Legal provisions for enforcing social distancing to guard against COVID-19: the case of Hong Kong

Janice Y. C. Lau† and Shui-Shan Lee*,‡

Stanley Ho Centre for Emerging Infectious Diseases, The Chinese University of Hong Kong, Hong Kong, People’s Republic of China

*Corresponding author. E-mail: sslee@cuhk.edu.hk

ABSTRACT

The implementation of social distancing measures through legal regulations to contain an epidemiologic outbreak has received little research attention. We reviewed and synthesized data on epidemiology, mobility trends and enforcement activities in the first 5 months of the COVID-19 epidemic in Hong Kong to examine the effectiveness of the newly enacted social distancing regulations. Data collected showed reduced patronage of retail and recreational activities during the epidemic. The regulations’ enforcement could be inferred from the increase in the number of inspections, verbal warnings given to operators of scheduled premises and to people in public

† Dr Janice Lau joined Stanley Ho Centre for Emerging Infectious Diseases, The Chinese University of Hong Kong (CUHK) as Research Associate since 2020. She received her doctorate degree in Public Health from CUHK in 2015. She had been trained in anthropology with completion of dual degrees of MA and MPhil at the Department of Anthropology of CUHK with specialization in cultural anthropology (2004–2007). Her research interests include health decision-making, risk perception in health and disease, and public health responses to COVID-19. She focuses on advancing research methods in the field of public health through the application of ethnography, and conducting empirical research with the emphasis of cultural analyses on health experiences.

‡ Professor Lee graduated from the Medical School of The University Hong Kong in 1982 and received his MD degree from the same university in 1995. After graduation he underwent training in internal medicine, developed keen interest in clinical immunology and thereafter HIV/AIDS. In 1991, he was appointed head of the newly established Department of Health Special Preventive Programme for AIDS and viral hepatitis. In 2005, he joined The Chinese University of Hong Kong as Chair Professor in Infectious Diseases, and is currently staff member of the Stanley Ho Centre for Emerging infectious Diseases. He is a fellow with professional institutions in internal medicine, pathology and public health. His research interests are biomedical HIV prevention, HIV/AIDS treatment optimization, and infectious disease epidemiology.

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gatherings, but which rarely led to prosecutions. In parallel, the number of reported COVID-19 cases became stabilized. Our analyses suggested that public compliance with social distancing regulations could be maintained through promotional efforts without enforcement by prosecution. The adverse impacts of prolonged social distancing on the economy and citizens’ social and psychological well-being were, however, of concern.

**KEYWORDS**: social distancing, regulations, COVID-19, SARS-CoV-2, public health

**I. INTRODUCTION**

The establishment of public health laws with “the legal powers and duties of the state to ensure the conditions for people to be healthy”\(^1\) is one of the key system-level components of strategies for public health emergency preparedness.\(^2\) The coronavirus disease 2019 (COVID-19) pandemic since late 2019 has led to over 29 million confirmatory cases globally, with a death toll of around 931,000 within 10 months.\(^3\) Worldwide, laws and specific regulations have been used by countries and regions to mandate measures for the goal of containing the spread of the virus, but the question of how effective these tools are to achieve public health outcomes is left unanswered.

The reform of public health laws and their implementation could result in changes in behaviors, environment, and increased capacity of health systems.\(^4\) Apart from notification and isolation of known cases, disease control legislations could function to reduce the spread of infections in the community. For pathogens that can easily disseminate in the population, early quarantining of individuals who may have been exposed to the pathogen forms one of the key pillars of the containment strategy.\(^5\) The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), causative agent of COVID-19, can cause speedy and extensive spread through human contacts and droplet transmission.\(^6\) To control its spread, the benefits of broad-scale social distancing to minimize physical contacts between individuals in the community are anticipated.\(^7,8\) Social distancing may however carry unintended consequences that trigger social conflicts and public resistance.\(^9\) When violations are expected to occur, law enforcement is needed to ensure compliance with the established social distancing measures.

