords depending on the level of authority. Sharing or disclosure of information was possible only when supervisors requested the details (which are to be used for discussions in meetings only). In addition, the SHPHs, District Public Health Office, and Provincial Public Health Office levels, had an added measure / approach to prevent information leaks with the installation of



CCTV cameras in the office to prevent theft of properties or data. (Health officials said there had never been any incident of intruders stealing things or information in the office.)

Data processing at the Subdistrict Health Promotion Hospitals and District Public Health Office was done with Excel program, while the Provincial Public Health Office used the website of the Department of Disease Control (Digital Processor). The period of data retention was not yet determined, though the usual requirement for government agencies is 5-10 years.

Validation and Quality Assurance of data at the village level was done by village health volunteers. The information was verified with neighbors /relatives of the persons in quarantine. At the Sub-district Public Health Office, and Provincial Public Health Office levels, verification was done against the list of the public administration offices to find any discrepancies. To protect the rights and privacy of the persons in quarantine at the village level, villagers normally knew their identity and kept their distance for fear of contracting the virus / being put under quarantine. When there were newcomers in the village, they normally reported to the authorities to keep watch or order a quarantine. At the district and provincial levels, no personal identities were made known but the overall numbers of people in quarantine and the status of each risk group were disclosed.



Digital Contact Tracing

Sri Lanka

Several digital solutions have been developed as part of the COVID-19 response.

Stay Safe

The Stay Safe application was launched by the ICT Agency of Sri Lanka (ICTA) in November 2020. Its workings are demonstrated in the below diagram from ICTA.

Figure 4

How the Stay Safe App works⁶²



Stay Safe works as a "check-in" application. Any individual enters the premises 'checks-in' by scanning the QR code with a smart phone. SMS charges to 1919 as well as data charges for Stay Safe are free.⁶³ Stay safe is also hosted on other local applications such as MyHealth Sri Lanka, Solo by HNB, Helakuru, and iPay.⁶⁴

⁶² Image from Stay Safe! Trace and Beat COVID-19 (n.d.). <u>https://staysafe.gov.lk/</u>

⁶³ Stay Safe! Trace and Beat COVID-19 (n.d.). https://staysafe.gov.lk/

⁶⁴ Ibid.



Figure 5

Stay Safe QR codes at a mall in Colombo (March 2021)



Table 1:

Data collected through Stay Safe

Businesses	Customers		
Agree to the privacy policy to register ⁶⁵	Agree to the privacy policy by using the service ⁶⁶		
Data collected when businesses register for Stay Safe	Data collected when customers register for Stay Safe includes: ⁶⁷		
. Organization name Contact name	1. Name as per Sri Lankan National Identity Card (NIC) or passport		
			3. Email
4. Mobile Number	3. Email Address		
5. Organization Type	4. Mobile number		
6. Organization address			
	Location information from the places /		

organizations the person has visited may also be collected.

⁶⁵ Ibid.

 ⁶⁶ Privacy Policy (last updated 2020, 9 Nov.). <u>https://staysafe.gov.lk/privacy_policy</u>. Retrieved 7 April 2021.
 ⁶⁷ Ibid.



Hiranya Samarasekara, the Chief Technology Officer of ICTA, has stated that ICTA would be the data custodian, and health authorities as well as designated contact tracing units would use the data for the purpose of controlling COVID-19.⁶⁸ According to the ICTA website, data collected goes to the Lanka Government Cloud hosted by ICTA:

"At central database, information thus collected can be collated in reports that traces Person A's tracks on a particular day or a longer period. Stay Safe also provides a detailed list of first and second contacts based on this information with contact numbers of each. Currently, health authorities spend hours for the same process. Stay Safe can generate the same reports within seconds. It speeds the tracking of contacts and directs them for quarantine, minimizing the risk of spread."⁶⁹

According to the privacy policy of the app, which was last updated on 9 November 2020, personal data from users will be retained for sixty days. The following concerns the disclosure of data, quoted below: ⁷⁰

2.5 Disclosure of Your Personal Data

For the effective management of COVID-19, Stay Safe Sri Lanka may be required to disclose Your Personal Data to other Government entities, including Health Authorities in order to attend, manage and respond to risks associated with COVID in Sri Lanka. Under certain circumstances, Stay Safe Sri Lanka may be required to disclose Your Personal Data under provisions of written law or in response to valid requests by public authorities, pursuant to obligations under written law.

2.6 Other legal requirements

Stay Safe Sri Lanka may disclose Your Personal Data in the good faith belief that such action is necessary to:

- Comply with a legal obligation in the interest of public health, public safety or any other obligation imposed by written law.
- Protect and defend the rights or property of the Stay Safe Sri Lanka
- Prevent or investigate possible wrongdoing in connection with the Service
- Protect the personal safety of Users of the Service or the public
- Protect against legal liability

However, privacy and cybersecurity concerns have been raised regarding the Stay Safe app. It was found that any person could check whether a person holding a certain NIC (National Identity Card) number recorded by the app had tested COVID positive through an API call.⁷¹ ICTA later stated that the security of the app was improved.⁷²

⁶⁸ Weerasinghe, T. (2020, 29 Nov.). People's privacy to the fore as Govt. introduces 'Stay Safe Sri Lanka.' *The Sunday Times*.

http://www.sundaytimes.lk/201129/news/peoples-privacy-to-the-fore-as-govt-introduces-stay-safe-sri-lanka-424009.html

⁶⁹ Stay Safe: A system for COVID-19 spread prevention (n.d.). ICTA. Retrieved 7 April 2021.

https://www.icta.lk/stay-safe-a-system-for-covid-19-spread-prevention/

 ⁷⁰ Privacy Policy (last updated 2020, 9 Nov.). <u>https://staysafe.gov.lk/privacy_policy</u>. Retrieved 7 April 2021.
 ⁷¹ Lahiru, N. (2020, 15 Dec.). The 'Stay Safe' App And Cybersecurity: Should We Be Worried? Roar.lk
 <u>https://roar.media/english/life/technology/stay-safe-cybersecurity-should-we-be-worried</u>; Rodrigo, K. (@ukrhq) (2020, Nov. 9). [Tweet]. Twitter. <u>https://twitter.com/ukrhq/status/1325713543648382976</u>

⁷² Lahiru, N. (2020, 15 Dec.). The 'Stay Safe' App And Cybersecurity: Should We Be Worried? Roar.lk



As of the time of writing, we have not been able to judge how useful Stay Safe has been in the contact tracing process, partly because it has been launched relatively recently. However, the above cybersecurity concerns indicate some of the challenges of using digital solutions for COVID-19 contact tracing. Furthermore, while it is clear that the purpose of data collection is to assist in the COVID-19 response, in the absence of an overarching Personal Data Protection Act in Sri Lanka, it is less clear what the allowances and limitations of the other legal requirements might be.

MyHealth Sri Lanka

This application was developed through a collaboration between the ICT Agency of Sri Lanka (ICTA) and the Ministry of Health, and launched in April 2020. The purpose of the app is to share verified information on the COVID-19 situation in Sri Lanka.⁷³ It also appears to have a contact tracing function. The ICTA website states: ⁷⁴

"Once downloaded through either the Google PlayStore, Huawei Appstore store and Apple app store, citizens will be prompted to record their location at the time of using the application. The application locally maps the trail of the mobile app user's locations traveled so that in an unfortunate event of the app user being infected with the virus, they can disclose the stored location history information with the authorities to protect their family and friends who they have associated with, in the last 14-days. All recorded location data are kept securely within the mobile, and will not be transmitted to any external systems without the consent of the mobile app user.

If you have crossed paths with an infected individual, you have the option to self-register with the national disease surveillance system."

Innovating DHIS2 Tracker and Apps for COVID-19 Surveillance in Sri Lanka

This is a system of surveillance of registration and tracking of incoming travelers (Port of Entry) from areas with high risk of COVID-19 infection. As stated in a key informant interview with Prof. Vajira Dissanayake, Dean of the Faculty of Medicine, University of Colombo the system was developed as a collaborative between the Health Informatics Society of Sri Lanka (HISSL) and the Ministry of Health. He also stated that the solution has been deployed in 36 countries and is in development in 15 countries. According to the DHIS2 Website:

"Sri Lanka's COVID-19 Surveillance system was developed using DHIS2's Tracker application, which allows for secure entry and analysis of individual-level data for both longitudinal and one-time (Event) data, as well as customizable program stages that

https://roar.media/english/life/technology/stay-safe-cybersecurity-should-we-be-worried; ICTA Sri Lanka (@icta_srilanka) (2020, Nov. 12). [Tweet] Twitter.

https://twitter.com/icta_srilanka/status/1326781405855166465

 ⁷³ Google Play: MyHealth Sri Lanka <u>https://play.google.com/store/apps/details?id=app.ceylon.selftrackingapp</u>
 ⁷⁴ MyHealth Sri Lanka Mobile App Launched (2020, 12 April.). ICTA.

https://www.icta.lk/news/myhealth-sri-lanka-mobile-app-launched/ Retrieved 7 April 2021.



facilitate follow up on individual cases by health personnel. Tracker data can be aggregated for the purposes of national-level reporting and dashboards, while still protecting the privacy and security of individuals whose data are stored in the system."⁷⁵

Furthermore:

"In addition to their Port of Entry Tracker and Contact Tracing App, HISP Sri Lanka has worked in integration DHIS2 data with Sri Lanka's immigration system, location data from cell towers, and additional local health apps, and they have developed systems to track and manage other critical health system components, such as ICU bed availability. This has been made possible by Sri Lanka's multi-sector collaboration, local innovations, and integration of information across multiple sources and sectors."⁷⁶

Ride Hailing App Pick Me

The Sri Lankan ride hailing app PickMe has been assisting the authorities through their contact tracing technology during both the first and second waves of the COVID-19 pandemic in Sri Lanka.⁷⁷ The authors have not been able to obtain further information at the time of writing.