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Hong Kong, an international city geographically linked to Mainland China, is one of the areas that had confronted the COVID-19 pandemic very early on, shortly after its onset in Wuhan, China. Enacted in 2008, the Prevention and Control of Disease Ordinance (Cap. 599) (hereafter referred as the Ordinance) and its subsidiary legislation has provided the legal mandate to the administration in Hong Kong to deliver public health interventions for controlling outbreaks. Historically, the Ordinance came into effect to replace the repealed Quarantine and Prevention of Disease Ordinance (Cap. 141), providing the powers to handle public health emergencies in line with the principle of the “least restrictive alternative.” Targeting COVID-19, amendments to the Ordinance and specific regulations were introduced by the government for implementing social distancing measures (see Appendix 1). In this study, we aimed to evaluate the legal procedures of introducing and enforcing social distancing, and discuss factors contributing to their compliance in Hong Kong, when widespread SARS-CoV-2 transmission was anticipated following the pandemic declaration.

II. METHODS

II.A. Working definitions
Legislation, in its broadest definition, refers to “the framework within which a society functions,” determining “[t]he rights and obligations of individuals and organizations in a society.” We used the European Centre for Disease Prevention and Control (ECDC)’s definition of “social distancing” as “efforts that aim, through a variety of means, to decrease or interrupt transmission of COVID-19 in a population (sub-)group by minimizing physical contacts between potentially infected individuals and healthy individuals, or between population groups with high rates of transmission and population groups with no or a low level of transmission.” In this study, we focused on (i) catering business and scheduled premises; and (ii) social gathering that were specifically included in the newly introduced regulations of the Ordinance for controlling COVID-19 in Hong Kong.

II.B. Data collection
We collected three types of data between 25 April and 30 May 2020—(i) epidemiological data, (ii) inspection statistics, and (iii) mobility and behavioral data—from publicly accessible documents through online manual search. From the Hong Kong government’s websites, we retrieved documents (e.g., press releases) reporting the enactment and implementation of the regulations (see Appendix 2). Inspection statistics on the number of cases involving people breaching the orders from 28 March and 29 March 2020 (the date that these regulations came into effect respectively) through 8 May 2020, were drawn from government news and government responses cited by news

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12 European Centre for Disease Prevention and Control (ECDC), Considerations Relating to Social Distancing Measures in Response to COVID-19 – Second Update. https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-social-distancing-measuresg-guide-second-update.pdf (accessed Mar. 23, 2020).
articles (see Appendix 3). To assess the effectiveness of the enacted social distancing regulations, we used epidemiological data from Department of Health (see Appendix 2) as the key outcomes, which were reviewed each day during different phases of Hong Kong’s COVID-19 outbreak. We gathered COVID-19 Community Mobility Report from Google Maps that charted the trends of people’s movement across specified categories of places, consumption patterns on eateries from the Census and Statistics Department, and eating-out patterns from an ongoing E Community Surveillance System for Influenza-like Illness (EcSS) study, as our reference base for mobility and behavioral data (see Appendix 4). Data relating to social distancing yet outside the scope of these regulations (e.g., quarantining) were excluded, while duplicated reports were removed.

II.C. Data analysis
Relevant data were extracted, differentiated by the two major categories of social distancing as targeted by the respective regulation—(i) physical distancing in specific premises and (ii) group gathering, and organized in the data extraction tables for synthesis. The resultant information was reviewed and cross-referenced to display the situation in context. We generated variables that separately measured enforcement activities against physical distancing in specific premises and group gathering, and calculated the percentage change by type of enforcement activities for comparison between time periods. The analysis of temporal relationship between the number of COVID-19 cases and the enforcement activities’ data was based on the assessment of the situation during the pre- and postimplementation period of the new regulations.

II.D. Ethical approval
This study was conducted using secondary data without reference to personal identifiers, and without the involvement of human subjects. Approval was obtained from the Survey and Behavioral Research Ethics Committee (SBREC) (No. SBRE-19-743) of the Chinese University of Hong Kong.