Phone Records

In an appearance on Hiru News in April 2020, Secretary to the Ministry of Defense General Kamal Gunaratne (Retd.) explained how the police and intelligence services are involved in contact tracing for COVID-19. COVID-19 patients are asked questions including in the past two weeks what they have done, who they have seen, and where they have travelled. The same questions are asked of their family members. In addition, the phone records of the infected person are obtained from service providers. The phone records indicate where the person has been, and who they have been in touch with. The people the patient has been in touch with are called and information is collected. If someone has been with the infected person, they are asked to quarantine for fourteen days.⁷⁸

⁷⁵ Innovating DHIS2 Tracker and Apps for COVID-19 Surveillance in Sri Lanka (n.d.). DHIS2. Retrieved 7 April 2021.

https://dhis2.org/sri-lanka-covid-surveillance/

⁷⁶ Ibid.

⁷⁷ PickMe to the frontline as the country battles 2nd wave. (2020, 30 Oct.). DailyFT

<u>http://www.ft.lk/business/PickMe-to-the-frontline-as-the-country-battles-2nd-wave/34-708278</u>; ⁷⁸ Hiru News (2020, Mar. 30). Covid 19 ට එරෙහි මෙහෙයුමට බුද්ධි අංශ දෙන දායකත්වය - Hiru News. [Video]. YouTube.

https://www.youtube.com/watch?time_continue=108&v=V8Qyhz_Z2I4&feature=emb_logo.



Thailand

Thai Chana Application

Thai Chana (meaning Thai Victory) is an online platform designed to facilitate diseasecontrol tracking of individuals using public places and response to the spread of COVID-19. A brainchild of the CCSA, the app was developed as a national platform to fight against COVID-19 under the collaboration between Krung Thai Bank (KTB) and the Digital Government Agency (Public Organization) (DGA), an agency within the DES Ministry. The app was soft launched on 17 May 2020 as the preceding two-month nationwide lockdown was being eased. Its official launch on 28 May 2020 marked the first date of lockdown lifting when shops and shopping malls were allowed to reopen.

Thai Chana requires shops and stores to register with the system and customers to check-in and check-out by scanning a QR code, in the process filling out questionnaire to assess the place's hygiene and COVID-prevention standard. The check-in data can be processed to display population density at a given venue.⁷⁹ Thai Chana can be used on a webpage (www.thaichana.com) and also through Android and iOS smartphones, using the mobile app.⁸⁰ Before visiting a location, users can find out in advance if the location will be congested, and also look up restaurants and shops close by.⁸¹

The Thai Chana platform recorded more than 24 million users, 355,000 of whom used the app, as of 18 June 2020. Nationwide, over 100 million check-ins were recorded, and check-outs were approximately 60% of check-ins for the webpage and approximately 90% for the app.⁸²

Types of personal data that are collected by the app from participating shops and stores as well as from registering customers are listed in Table 2. Data collection process in the app can be described as in the infographic in Figure 6 below.

⁷⁹ Karnjanatawe, K. (2020, 22 Jul.). The price of safety. *Bangkok Post*.

https://www.bangkokpost.com/tech/1938848/the-price-of-safety

⁸⁰ Ibid.

⁸¹ Ibid.

⁸² Ibid.



Table 2

Types of data collected by Thai Chana app from shops/stores and customers

	Businesses		Customers
condit	Requirement: agree to terms and ions	conditi	Requirement: agree to terms and ions
	1. information on business		1. phone number
•	name of the businesses		2. place (visited)
•	location (+pin location)		3. check-in and check-out
•	phone number		4. allow access to GPS
•	number of customers		*data storing for 60 days
	2. contact		
•	name-surname		
•	date of birth		
•	ID card numbers and codes		
•	mobile phone number		

• email

Figure 6

Data Flow in the Thai Chana App





Figure 7

Thai Chana QR codes for location self-check-in and check-out, as found in stores, public transportation, and restaurants in Bangkok (December 2020)



However, there were concerns regarding privacy on the Thai Chana app. For instance, an article on Thai Chana in the *Bangkok Post* noted the following:

"During its early stages, the platform required people to provide a mobile phone number when they checked in. This requirement prompted some to voice their concerns over data privacy, especially since some users received spam messages asking them to join gambling websites after using the Thai Chana platform.

Although it was later made clear that advertising messages sent to smartphone users were not related to the Thai Chana platform as confirmed by the National Broadcasting and Telecommunications Commission and the five mobile phone operators, the reputation of Thai Chana had already become tainted. It led to uncertainty among people about using the Thai Chana platform."⁸³

Although Thai Chana clearly collects a significant amount of personal information, the app emerged first without a data protection/governance element. The data governance working group for the app was appointed on 22 May 2020, one week after the app was launched. The app's privacy policy was also retroactively introduced although it was said to be in effect since the launch date – 17 May 2020. The first portion of this privacy policy reads:

"The Thai Chana app is part of official measure to control the spread of COVID-19. This privacy policy, compiled by the Department of Disease Control, Ministry of Public Health, has the objective to notify registered partners about the collection, storage, use, and/or disclosure of personal information related to the measure enforced by the app."

Sections included in the policy which contain more details are as follows:

⁸³ Ibid.



- types of personal data to be collected via the app
- purpose of the collection, usage, or disclosure of the personal data, including the lawful basis relied on
- 60-day duration period for which personal data will be retained
- Organizations and entities to whom the personal data may be disclosed
- the rights of the data subject.

As for the data governance working group, its appointment was largely in a form of a task force comprising the following persons who convene for meetings only on ad-hoc basis:

- Deputy Permanent Secretary, Ministry of Digital Economy and Society
- Deputy Secretary to the Prime Minister
- CCSA spokesperson
- Experts on cyber security
- Experts on cyber law; and
- Experts on communication and information

The working group is assigned the following duties:

- 1. to provide consultation, comments, and recommendation on personal data handling to units responsible for Thai Chana
- 2. to establish fundamental principles and framework for regulating and monitoring Thai Chana personal data management to ensure effective data governance by government and related agencies. General data protection principles refer to approaches in data collection, storage, and access based on relevant laws, especially the Personal Data Protection Act B.E. 2562 (2019) and the EU's Guidelines 04/2020 on the use of location data and contact tracing tools in the context of the COVID-19 outbreak
- 3. In case of non-compliance, the data processor will be notified and given proper recommendation.

The notable thing about Thai Chana's data governance is the lack of clarity regarding the roles of the Department of Disease Control and Krung Thai Bank in data protection. According to Dr. Nawanan Theera-Ampornpunt, member of the working group and expert on health informatics, there was confusion on the scope of responsibility of data controller and data processor in the case of the Thai Chana app.

Evidently, the Department of Disease Control is the lawful data controller in this scheme. But the DDC failed to show up on two out of three meetings with the data governance working group, not realizing its role and obligation as data controller. Instead, the app developer's team from Krung Thai Bank (KTB) were assigned to appear at the meeting and to complete the checklist based on the EU's Guidelines 04/2020 on the use of location data and contact tracing tools in the context of the COVID-19 outbreak. As a result, the KTB team was unable to respond to many of the items on the checklist and this sparked concern for members of the working group.

According to Dr. Theera-Ampornpunt, the DDC was under the impression that since the app's development and system maintenance were outsourced to KTB, the team there should be in the best position to respond to the data protection guideline. In doing so, they failed to delineate the difference between data controller and data processor, the actual role for KTB. Dr. Theera-Ampornpunt noted that the reluctance of the DDC to appear at the meeting



reflected a lack of accountability as the data controller. He had to threaten to leave the data governance committee to pressure the DDC to appear at the meeting. He further stated that since KTB was required to develop the app, the DDC appeared to think that the responsibility for data governance was on KTB, and the DDC seemed unaware of its role as a data controller.

After being pressured by the data governance working group, representatives from the DDC finally attended the meeting and upon hearing the working group's concern, they agreed to go back and appoint the department's data protection officer who will also take charge of the Thai Chana app. Dr. Theera-Ampornpunt notes that a more clearly specified role between data controller and data processor and a more privacy-by-design DPA (Data Processing Agreement) between data controller and data subjects are needed.

In addition to the DDC's lack of understanding about their data protection role, the data governance working group was also critical of Thai Chana's transparency in data access, and unclear terms and conditions for data storage.

As things stand, the DDC and Provincial Public Health Offices should have the right of access to the data in Thai Chana database. But upon inquiry by the data governance working group, it turned out that KTB did not maintain proper log files of requested access to the database. So they were asked up to step up on this transparency requirement.

As far as the data subjects' attitudes about Thai Chana are concerned, it is difficult to gauge the level of trust among the populace. As mentioned previously, adoption of the app was quite high during the initial phase of the launch, which may largely be attributed to the fear of the coronavirus. But mistrust was also apparent in some groups who declined to download the app, but only check in via the online platform. There are also those who would rather check in manually on a paper registration form provided at entrance of public premises.

Use of Digital Technology by Village Health Volunteers

AIS, a leading mobile operator in Thailand, has introduced the use of technology and digital solutions along with those employed by the Ministry of Public Health to equip our VHVs in their efforts to combat the spread of COVID-19 from the basic to reporting at the national level. A new feature on the VHV online application enables the volunteers to be able to monitor the at-risk groups and lead to screening and follow ups in real time. The application was launched and ready for use on May 18, 2020.

According to Mr. Naruphon Chindawalya, Director of Tambon Samed Tai Health Promoting Hospital,

"Previously our VHVs would record their surveys on paper which meant that they'd have to travel all the way to our hospital to submit their reports. The online VHV application helps save time and money since it doesn't require traveling nor do the personnel need to compile reports since they are sent directly to us via the application. Our hospital staff are informed and can immediately decide what measures to take to remedy the situation. All 96 of our VHVs are using the VHV application one hundred percent of the time. Each volunteer is responsible for 15-20 households and during the COVID-19 outbreak the Ministry of Public Health has assigned VHVs the task of screening patients by knocking on every door then transmitting the data via the VHV application to our



hospital. This has proven to be a rapid, convenient and accurate way of dispatching reports."⁸⁴

Currently there are as many as 1.04 million VHVs in Thailand, 300,000 of whom are using the VHV online application. It is anticipated that the COVID-19 contact tracing feature will result in higher usage volume.⁸⁵ However, little has been discussed on how the personal data that are transmitted and flow freely via these apps can warrant proper protection in accordance with PDPA framework.

 ⁸⁴ Quote translated from Thai. Market Think. (2020, June 3). เอไอเอส สู้ภัยโลวิค-19 ดิคอาวุธดิจิทัล อสม. นักรบเสื้อเทา [AIS fights COVID-19, grey shirt fighers armed with digital weapons]. Retrieved from https://www.marketthink.co/6832
 ⁸⁵ Admin. (2020, June 4). จับตา AIS นำเทคโนโลยีติดอาวุธ สาธารณสุขไทย ส่งแอป "อสม. ออนไลน์" พลิกวิถีการทำงานใหม่ให้นักรบเสื้อเทา เศี้าระวังโลวิตระบาดช้ำ
 [AIS arms Thai healthcare workers with "VHVs Online" app, changes the grey shirt fighters' workflow, monitoring new waves of COVID]. Retrieved from https://positioningmag.com/1281896



Quarantine Monitoring and Enforcement

Sri Lanka

Returning to Sri Lanka from Abroad

One of the early instructions from the Epidemiology Unit pertained to those coming from high-risk countries.⁸⁶ It simply required returnees to follow precautions. If, however, they showed symptoms, it required that the area PHI, MOH or Regional Epidemiologist be informed, and the person should promptly visit the closest recommended government hospital for a health assessment and additional management.

For those who arrived in the country in early March (and did not quarantine, since at that point only people arriving from certain countries were quarantined), media announcements were made requesting them to contact 119 and provide their names, contact information and from where they came.⁸⁷ Over 22,000 people called 119.⁸⁸ The police gave instructions and then informed the relevant police division of that person. Police officers accompanied the PHIs and visited the person's house and gave instructions.⁸⁹

After the closure of the airport, Sri Lankan nationals were able to return to the country via specially organized repatriation flights. They then underwent a fourteen-day guarantine at a quarantine facility. Several information collection procedures were involved in this. In an indepth interview with a returnee who came back to Sri Lanka in May 2020 (henceforth "May returnee"), we learned that prior to their arrival in Sri Lanka they were required to fill detailed forms with their personal details and also travel history etc. This form was sent to the Sri Lankan High Commission / Embassy of the relevant country. The form included details such as name, passport number, ID number, contact details, residential address in Sri Lanka, Grama Sevaka Division in Sri Lanka,⁹⁰ nearest police station to both temporary and permanent residences in Sri Lanka, possible exposure to people who have tested positive for COVID-19, and willingness to undergo quarantine in Sri Lanka, among other details. In the interview with the May returnee, it was stated that PCR tests were conducted once, shortly before the end of the guarantine. However, in an interview with a citizen who had returned in September 2020 (henceforth "September returnee"), it was noted that for them, PCR tests were conducted twice, once at the airport on arrival and then again shortly before. According to the September returnee, name, passport number and contact details were taken prior to the PCR test at the airport. According to the circular released in December 2020, PCR tests were being conducted twice on day 1 and again day 10 – 12 of arrival, in keeping with current guidelines.⁹¹

⁸⁶ Epidemiology Unit: Ministry of Health and Indigenous Medical Services. (2020). Advices for Sri Lankan Students / Nationals and other foreign nationals returning from high risk areas of on-going Corona virus transmission. Retrieved from

https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/advices%20for%20sri%20lankan%20students.

pdf ⁸⁷ Hiru News (2020, Mar. 30). Covid 19 ට එරෙහි මෙහෙයුමට බුද්ධි අංශ දෙන දායකත්වය - Hiru News. [Video]. YouTube. <u>https://www.youtube.com/watch?time_continue=108&v=V8Qyhz_Z2I4&feature=emb_logo</u> ⁸⁸ Ibid

⁸⁹ Ibid

⁹⁰ Alternate name for Grama Niladhari Division

⁹¹ Ministry of Health (2020). Quarantine measures during and after mandatory / extended quarantine period or after discharge from isolation / intermediate care centres / hospitals during the pandemic of COVID-19. Retrieved from https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/scan%2006-12-2020.pdf



Some of the information sharing mechanisms were explained by Dr. Abusayeed (Coordinator – special repatriation program, and Registrar in Health Informatics, Ministry of Health). Before the passengers arrive, the Ministry of Foreign Affairs shares some information with those coordinating arrival in the airport in advance, such as name and country of origin. This enables the coordination of logistics at the airport, including sample collection for PCR tests. Arrivals to the country are required to fill out a Health Declaration Form, which includes information such as where the person is travelling from, whether they associated with other people who had flu within the past fourteen days, whether the person has any symptoms such as a cough, fever, etc. and the address of where the person will stay in Sri Lanka, as well as contact numbers and email addresses. The information in the Health Declaration Form is passed on to the Epidemiology Unit, who passes on this information to local authorities who need to follow up with the passengers at the local level. The results of the PCR tests are communicated to the Airport Health Authority, the Quarantine Director, and the Epidemiology Unit. Results are also communicated to the quarantine centers so that COVID positive patients can be isolated.

Quarantine processes and maintenance of quarantine operations have been handled by the military.⁹² Temperature checks were carried out twice a day, once in the morning and once in the evening.

Both the May and September returnees stated that they were asked to self-isolate for a further two weeks at home after their stay at the quarantine centers. The September returnee explained that there was also follow up from public health officials while they were in selfisolation:

"When we were about to leave, the army officers told us that we needed to register with the local police station, and the public health department [area Public Health Inspector] to let them know that we've finished hotel quarantine and now we have to enter self-quarantine. And I did this, so I registered with the police station and [...] the public health department. So the next day, so I came back on the fourteenth, and the next day on the fifteenth, a public health officer [Public Health Inspector] came to my house just to um, get some identification from me and he said that he would return towards the end of my self-isolation period."

The May returnee did not have any follow ups, but stated that some friends who were in the same quarantine received follow ups from a PHI.

⁹² E.g. see Farzan, Z. (2020, 7 May). 41 Military operated quarantine facilities Sri Lanka to combat COVID-19. *NewsFirst*. <u>https://www.newsfirst.lk/2020/05/07/41-military-operated-quarantine-facilities-sri-lanka-to-combat-covid-19/</u>



Home Quarantine

In the span of the first wave, the home quarantine guidelines issued by the Epidemiology Unit required that the home quarantine be monitored on a daily basis, the responsibility for the same was placed on the MOH.⁹³ The MOH was required to assign a PHI to monitor quarantined persons. The role of the PHI was to monitor the individual on a daily basis by personal visits, enquires over phone, or SMS throughout the 14-day period. If any symptoms of Covid-19 were seen, the PHI was then required to immediately report to the MOH and Regional Epidemiologist.⁹⁴ It should be noted that the January 2020 guidelines on "Follow up of Sri Lankan Students/Nationals and other Foreign Nationals returning from high risk areas for ongoing Corona Virus Transmission" required an everyday update by the PHI after personally visiting the returnee.⁹⁵ A form had to be filled in by the PHI with details of the name, age, contact history with a suspected case and daily observations, among other details.

In the second wave with the discovery of clusters in Minuwangoda and Peliyagoda, the decision was taken to self/home-quarantine "first contacts," whereas previously close contacts were sent to quarantine centers.⁹⁶ A detailed home quarantine guideline was issued by the Ministry of Health in November 2020.⁹⁷ The said guidelines include cases where home quarantine would be applicable and also the monitoring process. The monitoring mechanisms at the village level include the village committee members (Grama Niladari, Economic Development Officer, Samurdhi Development Officer etc.). It is also noted that "the Public Health Inspector (PHI) of the area in collaboration with the assigned police officers and army officers should visit quarantined homes at different times of the day on a daily basis." ⁹⁸ During these visits, enquiries are to be made on symptoms. The MOH of the area is the designated supervising authority.

Drone surveillance has been deployed in some areas during the second wave to monitor movements in certain "isolated areas."⁹⁹

⁹³ Epidemiology Unit: Ministry of Health & Indigenous Medical Services. (2020). *Guidance for the Home quarantine / Quarantine in non-health care settings*. Retrieved from

https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/guidelines-ofhome-quarantine.pdf ⁹⁴ Ibid.

⁹⁵ Epidemiology Unit: Ministry of Health & Indigenous Medical Services. (2020). Follow up of Sri Lankan Students / Nationals and other Foreign Nationals returning from high risk areas for ongoing Corona Virus Transmission. https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/rd%20pd%20letter%201.pdf

 ⁹⁶ COVID-19: First contacts to be placed under self-quarantine from today (2020, 26 Oct.). Colombo Page. http://www.colombopage.com/archive_20B/Oct26_1603732122CH.php

⁹⁷ Ministry of Health (2020). Quarantine process to be followed by all immediate contacts of a COVID-19 patient and any person entering into the country through ports of entry during the COVID-19 pandemic situation. Retrieved from https://www.epid.gov.lk/web/images/pdf/Circulars/Corona_virus/Home_Quarantine_Guidelines.pdf ⁹⁸ Ibid.

⁹⁹ Balasuriya, D. S. (2020, 13 Nov.). Drone cameras to monitor public movements in isolated areas. *Daily Mirror*. <u>http://www.dailymirror.lk/print/front_page/Drone-cameras-to-monitor-public-movements-in-isolated-areas/238-199789</u>



Thailand

Thai nationals and non-Thai nationals entering Thailand and using the Alternative State Quarantine facility

Thai nationals and non-Thai nationals alike who would like to enter Thailand from foreign countries, since 26 March 2020, must follow procedures and three-stage measures according to the Regulation Issued under Section 9 of the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) No. 1 (announced 25 March 2020, effective 26 March 2020). Three stages of measures consist of the processes before entering the country, during the stay in the country, and before leaving the country.