III. RESULTS

III.A. Inspection statistics of enforcement actions on breach of regulations by catering business and scheduled premises
Table 1 shows the breakdown of enforcement actions carried out by authorized inspectors. We divided the interval between 28 March (when Cap. 599F was effective) and 8 May into three roughly equal periods following the dates of implementation of the regulations: Period I—28 March to 9 April; Period II—13 to 23 April; and Period III—30 April to 8 May. As of 8 May, the cumulative number of enforcement actions amounted to a total of 89,818 inspections, 3107 verbal warnings and 61 prosecutions targeting catering business; and 11,267 inspections, 71 verbal warnings and five prosecutions targeting scheduled premises. Inspections accounted for the highest proportion of such actions both for the catering business and scheduled premises, while verbal warnings carrying no penalty were more frequently issued than prosecution per se. Although
Table 1. Cumulative and daily number of enforcement actions taken against catering business, scheduled premises and group gathering.

| Period | From (DD.MM.YYYY) to (DD.MM.YYYY) | Inspections | Verbal warnings | Penalty tickets | Prosecution | Source: Appendix 3 |
|--------|-----------------------------------|-------------|----------------|-----------------|-------------|-------------------|
|        |                                   | Cumulative number | Daily average | Cumulative number | Daily average | Cumulative number | Daily average | |
| Catering business | From | 28.03.2020 | | | | | | |
| I      | 01.04.2020 | 11,000 | 2750.0 | 838 | 209.5 | — | — | 0 | 0 | #1 |
|        | 07.04.2020 | 27,752 | 2775.2 | 1674 | 167.4 | — | — | 0 | 0 | #2 |
|        | 09.04.2020 | 32,141 | 2678.4 | 1813 | 151.1 | — | — | 3 | 0.25 | #3 |
| II     | 13.04.2020 | 41,000 | 2562.5 | 2208 | 138.0 | — | — | 14 | 0.88 | #4 |
|        | 16.04.2020 | 47,484 | 2499.2 | 2380 | 125.3 | — | — | 25 | 1.32 | #5 |
|        | 20.04.2020 | 55,000 | 2391.3 | 2500 | 108.7 | — | — | 34 | 1.48 | #6 |
|        | 23.04.2020 | 61,346 | 2359.5 | 2654 | 102.1 | — | — | 44 | 1.69 | #7 |
| III    | 30.04.2020 | 75,804 | 2297.1 | 2900 | 87.9 | — | — | 55 | 1.67 | #8 |
|        | 08.05.2020 | 89,818 | 2190.7 | 3107 | 75.8 | — | — | 61 | 1.49 | #9 |
| Scheduled premises | From | 28.03.2020 | | | | | | |
| I      | 01.04.2020 | 887 | 221.8 | 0 | 0 | — | — | 0 | 0 | #1 |
|        | 07.04.2020 | 1844 | 184.4 | 8 | 0.8 | — | — | 0 | 0 | #2 |
|        | 09.04.2020 | 2189 | 182.4 | 24 | 2.0 | — | — | 0 | 0 | #3 |
| II     | 13.04.2020 | 3878 | 242.4 | 36 | 2.3 | — | — | 0 | 0 | #4 |
|        | 16.04.2020 | 4425 | 232.9 | 36 | 1.9 | — | — | 0 | 0 | #5 |
|        | 20.04.2020 | 6100 | 265.2 | 49 | 2.1 | — | — | 1 | 0.04 | #6 |
Table 1. Continued.