One of the measures is to obtain the Certificate of Entry (CoE) from the Ministry of Foreign Affairs. In order to apply for the CoE, several documents that contain personal data should be submitted to the Ministry. Initially, all of this was done by emails and other communication channels, depending on the arrangement of each Thai consulate service. Later in August 2020, the "Thailand's Certificate of Entry (CoE) Registration System (for air travel)" website at https://coethailand.mfa.go.th/ was introduced.¹⁰⁰

In practice, personal data including travel information and health information will be circulated both inside the Ministry of Foreign Affairs system and also outside. In order to apply for CoE, one may need to submit a booking document of an Alternative State Quarantine hotel. In order to get that booking document, one needs to share flight ticket and other travel documents with the hotel. Fit to Fly Health Certificate is also required in the CoE application. In order to get the health certificate, one needs to submit their personal information to the doctor, which can be in their own country of residence or elsewhere.¹⁰¹ Once CoE is obtained, the CoE and Fit to Fly Health Certificate must be shared with the hotel. The communication channels of choice to share these documents depend on the hotel as well - some prefer email, some prefer LINE, a chat application from Japan that is popular in Thailand.

https://london.thaiembassy.org/en/publicservice/application-for-certificate-of-entry-to-thailand-for-non-thainationa? See usage guide at Thai Consular Online (2020, October 27). *Thailand's COE registration guideline for air travelers during COVID-19 pandemic* [Video]. YouTube. <u>https://youtu.be/1c1dNaXv0mM</u>

¹⁰⁰ See "Application for Certificate of Entry to Thailand for non-Thai nationals" at

¹⁰¹ From one of the researchers' own experience, he could not find a general practitioner who could issue the certificate in his district In Ireland, where he was travelling from. He chose an online medical service broker which is based in the United Kingdom and did the health assessment with the assigned doctor over the phone. The doctor is also based in the United Kingdom. This was done in November 2020, when GDPR still applied to the UK.



Figure 8

One of the screens from "Thailand's Certificate of Entry (CoE) Registration System (for air travel)" website at https://coethailand.mfa.go.th/

Registration system for Certificate of Entry (by air)	
*** For non-Thai nationals ***	
✓ Back	
Please fill in all required information in this form Any questions related to this form, please contact Royal Thai Embassy, London <u>ema</u> <u>consular.LON4@mfa.mail.go.th</u>	<u>il:</u>
Royal Thai Embassy, London would like to inform you that your information will be used for coordination purposes to travel/enter Thailand and to cope with the sprea of the COVID-19 disease	d
Travel Details	-
Travel by	
By air	-

On arrival in Thailand, a paper "T8 Form" for the health declaration at the border control will be collected from the traveler, in accordance with the Communicable Diseases Act. B.E 2558 (2015) and WHO International Health Regulation 2005. On 13 March 2020, before the declaration of the emergency situation, AOT (Airports of Thailand) Airports application was introduced as an optional alternative to automate this process.¹⁰² The AOT application itself is in fact designed for other purposes, like shopping directory and AOT Rewards loyalty program, but later piggybacking the disease control data collection functionality in.

At the alternative state quarantine facility, COSTE¹⁰³ and DDC-Care¹⁰⁴ applications will be used by the traveler to report their own health situation. For the case of COSTE, this includes the reading of temperature every morning and evening. The registration of COSTE application cannot be done by the traveler themselves, it has to be done by the medical team. The registration of DDC-Care also needs to be done through airport health control or hospital only. After this, the traveler can report their situation through the app.

Arthit Suriyawongkul, one of the researchers for this report, who himself stayed in an alternative quarantine facility in the first half of December 2020 found that on the ground although the system successfully worked in his case, it may not entirely work in the way the designer of the system intended. On his arrival at the facility, a nurse provided him and another traveler a piece of paper with a predefined username and password meant to be used for the

¹⁰³ A telemedicine app developed by TELY 360. COSTE. (n.d.). Retrieved from https://play.google.com/store/apps/details?id=com.tely360.coste

¹⁰⁴ An app developed by National Electronics and Computer Technology Center. Used for health monitoring and self-assessment. DDC-Care. (n.d.). Retrieved from

https://play.google.com/store/apps/details?id=th.or.nectec.ddc_care

¹⁰² TAT Newsroom. (2020, March 13). TAT update: Airports of Thailand T8 form application. Retrieved from <u>https://www.tatnews.org/2020/03/tat-update-airports-of-thailand-t8-form-application/</u>



registration of the COSTE application. The password is a repetition of a single number, obviously weak, and another traveler got the same password. The username is in a "firstname.lastname@gmail.com" format which resembles an email address but may not be an actual email address of the person who used it to register to the system. There were difficulties during the registration process as the app kept refusing the provided username and password. After trying for around 15 minutes, the nurse gave up and said they will take care of the registration by themselves later. Eventually, the reading of temperature for the entire quarantine period was done through a LINE chat application, where the medical staff will take it and reenter to the official system.

According to Puntarik Suwannaparb (ปุณฑริก สุวรรณภาพ), Secretary to the Director of Institute for Urban Disease Control and Prevention, Department of Disease Control, initially in April 2020 the collection of health information like daily temperature in the first two state guarantine institutions was done by making a call to each room and putting the numbers into a spreadsheet (Microsoft Excel). Later, they changed to Google Form to make it more consistent. The department has a concern about putting health information into a foreign service so they developed their own system, called We Will Care to store the health information locally in Thailand instead. Few months later, he said, the size of each state and alternative quarantine facilities expanded to up to 300 rooms per facility, so the process of making a call to each room to get the temperature can take the whole day. So the COSTE application was introduced to let the traveler enter the temperature by themselves. ¹⁰⁵ As discussed above, we have found that, in practice, when the temperature is actually shared via the Japan-based LINE chat app, the first purpose of the application (data localization) is not fulfilled while the second purpose is only partially fulfilled (the medical staff no longer need to make an individual call to each room, but they still have to reenter the data). DDC concerns about the jurisdiction for data governance is very valid and they have tried to come up with a solution. However, the issue is still there, as they have just moved from one foreign service provider to another foreign service provider.

¹⁰⁵ From a conference by the Department of Health Service Support to clarify the use of DDC-Care and COSTE applications on 10 August 2020. ขอเชิญประชุมขึ้แจงการใช้งานแอปพลิเคชัน DDC - Care และ COSTE สำหรับสถานพยาบาลที่เข้าร่วมเป็น Alternative Hospital Quarantine สำหรับผู้ป่วยชาวไทยและชาวต่างชาติรวมผู้ติดตาม [Conference on the use of DDC - Care and COSTE applications for medical institutions joining the Alternative Hospital Quarantine for Thai and foreigners]. (n.d.) Retrieved from https://hss.moph.go.th/show_topic.php?id=3603. กรมสนับสนุนบริการสุขภาพ สบส. กระทรวงสาธารณสุข. (2020). การ ประชุมชั้แจงการใช้งานแอปพลิเคชัน DDC-Care และ COSTE สำหรับสูปวยชาวไทยและ ชาวต่างชาติร่ามเป็น Alternative Hospital Quarantine สำหรับผู้ป่วยชาวไทยและ ชาวต่างชาติร่ามเป็น Alternative Hospital Quarantine สำหรับผู้ป่วยชาวไทยและ ชาวต่างชาติร่ามเป็น Alternative Hospital Quarantine สำหรับผู้ป่วยชาวไทยและ ชาวต่างชาติเริ่าวมปัน Alternative Hospital Quarantine สำหรับผู้ป่วยชาวไทยและ ชาวต่างชาติเริ่าว่ามเป็น Alternative Hospital Quarantine สำหรับผู้ป่วยชาวไทยและ ชาวต่างชาติร่ามเป็น คราคณ 2563 ณ ห้องประชุม 1 ชั้น 9 อาการกรมสนับสนุนบริการสุขภาพ [Video]. Facebook. https://www.facebook.com/Departmentofhealthservicesupport/videos/1192785294413546



Challenges of Information Collection

One of the key challenges in information collection and use has been the social stigma associated with the disease, which can discourage people from disclosing that they are COVID-19 positive. In Sri Lanka, Dr. Vinya Ariyaratne, President of the Sarvodaya Shramadana Movement, (which coordinated with government officials in providing essential supplies to affected communities at the grassroots level), noted in a key informant interview that fear of stigma could prevent people from disclosing that they may have COVID-19, or were exposed through a close contact. "I would say that's the biggest challenge now because people are so scared [that] then they'll be labelled, you know, [...] their family [will be labelled]." Dr. Ariyaratne also noted that the identities of COVID-19 patients were exposed in the media - "The media is one of the reasons why people are not coming forward because they think their faces will be shown and their families will be exposed and all that. That is [...] one of the key reasons why there is stigma." Furthermore, he added that it is practically difficult to prevent a COVID-19 patient's positive status from becoming known within the immediate community. "People will [...] find out [because] if someone from their area is in hospital [and] is detected as a COVID patient, PHIs come [to the person's family]. So anyway it will be known." Dr. Ranasinghe noted in his key informant interview that this issue had to be dealt with - "When we go to [the] field level we ask our media colleagues not to put pictures and videos of patients to [the] media. So likewise, that was a huge problem." The hospital administrator also noted the problem of the identities of patients being exposed on social media - "because of [...] the kind of psychological impact a COVID patient has on the society, and because of the misinformation and because of the stigma associated with it, there's a lot of misinformation also, and there's a lot of leaking of information, misinterpretation, people leaking to the social media. I mean those things would not happen, let me tell you, even with an HIV patient where there is so much of social stigma still [it] would never happen. But things that would never happen with things that we thought were stigmatizing are happening with COVID."

For example, the husband of the Minuwangoda factory worker who first tested positive for COVID-19 at the beginning of the "second wave" stated that his family was facing intense stigma as a result of his wife's positive test. Their daughter also tested positive for COVID-19. "Later we learned, that various false stories about my wife and family were being circulated on social media. [...] We can't face society now. We feel helpless. Society regards us as if we caused the disease."¹⁰⁶ Furthermore, some of the contact tracing measures such as entering phone numbers on public transport and other establishments have caused privacy concerns, especially among women.¹⁰⁷ For instance, one woman reported getting nuisance calls after giving their phone number to an establishment, and suspects a breach of data.¹⁰⁸ Others have noted how women may be more reluctant to write down their personal details where strangers may be able to see them due to the possibility of harassment.¹⁰⁹

Police Deputy Inspector General (DIG) Ajith Rohana has also stated in the media that the stigma and discrimination associated with COVID-19 makes people reluctant to accurately

¹⁰⁷ Wahid, M. (2020, 12 Nov.). Contact tracing raises privacy concerns. *Daily Mirror*.
 <u>http://www.dailymirror.lk/news-features/Contact-tracing-raises-privacy-concerns/131-199697</u>
 ¹⁰⁸ Ibid.

¹⁰⁶ "Social media ruined us" - husband of Minuwangoda Brandix factory worker. (2020, 14 Oct.). *Daily Mirror*. <u>http://www.dailymirror.lk/news-features/%E2%80%9CSocial-media-ruined-us%E2%80%9D---husband-of-Minuwangoda-Brandix-factory-worker/131-197859</u>

¹⁰⁹ Ibid.



reveal their whereabouts or undertake testing, and that this causes difficulties in contact tracing.¹¹⁰ However, in a case in which a suspected COVID-19 patient had escaped from Ragama Hospital, where he was receiving treatment, the police chose to release a photograph of the patient to the media. DIG Rohana stated that while the identities of COVID-19 patients are not revealed to the public as a principle, there was the possibility of the disease spreading further if the patient was not found and taken into police custody, including possibly the rise of another cluster.¹¹¹

In Thailand, it was noted at the village level that it was impossible to conceal the information of infected persons or people close to the infected persons, because the villagers would finally know due to the close-knit characteristics of small villages and the fact that everybody knew each other. The personal information protection guidelines were based on the "public health" professional framework, i.e., non-disclosure of personally identifiable information of the persons in quarantine. However, this was impossible at the village level for the aforementioned reasons. One thing that could be done was to withhold the information on individuals' symptoms or the possibility of the individuals contracting the virus. At the subdistrict/district/provincial level, the data collectors and processors were health workers who also worked under the "public health" professional framework and did not disclose specific, identifiable details of the infected or persons under quarantine. Only the overall number was reported. In early April 2020 as the first state guarantine measure was abruptly enforced, 158 arriving passengers from overseas, mostly Thais, refused to comply with the measure upon their landing at Suvarnabhumi airport, claiming lack of notification and insufficient information. The name list of these passengers was leaked to the press, together with their phone numbers and addresses. This led to intense bullying upon these passengers and their families, online and offline. Notably, several mass media published this list.¹¹²

On a general scale, privacy awareness and data protection considerations in Thailand are low. In the context of COVID-19 pandemic, fear of the disease has tended to drive up panic and, in certain cases, stigmatization. Data protection expert Thitirat Thipsamritkul notes that there is an urban / non-urban difference in how privacy is viewed, with urban populations being more skeptical of privacy-invading technologies. In terms of contact tracing applications, while they have been developed to facilitate the lifting of lockdowns, they may backfire if there is distrust in data collection processes.

Furthermore, some government officials in Thailand reflected that the people were not so afraid of contracting the virus but were more afraid of being put into a 14-day quarantine which would be a great inconvenience. It was also observed in Prachuap Khiri Khan that those in high-risk groups who entered the area were not always easy to find. Some people hid, and the responders had to rely on information from people in the community. Some refused to have their body temperature taken. As a result, administrative officials (village heads) needed to go with the team when they collected the data, or the team would have the subdistrict health promoting hospital issue a notice (informing that the refusal to cooperate with the officials meant violation of the law). Dr. Ariyaratne also noted that in Sri Lanka, there was fear of mitigation measures, and this could also inhibit disclosure. For instance, there was a

¹¹⁰ Not divulging information makes tracing difficult - DIG Ajith Rohana. (2020, 12 Oct.). *Ada Derana*. <u>http://www.adaderana.lk/news.php?nid=68049</u>.

¹¹¹ Suspected COVID-19 patient escapes from Ragama Hospital. (2020, 7 Oct.). Ada Derana. <u>http://www.adaderana.lk/news.php?nid=67854</u>

¹¹² For example, see เผย 158 รายชื่ออยู่ในมือดำรวจแล้ว พร้อมดำเนินคดี-กักตัว [Police get 158 names, ready to detain]. (2020, April 4). Matichon. Retrieved from <u>https://www.matichon.co.th/news-monitor/news_2122718</u>



perception that the PCR test was "painful," and that if the person tested positive, they could be sent to "an unknown place" for treatment, i.e. to an area that was unfamiliar to the person. Stigmatization can also make people afraid they will be "penalized" for having COVID-19.

With regard to some of the digital solutions, it is seen that there were problems of cybersecurity, as well as a lack of data governance frameworks. Therefore, there was a lack of clarity in how data would be collected, accessed and used. This could undermine trust in the apps, and possibly dissuade people from using it.

Another challenge was the difficulty of adapting quickly to handling a new and unknown disease. Dr. Ranasinghe commented that lack of awareness about the disease initially among people had posed a challenge. Dr. Jayatilleke noted that one of the challenges of COVID-19 was that it was a new and unknown disease, so there is a lack of knowledge early on about the disease. In the event of a future pandemic, early identification of the disease, early detection and early response will be important.



Comparisons between Sri Lanka and Thailand

It is observed that both Sri Lanka and Thailand were able to deploy extensive and granular public health networks on the ground and in the field for contact tracing and quarantine monitoring. In Sri Lanka in particular, there was also a high level of collaboration with law enforcement and the military, which was not seen to the same extent in Thailand. While the depth and scope of these networks worked well in contributing to pandemic response, it is possible that they may become overstretched as the disease spreads further and further over successive waves. Recall for instance in Sri Lanka that the limited number of PHIs meant that everyone in home quarantine over the phone. Hence, additional methods may be required to supplement these networks, possibly through digital applications.

Both countries, however, faced challenges in attempting to deploy digital solutions. The Stay Safe application in Sri Lanka had cybersecurity issues, which would have allowed anyone to access the COVID status of a given NIC number using an API call. In Thailand, data governance and data protection issues were not adequately considered prior to the launch of an app. In Thailand, there was an attempt to address data governance issues by creating a working group. However, this group was created only after the launch of the app, and there was confusion over how the roles of data processor and data controller should be assigned. The privacy policy of the app was also introduced retroactively. In addition, it was noted in the study of Prachuap Khiri Khan Province that VHVs required support to input data into computers due to limited computer skills. Furthermore, while the digital application launched for VHVs by AIS is in use, there has been limited discussion on the flow of personal data in the apps and how personal data may be protected. In addition, it was seen that some of the applications designed for guarantine monitoring did not always work well in practice. Therefore, while there were attempts to deploy digital solutions, both countries faced obstacles in doing so. Furthermore, neither country has a personal data protection act in force yet, so overarching parameters for data collection and use in both countries have not been enforced in the form of a data protection law.

Nonetheless, ICTs were an important part of the response in both countries. In Sri Lanka, Excel sheets were used to create databases for contact tracing by public health officials, and for hospitals to communicate test results to the Epidemiology Unit. Excel was used by the SPHSs in Prachuap Khiri Khan Province in Thailand to process quarantine monitoring data and submit them to the Sub-district EOCs District Public Health Office. Excel was initially used in state quarantine facilities as well to input data such as daily temperature. Email was used in Sri Lanka, for example as a way of notifying the Epidemiology Unit of test results, and for the RE communicate summaries of important information from the databases to the RDHS. Email is also in Thailand to send CoE and Fit to Fly Health Certificates to Alternative State Quarantine hotels. Social media applications were also used as part of the public health response in both countries. In Sri Lanka, WhatsApp and Viber were used for health officials to coordinate between districts during contact tracing, and to communicate regarding test results. In Thailand, the LINE application was used in guarantine facilities and by the VHVs for quarantine monitoring, for example to record and communicate temperature checks. In Thailand, concerns about data localization were raised, given the use of non-Thai applications such as LINE and Google Forms.



The need to protect the identities of COVID-19 patients emerged in both countries. In Sri Lanka, the necessity of preventing the exposure of the identities of COVID-19 patients to the public outside of the health system was observed. For instance, the WhatsApp and Viber groups used by the health officials were closed groups. In Thailand, the data was protected within the public health system using different passwords depending on the level of authority. However, the period of data retention for COVID-19 related data was not yet determined in Thailand, and we were unable to find information on the period of data retention in Sri Lanka as of the time of writing. In the Thai Chana and Stay Safe applications, the privacy policies specified a sixty-day retention period for personal data, but the retention period for personal data collected by other means was less clear.



Recommendations

Using the experiences of COVID-19, it is recommended that a comprehensive policy framework be created on the collection of personally identifiable data and information during epidemics, for each country. This would include what kind of data can be collected, how it is collected, how it is stored, for how long it is retained, who can access it and how the data is accessed, purpose limitations on the use of data, and liability for data breaches. Levels of prioritization should be determined regarding which authorities access which types of data. Such a framework must cover and involve multiple sectors, including the health sector, law enforcement, telecommunications and ICT regulatory bodies and agencies, and private sector entities who are asked to collect and provide data. It should also define explicitly under what conditions data collection would take place, include responsible individuals and a procedure for agreeing that those conditions are met in a given situation, and when the data collection should end. The principles from the UN Statement quoted in the Introduction could be used as a broad starting point. In terms of the UN principles, the need to protect the privacy of patients and close contacts is recognized in both Sri Lanka and Thailand, although challenges have been faced in this regard. Storage and retention periods and procedures for deletion of data could be better specified, as well as limitations of the time period and scope of data collection and processing.

The framework in each country must be constructed taking into account the status of existing laws, as well as the personal data protection bills, if / when they are enacted. Such a framework has two advantages. Firstly, it sets out an action plan for data collection in advance. During COVID-19, responders had to react quickly and "on the spot" to the novel disease, and instructions had to be developed and deployed ad hoc. Creating a framework in advance would make the response swifter and smoother in future. Furthermore, by explicitly stating which data will be collected and how it will be collected, stored, and used, trust between the responders and the general public could be increased. There have been instances of reluctance among people to disclose information; an openly stated and known plan for collecting, storing, and protecting that data could help mitigate some of this reluctance. The UN principles also identify trust building and transparency as important factors in collecting, using, and processing data.

Furthermore, the laws used to deal with epidemics in both countries could be reconsidered. For example, the Quarantine Act in Sri Lanka could be updated to reflect the realities of dealing with a modern-day epidemic, such as the use of digital technologies as part of epidemic response. In Thailand, it is recommended that regulatory control is streamlined by limiting to the law that is most applicable. The Communicable Diseases Act, B.E. 2558 would be the law that is most specific to the pandemic control. The Emergency Decree may be justified in the first weeks of the pandemic outbreak. But as the situation advances and knowledge about disease control improves, it is wise to lift the Emergency Degree that has a blanket and overarching controlling framework to avoid undermining rights protection mechanisms that are designed in specialized laws like the Communicable Diseases Act.