| Period | From (DD.MM.YYYY) to (DD.MM.YYYY) | Inspections | Verbal warnings | Penalty tickets | Prosecution | Source: Appendix 3 |
|--------|----------------------------------|-------------|----------------|----------------|-------------|-------------------|
|        |                                  | Cumulative number | Daily average   | Cumulative number | Daily average | Cumulative number | Daily average |
|        |                                  |              |                |                |              |              |                |
| III    | 23.04.2020                       | 8165        | 314.0          | 59              | 2.3         | —               | —             | 1              | 0.04           | #7             |
|        | 30.04.2020                       | 9819        | 297.5          | 63              | 1.9         | —               | —             | 2              | 0.06           | #8             |
|        | 08.05.2020                       | 11,267      | 274.8          | 71              | 1.7         | —               | —             | 5              | 0.12           | #9             |
| Group gathering | From 29.03.2020 |              |                |                |              |              |                |
|        | I                               | 12,711      | 1412.3         | 1830            | 203.3       | 19              | 2.1           | 0              | 0              | #2             |
|        | 07.04.2020                       | 17,909      | 1628.1         | 2213            | 201.2       | 25              | 2.3           | 0              | 0              | #3             |
|        | 09.04.2020                       | 26,000      | 1733.3         | 4093            | 272.9       | 62              | 4.1           | 0              | 0              | #4             |
|        | 13.04–2020                       | 32,589      | 1810.5         | 4944            | 274.7       | 82              | 4.6           | 0              | 0              | #5             |
|        | 16.04.2020                       | 40,000      | 1818.2         | 6294            | 286.1       | 131             | 6.0           | 3              | 0.14           | #6             |
|        | 20.04.2020                       | 46,228      | 1849.1         | 6788            | 271.5       | 232             | 9.3           | 14             | 0.56           | #7             |
|        | 23.04.2020                       | 59,535      | 1860.5         | 8519            | 266.2       | 338             | 10.6          | 14             | 0.44           | #8             |
|        | III                             | 74,279      | 1857.0         | 11,897          | 297.4       | 477             | 11.9          | 15             | 0.38           | #9             |
Table 2. Percentage change of enforcement actions taken against catering business, scheduled premises and banning of dispersible group in public by time-period

|                          | Period I (through 09.04.2020) | Period II (through 23.04.2020) | Period III (through 08.05.2020) |
|--------------------------|---------------------------------|---------------------------------|---------------------------------|
|                          | Daily average                   | Daily average                   | Daily average                   |
| Catering business        |                                 |                                 |                                 |
| Inspections              | 2678.4                          | 2359.5                          | 2190.7                          |
| Verbal warnings          | 151.1                           | 102.1                           | 75.8                            |
| Prosecution              | 0.25                            | 1.69                            | 1.49                            |
| Scheduled premises       |                                 |                                 |                                 |
| Inspections              | 182.4                           | 314.0                           | 274.8                           |
| Verbal warnings          | 2.0                             | 2.3                             | 1.7                             |
| Prosecution              | —                               | 0.04                            | 0.12                            |
| Group gathering          |                                 |                                 |                                 |
| Inspections              | 1628.1                          | 1849.1                          | 1857.0                          |
| Verbal warnings          | 201.2                           | 271.5                           | 297.4                           |
| Penalty tickets          | 2.3                             | 9.3                             | 11.9                            |
| Prosecution              | —                               | 0.56                            | 0.38                            |

fewer actions were taken in scheduled premises compared to catering business, their increase was much higher over the time periods (Table 2). There was a marked increase of 72.1% and 15% in the proportion of inspections and verbal warnings in scheduled premises from Period I to Period II, respectively. In terms of prosecutions, there was a large increase in the cumulative total for catering business, from 3 to 44, from Period I to II. By 8 May, its cumulative total (61 cases) was 12.2 times higher than that for scheduled premises (5 cases) (Table 1).

III.B. Inspection statistics of enforcement actions taken against group gatherings
An overview of enforcement actions taken by authorized officers in banning dispersible group gatherings in public is shown in Table 1. As of 8 May, a total of 74,279 inspections, 11,897 verbal warnings, 477 fixed penalty notices imposing fines and 15 prosecutions were recorded. There was a rising number of enforcement actions between 28 March and 8 May, with large increase from Period I to Period II: 13.6%, 34.9% and 304.3%, respectively, for inspections, verbal warnings and penalty notices (Table 2). Chess players, street performers, audiences watching public performance, and protesters were issued penalty notices for not adhering to social distancing regulation (Appendix 3. #10–12). However, no actions by prosecution were initiated before 20 April. The cumulative total number of prosecutions remained low at 15 as of 8 May.

III.C. Mobility trends and social distancing behavioral pattern
In Hong Kong, movements of citizens started to slow down around a week before the effective dates of Cap. 599F (28 March 2020) and Cap. 599G (29 March 2020), as
Legal provisions for enforcing social distancing to guard against COVID-19

Figure 1. People’s movement in premises for retail and recreational activities in Hong Kong (Feb-May 2020), with a dip from middle of March, which were maintained at lower level while social distancing regulations were in force. Orange line represents the time when the new regulation (Cap. 599F) on catering business and scheduled premises began; red line is the time when the new regulation (Cap. 599G) imposed on group gathering began; and blue line shows people’s movement in premises for retail and recreational activities. Source: Review based on data accessed from Google, COVID-19 Community Mobility Report. Hong Kong 13 May 2020. (Appendix 4. #1).

shown in data from Google Mobility Report (Figure 1). On the first day when Cap. 599F was in force, there was an over 35% reduction of mobility at retail and recreation premises (including restaurants, cafes, shopping centres, theme parks, museums, libraries, and movie theatres). The mobility trend continued to be lower than 25% through April, but gradually increased in early May (the period when the government announced the lifting of some of the restrictions). The number of days of eating out in restaurants and canteens could be illustrated from data collected in the EcSS study (Figure 2). More than 50% of the citizens participating in the study reported 0 days of eating-out in the preceding week, as recorded on 27 March, 3 April, and 17 April. A lower eating-out frequency compared to the period before the introduction of Cap. 599F regulation was observed. Consistent with EcSS data, there was a significant reduction in the value of total receipts of the restaurant sector by 10.8%, 42.1% and 41.7% respectively in January, February and March 2020, compared with the corresponding months in 2019 (Appendix 4. #2). This significant change in consumption behavior in patronizing restaurants echoed temporally with the introduction of the regulations applicable to the catering business.

III.D. Epidemiological data of COVID-19 infection

The transition from the first phase (23 January to 19 March 2020) to the second phase (20 March to 11 April 2020) of the COVID-19 outbreaks was marked by the escalating number of cases of infected people from abroad, mainly Europe and North America, resulting in 436 imported cases in March 2020. Community transmission of the virus remained low in the first 2 weeks of March 2020, but a rise in the number of cases
Legal provisions for enforcing social distancing to guard against COVID-19

Figure 2. Number of days for eating-out in restaurants or canteens in the past 7 days in Hong Kong (Feb-May 2020), showing lower frequency following implementation of regulations on catering business and group gathering. Green line represents the time when the new regulation (Cap. 599F) on catering business and scheduled premises began; and red line is the time when the new regulation (Cap. 599G) imposed on group gathering began. The bars are colored according to the number of days for eating-out in restaurants or canteens in the past 7 days. Source: Review based on data accessed from The Chinese University of Hong Kong, E Community Surveillance System for Influenza-like Illnesses (EcSS) study. (Appendix 4, #3).

starting from the third week of March reflected the highest risk of potential transmission since the onset of the outbreak. Clusters of local infections were identified, some of which traceable to gathering at bars and pubs with the total number of cases surpassing 700 by 31 March 2020.

Surveillance data from the government showed that (Figure 3) there was a significant reduction in “local cases” and infections “epidemiologically linked with local cases” shortly after the implementation of the social distancing regulations. Community transmission slowed down from 10 April onwards, with new infections gradually dropping to a single digit per day. There had not been a local infection case for a 23-day period until two new cases were confirmed on 13 May 2020. As of 30 May, the total number of confirmed cases was 1080, with a death toll of four.