Capacity building in ICT use for the health sector should also take place, in collaboration with the relevant telecommunications and ICT government agencies. This could include trainings on ICT for health officials, which should encompass computer skills more broadly, data governance principles, collecting and inputting data, and cybersecurity



measures to keep data safe. Furthermore, the ICT infrastructures of the health sector could be reviewed to ensure that communications and storage of data is secure. Regarding the deployment of digital solutions for epidemic response, extensive cybersecurity testing before the deployment of applications is vital. Furthermore, data governance structures need to be determined in advance, using the principles for the framework mentioned in the first recommendation.

In a pandemic, data collection and sharing are vital because authorities will need to know who has been infected and who has been exposed. Measures should be taken to safeguard the identities of those who are infected and exposed to the greatest extent possible. However, as we have seen above, at the community level that it is not always possible and that lateral surveillance and stigma from neighbors and friends is an issue. Steps need to be taken to reduce the stigma around the virus, including public awareness and education campaigns to reduce the stigma around the disease while acknowledging people's fears about the disease. Risk communication that includes specific messaging against stigmatizing and harassing the infected and exposed could be useful in this regard, as well as risk communication activities that address misinformation. Furthermore, media ethics practices in terms of preserving the privacy and dignity of the infected and the exposed should also be encouraged.

Overall, both countries have had some successes in data and information collection during the COVID-19 pandemic. Lessons learned from successes as well as areas for improvement should be noted and actively incorporated into preparation for future epidemics.



Annexes

Annex 1: Key Informant Interviews

The names and designations of the key informants are given below. In the event that the interviewee wished to remain anonymous, only a designation has been used.

Sri Lanka

- Dr. Vinya Ariyaratne President of the Sarvodaya Shramadana Movement
- Dr. Lasantha Ranwala Senior Registrar in Health Informatics, Ministry of Health
- Dr. Kushlani Jayatilleke Consultant Microbiologist, Sri Jayewardenepura General Hospital
- Consultant Community Physician
- Medical Officer: Community Health Unit, Provincial Directorate of Health Services
- Dr. Prabhath Ranasinghe Consultant Community Physician, Matale District
- Hospital Administrator
- Dr. Abusayeed Coordinator special repatriation programme; Registrar in Health Informatics, Ministry of Health
- Professor Vajira Dissanayake Dean of the Faculty of Medicine, University of Colombo
- In depth interview Sri Lankan returnee to Sri Lanka (returned in May 2020)
- In depth interview Sri Lankan returnee to Sri Lanka (returned in September 2020)

Thailand

• (N. Theera-Ampornpunt, personal communication)

Mr. Nawanan Theera-Ampornpunt, member of the working group on Thai Chana data governance and expert on health informatics, lecturer at the Ramathibodi Medical School, Mahidol University

• (Senior DDC official, personal communication)

Senior official at the communicable disease division, Department of Disease Control (DDC), Ministry of Public Health

• (T. Thipsamritkul, personal communication)

Ms. Thitirat Thipsamritkul, Lecturer and data protection expert, Faculty of Law, Thammasat University

• (N. Techaprasertsakul, personal communication)

Ms. Nantaporn Techaprasertsakul, information officer, National Health Commission Office

- K. Sukpakkul, personal communication)
- กิตดิพงศ์ สุขภาคกุล (ปลัดจังหวัดประจวบกีรีขันธ์)

Mr. Kittipong Sukpakkul (Deputy Governor, Prachuap Khiri Khan Province)

• (S. Songkram, personal communication)

สุวิทย์ สงคราม (ประชาสัมพันธ์จังหวัดประจวบคีรีขันธ์)

Mr. Suwit Songkram (Provincial Public Relations, Prachuap Khiri Khan Province)

• (J. Komol, personal communication)



จันทีรา โกมล (หัวหน้ากลุ่มงานควบคุมโรคติดต่อ, นักวิชาการสาธารณสุข)

Ms. Janthira Komol (Chief of Communicable Disease Control Sub-division, Public Health Technical Officer, Prachuap Khiri Khan Province)

• (S. Thadsana, personal communication)

สุขุม ทัศนา (ผู้ช่วยสาธารณสุขอำเภอ)

Mr. Sukhum Thadsana (Assistant of Public Health Executive, Prachuap Khiri Khan Province)

• (W. Jangsitthavej, personal communication)

วนิคา แจ้งสิทธาเวช (ผู้อำนวยการ รพ.สต. เกาะหลัก)

Ms. Wanida Jangsitthavej (Director of Health Promoting Hospital of Tambon Kho Lak, Prachuap Khiri Khan Province)

• (C. Tonsakulmongkol, personal communication)

ชลิคา ต้นสกุลมงคล (อสม.)

Ms. Chalida Tonsakulmongkol (Village Health Volunteer: VHV, Prachuap Khiri Khan Province)

• (J. Sawang, personal communication)

จีราภรณ์ สระวัง (อสม.)

Ms. Jeerapon Sawang (Village Health Volunteer: VHV, Prachuap Khiri Khan Province)

• (S. Kaochung, personal communication)

สนั่น ขาวช่วง (อสม.)

Ms. Sanan Kaochung (Village Health Volunteer: VHV, Prachuap Khiri Khan Province)



Annex 2: List of Laws, Regulations, Circulars, Decrees, Gazettes, and Guidelines relevant to COVID-19 and information collection

Please note that this list should not be considered exhaustive.

Sri Lanka

Policies

- 1. The National Policy on Health Information (2017)
- 2. National Digital Health Guidelines and Standards [NDHGS] 2.0. (2020)

Laws, Gazette Notifications, Circulars, Guidelines

- 1. Quarantine and Prevention of Diseases Ordinance (1897)
- 2. Draft of Personal Data Protection Bill (2019)
- 3. Extraordinary Gazette No. 2197/25 (15 October 2020)
- 4. Interim Summary Guidelines for Clinical Management of patients with novel coronavirus (2019-nCoV) (26 / 01/ 2020)
- 5. Maintenance of a register for healthcare workers exposed to COVID-19 at health care institutions (25 / 03 / 2020)
- 6. Management of Accidental Discovery of Suspected COVID-19 Patient in the Hospital (24 / 04 / 2020)
- 7. Guidance on Carrying Out RT PCR Test for COVID-19 in Work Settings (04 /05 / 2020)
- 8. Mandatory Notification of laboratory confirmed COVID-19 cases (25 / 06 / 2020)
- 9. Advices for Sri Lankan Students / Nationals and other foreign nationals returning from high risk areas of on-going Corona virus transmission (2020)
- Quarantine measures during and after mandatory / extended quarantine period or after discharge from isolation / intermediate care centres / hospitals during the pandemic of COVID-19 (04/ 12/ 2020)
- 11. Guidance for the Home quarantine / Quarantine in non-health care settings (2020)
- 12. Follow up of Sri Lankan Students / Nationals and other Foreign Nationals returning from high risk areas for ongoing Corona Virus Transmission (29 / 01 / 2020)
- 13. Quarantine process to be followed by all immediate contacts of a COVID-19 patient and any person entering into the country through ports of entry during the COVID-19 pandemic situation (16 / 11 / 2020)
- 14. New Normal Guidelines (May 2020)



Thailand

Laws related to data protection and data collection under health emergency

- Emergency Decree on Public Administration in Emergency Situations, B.E. 2548 (2005) (พระราชกำหนดการบริหารราชการในสถานการณ์ฉุกเฉิน พ.ศ. 2548)¹¹³
- 2. Communicable Diseases Act, B.E. 2558 (2015) (พระราชบัญญัติโรกติดต่อ พ.ศ. 2558)¹¹⁴
- 3. International Health Regulations, 2005¹¹⁵ Thailand is a member of World Health Organization and participate in IHR. "T8 Form" for disease control at the border is citing both Communicable Diseases Act and IHR.
- Immigration Act, B.E. 2522 (1979) (พระราชบัญญัติคนเข้าเมือง พ.ศ. 2522)¹¹⁶ Section 38 requires "House Master", like hotel manager, to notify within 24 hours to the authority about the stay of an alien.¹¹⁷
- National Health Act, B.E. 2550 (2007) (พระราชบัญญัติสุขภาพแห่งชาติ พ.ศ. 2550)¹¹⁸ Section 7 and 8 stipulate confidentiality and integrity principles for personal health information and the rights of a person over his or her own personal health information.
- Official Information Act, B.E. 2540 (1997) (พระราชบัญญัติข้อมูลข่าวสารของราชการ พ.ศ. 2540)¹¹⁹ Chapter 3 stipulates obligations for a state agency, including a state enterprise, when handling personal information of a Thai person and a non-Thai person who has a residence in Thailand.
- 7. National Telecommunications Commission Announcement on the protection measures for consumer rights in the areas of personal data, privacy, and freedom of communication via telecommunication networks (2006) (ประกาศ กทช. เรื่อง มาตรการคุ้มครองสิทธิ ของผู้ใช้บริการโทรคมนาคมเกี่ยวกับข้อมูลส่วนบุคคล สิทธิในความเป็นส่วนด้ว และเสรีภาพในการสื่อสารถึงกันโดยทางโทรคมนาคม)¹²⁰ A sectorial data protection law applies for the telecommunication service licensees, including internet access provider. Location data from the telecommunication network could be considered personal information under this law.

¹¹³ พระราชกำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (ฉบับที่ 1) (2005). Retrieved from <u>http://web.krisdika.go.th/data/slideshow/File/1-TH-EMERGENCY.pdf</u>.

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/1-EN-EMERGENCY.pdf</u> ¹¹⁴ พระราชบัญญัติโรกติดต่อ พ.ศ. 2558 (2015). Retrieved from <u>http://web.krisdika.go.th/data/slideshow/File/2-TH-</u> <u>COMMUNICABLE.pdf</u>

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/2-EN-COMMUNICABLE.pdf</u> ¹¹⁵ World Health Organization. (2016, January 1). International Health Regulations (2005) Third Edition. Retrieved from <u>https://www.who.int/publications/i/item/9789241580496</u>

¹¹⁶ พระราชบัญญัติคนเข้าเมือง พ.ศ. 2522 (1979). Retrieved from <u>http://web.krisdika.go.th/data/law/law2/%A402/%A402-20-9999-update.pdf</u> Unofficial English translation: <u>http://thailaws.com/law/t_laws/tlaw0127.pdf</u>

¹¹⁷ In practice, under the normal situation, the collection of personal data at hotel check-in applies to both Thai nationals and non-Thai nationals. Under COVID-19 situation, the requirement to obtain Certificate of Entry before entering the country will already make the authority know in advance about the place an individual is going to stay in their first 14 days.