IV. DISCUSSION

IV.A. Effects of social distancing regulations in containing the growth of COVID-19 outbreaks

This study has evaluated the functioning of social distancing regulations through restricting the operation of catering business and scheduled premises, as well as discouraging public gathering, in order to protect the population from COVID-19 outbreaks. There was a notable decrease in the number of local transmission cases shortly after the two regulations (Cap. 599F and Cap. 599G) came into effect, the violation of which constituted an offence punishable by imprisonment and/or fine. During the period that the regulations were in force, various types of enforcement actions ranging from warnings to prosecutions had been recorded, with peak efforts observed around 2–3 weeks after their commencement. Attribution of subsequent decline in reported infections to the regulations should however be treated with caution, as there were, in parallel, isolation of infected cases, implementation of follow-up contact tracing, the quarantine of people with exposure risk, and rapid expansion of SARS-CoV-2 testing.
Legal provisions for enforcing social distancing to guard against COVID-19

Figure 3. Epidemic curve of confirmed and probable cases of COVID-19 in Hong Kong (as of 30 May 2020). Blue line represents the time when the new regulation (Cap. 599F) on catering business and scheduled premises began; and red line is the time when new regulation (Cap. 599G) on group gathering began to be imposed. The bars are colored according to the number of cases. Source: Review based on data accessed from DATA.GOV.HK, Data in Coronavirus Disease (COVID-19), Details of probable/confirmed cases of COVID-19 infection in Hong Kong (English). (Appendix 2. #5).

in the community. The effectiveness of the regulations in ensuring the maintenance of social distancing in the community could however be inferred from the data collected and their temporal relationship with the respective regulations.

IV.B. Enforceability of regulations

Modeling studies have proven that social distancing was effective in reducing the spread of COVID-19,13,14 particularly when implemented in tandem with testing, contact tracing,15 and mask wearing.16 Scientific evidence supported the prompt introduction of social distancing as any delay might lead to exponential growth of the epidemic that could overwhelm the health system.17,18 Whether social distancing regulations could work effectively depends on the feasibility of their day-to-day implementation and enforcement. In Hong Kong, authorized inspectors were granted the powers under Section 12 of Part 4 of Cap. 599F, while other authorized officers were granted various powers ranging from dispersing group gatherings, inspecting public place, to entering and searching premises with warrants to conduct investigation under Sections 10, 11, and 12 of Cap. 599G, respectively. The legal powers rested with designated government departments had enabled their inspectors and officers to exercise authorities in accordance with the provisions expressed in the regulations. The prosecution of offenders such as operators of bars and pubs and the ticketing of dispersible group gatherers were

13 Joel R. Koo et al., supra note 7.
14 Roy M. Anderson et al., supra note 8.
15 Laura Matrajt & Tiffany Leung, Evaluating the effectiveness of social distancing interventions to delay or flatten the epidemic curve of coronavirus disease, 26 Emerg. Infect. Dis. 1740–1748 (2020).
16 Calistus N. Ngonghala et al., Mathematical assessment of the impact of non-pharmaceutical interventions on curtailing the 2019 novel coronavirus, 325 Math. Biosci. 108364 (2020).
17 Id. note 15.
18 Id. note 16.
evidence that powers had been exercised as shown in the collected data. Overall, the study results reflected the enforceability of the regulations to protect public health.

Contrary to the complaint-based approach commonly adopted in the implementation of administrative orders, the legal provisions described in this study have enabled “proactive enforcement”\textsuperscript{19} to be in place through such measures as inspections and investigations. The increasing number of inspections, verbal warnings and prosecutions clearly reflected a rising intensity of the enforcement actions. The increase in efforts in the pre-Easter period was likely to have been, at least in part, driven by an anticipated risk of increased gathering of people during the Easter Holiday (10–13 April 2020). Practically, the enforcement actions were composed largely of verbal warnings and reminders, while prosecutions had involved only a small number of people who failed to keep the required social distance in catering business and specified premises.

IV.C. Compliance with regulatory measures

Regulations are best to be complied with rather than enforced through prosecution. In this study, we used mobility data as proxy to measure the level of compliance with social distancing regulations when they were in place in Hong Kong. Noticeable spatial heterogeneity could be observed from Google’s movement data for retail and recreational activities. Despite the restriction of the datasets to mobility patterns in catering premises, their temporal changes correlating with the regulations’ effective periods did suggest the effect of mandatory measures on reducing human interaction in the community. We also aggregated the evidence of lower eating-out frequency in the first month (29 March to 25 April 2020) following the enforcement of regulations from the EcSS study, which supported the positive effect of mandatory precautionary measures on reducing crowds in catering premises.