¹¹⁸ พระราชบัญญัติสุขภาพแห่งชาติ พ.ศ. 2550 (2007). Retrieved from

https://www.dms.go.th/backend//Content/Content_File/Information_Center/Attach/25621124013609AM_17.pd f Unofficial English translation: http://thailaws.com/law/t_laws/tlaw0368.pdf

¹¹⁹ OFFICIAL INFORMATION ACT, B.E. 2540 (1997). Retrieved from

https://www.ocpb.go.th/download/pdf/act_eng_40.pdf

¹²⁰ ประกาศคณะกรรมการกิจการโทรคมนาคมแห่งชาติ เรื่องมาตรการคุ้มครองสิทธิของผู้ใช้บริการโทรคมนาคมเกี่ยวกับข้อมูลส่วนบุคคล สิทธิในความเป็นส่วนตัว และเสรีภาพในการ สื่อสารถึงกันโดยทางโทรคมนาคม (2006). Retrieved from <u>http://www.ratchakitcha.soc.go.th/DATA/PDF/2549/E/088/20.PDF</u>



8. (Not in effect until May 2021) Personal Data Protection Act, B.E. 2562 (2019)¹²¹ A generic personal data protection law which will apply to all industries both in public and private sectors. Section 4 (2) exempts "operations of public authorities having the duties to maintain state security, including financial security of the state or public safety, including the duties with respect to the prevention and suppression of money laundering, forensic science or cybersecurity."

Statements, Notifications, and Orders issued using the power from Emergency Decree on Public Administration in Emergency Situations

- Official Statement of the Office of the Prime Minister RE : Declaration of an Emergency Situation pursuant to the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) (แถลงการณ์สำนักนายกรัฐมนตรี เรื่อง การประกาศสถานการณ์ถุกเฉินตาม พระราชกำหนดการบริหารราชการในสถานการณ์ถุกเฉิน พ.ศ. 2548) [25 March 2020]¹²²
- Declaration of an Emergency Situation in all areas of the Kingdom of Thailand (ประกาศ สถานการณ์ถุกเฉิน ในทุกเขตท้องที่ทั่วราชอาณาจักร) [25 March 2020, effective 26 March – 30 April 2020]¹²³
- Notification Re : Prescription of Powers and Duties of Ministers as Powers and Duties of the Prime Minister (ประกาศ เรื่อง การกำหนดอำนางหน้าที่ของรัฐมนตรีตามกฎหมายเป็นอำนางหน้าที่ของ นายกรัฐมนตรี) [25 March 2020, effective 26 March 2020]¹²⁴
- 4. Order of the Prime Minister (คำสั่งนายกรัฐมนตรี)
 - a. Order of the Prime Minister No. 4 /2563 Re : Appointment of Supervisors, Chief Officials and Competent Officials Responsible for Remedying the Emergency Situation (กำสั่งนายกรัฐมนตรี ที่ 4/2563 เรื่อง แต่งตั้งผู้กำกับการปฏิบัติงาน หัวหน้าผู้รับผิดชอบ และพนักงานเง้าหน้าที่ในการแก้ใบสถานการณ์ฉุกเฉิน พ.ศ. 2548) [25 March 2020, effective 26 March 2020]¹²⁵
 - b. Order of the Prime Minister No. 5 /2563 Re : Establishment of a Special Task Force to Perform Duties in Accordance with the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) (คำสั่งนายกรัฐมนตรี ที่

5/2563 เรื่อง การจัดตั้งหน่วยงานพิเศษเพื่อปฏิบัติหน้าที่ตามพระราชกำหนดการบริหารราชการในสถานการณ์ฉุกเฉิน พ.ศ.

Unofficial English translation: http://web.krisdika.go.th/data/slideshow/File/02-Declaration.pdf

¹²⁴ The Notification transferred temporarily the Ministerial powers to approve, give order, give permission, facilitate, etc. under emergency situations from 40 laws and their subsequence regulations to the Prime Minister. The laws include Immigration Act, Communicable Diseases Act, Emergency Medicine Act, Electronic Transaction Act, Cybersecurity Act, Computer-related Crime Act, Digital Economy and Society Development Act, National Health Insurance Act, and Social Security Act. ประกาศ เรื่อง การกำหนดอำนาจหน้าที่ของรัฐมนตรี ตามกฎหมายเป็นอำนาจหน้าที่ของนายกรัฐมนตรี. (2020). Retrieved from http://web.krisdika.go.th/data/slideshow/File/03-Thai.pdf

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/03-Notification.pdf</u>

¹²⁵ กำสั่งนายกรัฐมนตรี ที่ 4/2563 เรื่องแต่งตั้งผู้กำกับการปฏิบัติงาน หัวหน้าผู้รับผิดชอบและพนักงานเจ้าหน้าที่ในการแก้ไขสถานการณ์ถูกเฉิน. (2020). Retrieved from http://web.krisdika.go.th/data/slideshow/File/4-3-Thai.pdf

Unofficial English translation: http://web.krisdika.go.th/data/slideshow/File/4-3_165158_6_2563_Eng.pdf

¹²¹ พระราชบัญญัติกุ้มกรองข้อมูลส่วนบุกกล พ.ศ. 2562 (2019). Retrieved from <u>https://thainetizen.org/wp-</u> <u>content/uploads/2019/11/thailand-personal-data-protection-act-2019-th.pdf</u> Unofficial English translation: https://thainetizen.org/docs/data-protection-cybersecurity-acts/

¹²² แถงการณ์สำนักนายกรัฐมนตรี เรื่อง การประกาศสถานการณ์ถุกเฉิน ตามพระราชกำหนดการบริหารราชการในสถานการณ์ถุกเฉิน พ.ศ. 2548. (2005). Retrived from http://web.krisdika.go.th/data/slideshow/File/01-Thai.pdf

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/01-Official_Statement.pdf</u>

¹²³ ประกาศสถานการณ์ถุกเฉินในทุกเขตท้องที่ทั่วราชอาณาจักร. (2021). Retrieved from <u>http://web.krisdika.go.th/data/slideshow/File/02-</u> <u>Thai.pdf</u>



2548) [25 March 2020, effective 26 March 2020]¹²⁶ Established Centre for COVID-19 Situation Administration (CCSA).

- c. Order of the Prime Minister No. 6 /2563 Re : Arrangement of the Structure of the Centre for COVID-19 Situation Administration (CCSA) (กำสั่งนายกรัฐมนตรี ที่
 6/2563 เรื่อง การจัดโครงสร้างของสูนย์บริหารสถานการณ์โควิด-19) [27 March 2020]¹²⁷
- Regulation Issued under Section 9 of the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) (ข้อกำหนด ออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหาร ราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548)
 - No. 1 [25 March 2020, effective 26 March 2020]¹²⁸ Item Eleven gives power to the officers to enforce the use tracking application on mobile phone. Item Three declares the border closure and stipulates that a person who is allowed to enter the country must follows measures as stated in Item Eleven.
 - b. No. 2 [2 April 2020, effective 3 April 2020]¹²⁹
 - c. No. 3 [10 April 2020]¹³⁰
 - d. No. 4 [29 April 2020, effective 1 May 2020]¹³¹
 - e. No. 5 [1 May 2020, effective 3 May 2020]¹³² Item Five restricts crossprovincial travel.
 - f. No. 6 [1 May 2020, effective 3 May 2020]¹³³
 - g. No. 7 [15 May 2020, effective 17 May 2020]¹³⁴
 - h. No. 9 [29 May 2020, effective 1 June 2020]¹³⁵ Item Five loosen restrictions on cross-provincial travel, as well as a travel from outside the country, under the conditions of disease prevention measures.

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/4-2_Order.pdf</u> ¹²⁷ คำสั่งนายกรัฐมนตรี ที่ 6/2563 เรื่อง การจัด โครงสร้างของศูนย์บริหารสถานการณ์โควิด-19 (2020). Retrieved from <u>http://web.krisdika.go.th/data/slideshow/File/4-1-Thai.pdf</u>

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/RegulationEN.pdf</u> ¹²⁹ ข้อกำหนด ออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (ฉบับที่ 2) (2020). Retrieved from http://web.krisdika.go.th/data/slideshow/File/5-1-Thai.pdf

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¹²⁶ กำสั่งนายกรัฐมนตรี ที่ 5/2563 เรื่อง การจัดตั้งหน่วยงานพิเศษเพื่อปฏิบัติหน้าที่ตามพระราชกำหนดการบริหารราชการในสถานการณ์ฉุกเฉิน พ.ศ. 2548. (2020). Retrieved from <u>http://web.krisdika.go.th/data/slideshow/File/4-2-Thai.pdf</u>

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/4-1_Order.pdf</u> ¹²⁸ ข้อกำหนด ออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (ฉบับที่ 1) (2020). Retrieved from <u>http://web.krisdika.go.th/data/slideshow/File/RegulationTH.pdf</u>

¹³¹ ข้อกำหนด ออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (ฉบับที่ 4) (2020). Retrieved from http://www.samutsongkhram.go.th/covid/attachments/article/58/T_0090.PDF

¹³² ข้อกำหนด ออกตามความในมาดรา 9 แห่งพระราชกำหนดการบริหารราชการในสถานการณ์ถุกเฉิน พ.ศ. 2548 (ฉบับที่ 5) (2020). Retrieved from http://web.krisdika.go.th/data/slideshow/File/5_3-13-5-63-TH.pdf

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/5_3-13-5-63-EN.pdf</u> ¹³³ ข้อกำหนด ออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหารราชการในสถานการณ์ถุกเฉิน พ.ศ. 2548 (ฉบับที่ 6) (2020). Retrieved from http://web.krisdika.go.th/data/slideshow/File/5_4-13-5-63-TH.pdf

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/5_4-13-5-63-EN.pdf</u> ¹³⁴ ข้อกำหนด ออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหารราชการในสถานการณ์ถูกเดิน พ.ศ. 2548 (ฉบับที่ 7) (2020). Retrieved from <u>http://web.krisdika.go.th/data/slideshow/File/5_5-21-5-63-TH.pdf</u>

Unofficial English translation: <u>http://web.krisdika.go.th/data/slideshow/File/5_5-21-5-63-EN.pdf</u> ¹³⁵ ข้อกำหนด ออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (ฉบับที่ 9) (2020). Retrieved from http://www.samutsongkhram.go.th/covid/attachments/article/131/T_0044.PDF



- i. No. 11 [30 June 2020, effective 1 July 2020]¹³⁶ Item Six gives power to the officers to ask the venue manager or activity organizer to provide tracking application for the purpose of the tracking of and notification to a participation who join the gathering or any activity that may have contact risk and there is a reasonable cause to suspect that they may have an infection.
- j. No. 12 [30 June 2020, effective 1 July 2020]¹³⁷ Item Two gives power to the officers to use tracking application for the purpose of the tracking of and notification to an individual who travel into the country and there is a reasonable cause to suspect that they may have an infection.
- 6. Order of the Centre for COVID-19 Situation Administration (กำสั่งศูนย์บริหารสถานการณ์การแพร่ ระบาดของโรคติดเชื้อไวรัสโคโรนา 2019 (โควิด 19))
 - a. No. 2/2563 Re: Guidelines based on Regulations Issued under Section 9 of the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) (ที่ 2/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหาร ราชการในสถานการณ์ฉุกเฉิน พ.ศ. 2563) [1 May 2020, effective 3 May 2020]¹³⁸ Tracking application on mobile phone is suggested as an additional measure for the prevent of disease.
 - b. No. 3/2563 Re : Guidelines based on Regulations Issued under Section 9 of the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) (No. 2) (ที่ 3/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระราช กำหนดการบริหารราชการในสถานการณ์ฉุกเฉิน พ.ศ. 2548 (ฉบับที่ 2)) [16 May 2020, effective 17 May 2020]¹³⁹ Mobile phone application as required by the authority or an equivalent record and report measure is suggested as an additional measure for the prevention of the disease.
 - c. No. 4/2563 Re : Guidelines based on Regulations Issued under Section 9 of the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) (No. 3) (ที่ 4/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระราช กำหนดการบริหารราชการในสถานการณ์ฉุกเฉิน พ.ศ. 2548 (ฉบับที่ 3)) [29 May 2020, effective 1 June 2020]¹⁴⁰ Data collection and system that can trace and notify individuals who had entered premises or used the services, after they leave the premise, are suggested as an additional measure to prevent the disease. The development of check-in and check-out system, queue booking system, and online learning systems are suggested as an additional long-term measure.

Unofficial English translation: http://web.krisdika.go.th/data/slideshow/File/07-13-5-63-EN.pdf

¹³⁶ ข้อกำหนด ออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (ฉบับที่ 11) (2020). Retrieved from http://www.samutsongkhram.go.th/covid/attachments/article/171/T_0031.PDF

¹³⁷ ข้อกำหนด ออกตามความในมาตรา 9 แห่งพระราชกำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (ฉบับที่ 12) (2020). Retrieved from http://www.ratchakitcha.soc.go.th/DATA/PDF/2563/E/153/T_0035.PDF

¹³⁸ กำสั่งสูนย์บริหารสถานการณ์การแพร่ระบาดของโรคดิดเชื้อไวรัสโคโรนา 2019 (โควิด - 19) ที่ 2/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระ ราชกำหนดการบริหารราชการในสถานการณ์ฉุกเฉิน พ.ศ. 2548 (2020). Retrieved from

http://web.krisdika.go.th/data/slideshow/File/07-13-5-63-TH.pdf

¹³⁹ กำสั่งสูนข์บริหารสถานการณ์การแพร่ระบาดของโรคดิดเชื้อไวรัสโคโรนา 2019 (โควิด - 19) ที่ 3/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระ ราชกำหนดการบริหารราชการในสถานการณ์ถุกเฉิน พ.ศ. 2548 (ฉบับที่ 2) (2020). Retrieved from

http://www.samutsongkhram.go.th/covid/attachments/article/108/T_0050.PDF

¹⁴⁰ กำสั่งสูนย์บริหารสถานการณ์การแพร่ระบาดของโรคติดเชื้อไวรัสไคโรนา 2019 (โกวิด - 19) ที่ 4/2563 เรื่อง แนวปฏิบัติดามข้อกำหนดออกตามความในมาตรา 9 แห่งพระ ราชกำหนดการบริหารราชการในสถานการณ์ถุกเฉิน พ.ศ. 2548 (ฉบับที่ 3) (2020). Retrieved from

http://www.samutsongkhram.go.th/covid/attachments/article/132/T_0038.PDF



- d. No. 5/2563 Re : Guidelines based on Regulations Issued under Section 9 of the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) (No. 4) (ที่ 5/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระราช กำหนดการบริหารราชการในสถานการณ์ฉุกเฉิน พ.ศ. 2548 (ฉบับที่ 4)) [12 June May 2020, effective 15 June 2020]¹⁴¹ Generally similar to the Order No. 4/2563 with an addition of measures for cross-provincial transportation.
- e. No. 6/2563 Re : Guidelines based on Regulations Issued under Section 9 of the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) (No. 6) (ที่ 6/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระราช กำหนดการบริหารราชการในสถานการณ์ฉุกเฉิน พ.ศ. 2548 (ฉบับที่ 6)) [30 June May 2020, effective 1 July 2020]¹⁴² Generally similar to the Order No. 4 and No. 5/2563 with CCTV camera installation and retention of the recording for at least one month suggested as an additional measure.
- f. No. 7/2563 Re : Guidelines based on Regulations Issued under Section 9 of the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005) (No. 6) (ที่ 7/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระราษ กำหนดการบริหารราชการในสถานการณ์ถูกเฉิน พ.ศ. 2548 (ฉบับที่ 6)) [30 June May 2020, effective 1 July 2020]¹⁴³ Prescribing details about measures and documents needed for an individual in order to depart the origin country for Thailand (Certificate of Entry, Fit to Fly Health Certificate, T8 Form self-declaration of health), measures during the stay inside Thailand (including a requirement to install a tracking application or any other application as the authority required), and measure before leaving Thailand. These are the guidelines that Thailand's Certificate of Entry Registration System (for air travel) refer to on its website.¹⁴⁴
- Notification of the Ministry of Interior Re : Permission for Certain Groups of Aliens to Remain in the Kingdom as a Special Case (ประกาศกระทรวงมหาดไทย เรื่อง การอนุญาตให้คนต่างด้าวบาง จำพวกอยู่ในราชอาณาจักรเป็นกรณีพิเศษ)¹⁴⁵

http://www.samutsongkhram.go.th/covid/attachments/article/150/T_0028.PDF

http://www.samutsongkhram.go.th/covid/attachments/article/173/T_0037.PDF

http://www.samutsongkhram.go.th/covid/attachments/article/174/T_0038.PDF

¹⁴¹ กำสั่งสูนย์บริหารสถานการณ์การแพร่ระบาดของโรคดิดเชื้อไวรัสโคโรนา 2019 (โควิด - 19) ที่ 5/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระ ราชกำหนดการบริหารราชการในสถานการณ์ถุกเฉิน พ.ศ. 2548 (ฉบับที่ 4) (2020). Retrieved from

¹⁴² กำสั่งสูนย์บริหารสถานการณ์การแพร่ระบาดของโรกติดเชื้อไวรัสโคโรนา 2019 (โกวิด - 19) ที่ 6/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระ ราชกำหนดการบริหารราชการในสถานการณ์ฉุกเฉิน พ.ศ. 2548 (ฉบับที่ 5) (2020). Retrieved from

¹⁴³ กำสั่งสูนย์บริหารสถานการณ์การแพร่ระบาดของโรกติดเชื้อไวรัสโคโรนา 2019 (โกวิด - 19) ที่ 7/2563 เรื่อง แนวปฏิบัติตามข้อกำหนดออกตามความในมาตรา 9 แห่งพระ ราชกำหนดการบริหารราชการในสถานการณ์ถุกเฉิน พ.ศ. 2548 (ฉบับที่ 6) (2020). Retrieved from

¹⁴⁴ Thailand's Certificate of Entry (COE) Registration System (for air travel). (n.d.). Retrieved from <u>https://coethailand.mfa.go.th/</u>

¹⁴⁵ ประกาศกระทรวงมหาดไทย เรื่อง การอนุญาตให้คนต่างด้าวบางจำพวกอยู่ในราชอาณาจักรเป็นกรณิพิเศษ (2020). Retrieved from <u>http://web.krisdika.go.th/data/slideshow/File/06-Thai.pdf</u>

Unofficial English translation: http://web.krisdika.go.th/data/slideshow/File/Notification-ENG.pdf



Annex 3: List of Abbreviations

<u>Sri Lanka</u>

CCP - Consultant Community Physician DIG – Deputy Inspector General GN division – Grama Niladhari division. Also known as Grama Sevaka division (GS division) HISSL - Health Informatics Society of Sri Lanka HPB – Health Promotion Bureau ICTA – Information and Communication Technology Agency of Sri Lanka IDH - Infectious Diseases Hospital. Also known as the National Institute of Infectious Diseases MOH - Medical Officer of Heath NDHGS - National Digital Health Guidelines and Standards NIC - National Identity Card (the NIC number is sometimes referred to as the "ID number" in this report. NOCPCO - National Operation Center for Prevention of COVID-19 Outbreak **OPD** – Outpatient Department PHI - Public Health Inspector RDHS – Regional Director of Health Services RE – Regional Epidemiologist

<u>Thailand</u>

AOT - Airports of Thailand Application

CCSA - Center for COVID-19 Situation Administration

- CoE Certificate of Entry
- DDC Department of Disease Control
- DES Ministry of Digital Economy and Society
- DGA Digital Government Agency
- DPHO District Public Health Office
- EOC Emergency Operations Center
- KTB Krung Thai Bank
- PDPA Personal Data Protection Act B.E. 2562 (2019)
- PUI Patient Under Investigation
- SHPH Sub-district Health Promoting Hospital
- VHV Village Health Volunteer



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