The effectiveness of the law in changing behavior is known to be determined by the way the public perceive the risk and attitudes toward the behavior.\textsuperscript{20,21,22} Harper and his colleagues suggested that fear of COVID-19 was a positive predictor of behavioral change to practice social distancing on an individual level.\textsuperscript{23} A few studies in Hong Kong reported a high level of perceived risk toward COVID-19, which may explain why universal mask-wearing was adopted voluntarily in the public since the beginning of the COVID-19 epidemic.\textsuperscript{24,25} When mask-wearing in catering premises was mandated by the regulation (Cap. 599F), it was an uncontroversial behavioral norm widely accepted by people in Hong Kong. In fact, the government was criticized for giving inadequate weight in controlling COVID-19 during the first phase when travel restrictions on travellers from mainland China had not been implemented earlier enough after the

\textsuperscript{19} Bridget M. Hutter, An inspector calls: The importance of proactive enforcement in the regulatory context, 26 Br. J. Criminol., 114–128 (1986).

\textsuperscript{20} Lawrence O. Gost, supra note 4.

\textsuperscript{21} Anthony D. Moulton \textit{et al.}, The scientific basis for law as a public health tool, 99 Am. J. Public Health 17 (2009).

\textsuperscript{22} Scott Burris & Evan Anderson, Legal regulation of health-related behavior: A half century of public health law research, 9 Annu. Rev. Law Soc. Sci., 95–117 (2013).

\textsuperscript{23} Craig A. Harper \textit{et al.}, Functional fear predicts public health compliance in the COVID-19 pandemic, 1 Int. J. Ment. Health Addict. 1–14 (2020).

\textsuperscript{24} Kin On Kwok \textit{et al.}, Community responses during the early phase of the COVID-19 epidemic in Hong Kong: Risk perception, information exposure and preventive measures, 26 Emerg. Infect. Dis. 1575–1579 (2020).

\textsuperscript{25} Benjamin J. Cowling \textit{et al.}, Impact assessment of non-pharmaceutical interventions against coronavirus disease 2019 and influenza in Hong Kong: An observational study, 5 Lancet Public Health. e279–e288 (2020).
spread of the virus from Wuhan. A poll of 850 citizens showed that more than 70% attributed the outbreak control to the community’s efforts, and more than half agreed that the government did not deserve the credit. The same study reported that the government’s inability to procure masks and other personal protective equipment at the start of the outbreak in January was the major reason for the public’s dissatisfaction. In Hong Kong, the lessons from SARS that resulted in the diagnosis of 755 cases and 299 deaths in 2003 might have led to the widespread adoption of self-disciplinary behaviors that incorporated some forms of social distancing, as evidenced by the mobility trends even before the introduction of the regulations. Nevertheless, in the implementation of the regulations, public trust and effective communications were crucial to achieve compliance during the health emergency crisis.

IV.D. The price of social distancing regulations

Despite being less restrictive than quarantine and isolation, social distancing has received much criticism on grounds of causing economic disruption. As the outbreak entered its second phase, stringent social distancing measures in Hong Kong actually suffered setbacks because of opposition drawn from the affected sectors. The operators of bars and pubs, in view of the heavier cost incurred from the shutdown of premises, had reacted negatively for being “singled-out” and some did keep their premises open secretly. This phenomenon supported Burris’ argument that compliance with law could be adversely impacted if people felt it had not been fairly applied. Restrictions on catering business brought more divided reactions. Whereas many restaurant owners swiftly complied with the regulation, others expressed concerns about the practical difficulties in keeping 1.5 m distance between tables within small eateries commonly found in the city. Some reluctantly complied for fear that noncompliance would lead to disqualification from receiving support from the government’s antiepidemic fund. International evidence warned of the importance of attending to public

26 Tony Cheung & Natalie Wong, Coronavirus: Hong Kong Residents Unhappy with Covid-19 Response - and Surgical Masks One Big Reason Why, Post Survey Shows, SCMP, (Apr. 1, 2020, 8:00AM), https://www.scmp.com/news/hong-kong/politics/article/3077761/coronavirus-post-poll-shows-hong-kong-residents-unhappy
27 Id. note 26.
28 Id. note 26.
29 Robert A. Blair et al., Public health and public trust: Survey evidence from the Ebola virus disease epidemic in Liberia, 172 SOC. SCI. MED., 89–97 (2017).
30 Kalahn Taylor-Clark et al., Confidence in crisis? Understanding trust in government and public attitudes toward mandatory state health powers, 3 BIOSECUR. BIOTERROR., 138–147 (2005).
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Legal provisions for enforcing social distancing to guard against COVID-19

expectations, assessing practicability of measures, and ensuring the availability of compensation to promote compliance with social distancing regulations. The varied reactions of affected business owners to the new regulations warrant future investigations. In the development of epidemic control strategies, it is important to strike a balance between public health and economic growth.

Ethical dilemma exists when addressing the trade-offs between saving lives and the staggering direct and indirect costs of social distancing regulations. Understandably, law enforcement is not free but involves substantial input cost. The cost includes expenses for increased staff in support of the implementation of the regulations, disseminating knowledge about the new regulations to the public, carrying out extensive enforcement actions as reported in our study, and the fiscal policy initiatives needed to support the affected sectors and individual citizens. Studies suggested that lifesaving benefits of social distancing outweighed the projected economic harm, and they were perceived to be more effective in high-income countries than in poorer countries. However, social distancing regulations that protect people from lethal infections could have important implications for mental health. The psychological stress generated from isolation, uncertainty with respect to career and informal care needs implied the need for long-term cost to support individuals whose mental health could be directly or indirectly jeopardized. Evaluation of the economic and health impacts, particularly in deprived populations, is needed to inform future policy decision about implementing social distancing measures.

IV.E. Limitations of the study

We are aware that our analyses were limited by the scope of evidence as restricted by the existence and availability of relevant data. The lack of inspection data on specific categories of requirements (e.g., mask-wearing in restaurants while not consuming food or drinks, temperature screening, table distancing) as stipulated in Cap. 599F

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Legal provisions for enforcing social distancing to guard against COVID-19 has made in-depth analyses of non-compliance behaviors difficult. Nevertheless, it can be inferred that the regulations have been effectively implemented, as shown by the supporting social distancing behavioral data temporally correlated with their effective dates, reduction in mobility in catering premises, and the stabilizing number of reported local transmission cases. As regards compliance with the regulations, we are mindful of the importance of attitudes of local citizens and their degree of acceptance. Such data were however not available for strengthening the evaluation. The aggregation of multiple sources of data did not allow for specific correlation of epidemiological outcomes to be made. The study did however carry the strength of attaining broad insights that can contribute to the design of indicators to measure regulatory performance in the future.

V. CONCLUSION
We have conducted an analysis of the effectiveness of legal regulations to maintain social distancing in Hong Kong by evaluating data aggregated from multiple sources. Our results suggested that the regulations have been effectively implemented and enforced, and that their positive impacts can be inferred from its correlation with the changing behaviors of the public and the containment of the spread of COVID-19. The broad and diverse scale of enforcements, in conjunction with the restriction of related economic activities suggested that the societal costs were enormous, and the adverse impacts on the economically disadvantaged could be large. We envisaged that public compliance with the regulations might have played a crucial role in bringing about necessary changes in human behaviors, and public compliance with social distancing regulations could be maintained through promotional efforts without enforcement by prosecution. The pre-existing strength of the legal capacity was facilitated by the enactment of the Ordinance dating back to 2008. The swift introduction and enforcement of the legal measures following the lessons from SARS might have increased the public’s intention to comply. The social distancing regulations seeking to save lives are economically, socially and politically intertwined, and thus public trust and effective communication are needed to ensure prompt and sustainable implementations.

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SUPPLEMENTARY MATERIAL
Supplementary material is available at JLBiOS online.