

The COVID-19 Lockdown Trap, How do we get out?

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ABSTRACT

More than a third of the world population is currently under some form of partial or total lockdown to limit morbidity and mortality due to covid-19. Whereas these measures are working, they are exerting an unprecedented negative socio-economic impact on the general wellbeing, and thus may not be sustained for long. Alternative control measures that limit the spread of the virus and yet facilitate socioeconomic progression and wellbeing are urgent. In this article, we make suggestions based on the disease transmission characteristics, the World Health Organization recommendation, and current practices across the globe. The suggestions focus on the prevention of transmission and acquisition by; (1) ensuring all put on some form of protective barriers to prevent further spread and acquisition while in public or risky spaces, (2) proactively preventing contamination of surfaces at individual and group/community level, (3) disinfecting frequently all surfaces prone to contamination in public and private spaces (4) ensuring that all gathering, work, schools and other public places have COVID-19 prevention protocols in place and are followed, (5) developing an efficient surveillance system that ensures early detection and isolation of COVID-19 cases, (6) strengthening health facilities at all levels of the healthcare system to ably screen, test, isolate, and manage COVID-19 before complications set in, (7) Stepping up health education and awareness at population level on prevention measures for COVID-19 using all possible platforms, (8) Designing special prevention measures for congested neighborhoods and slum dwellings, care homes, and other institutionalized dwellings to prevent a surge in infection and catastrophes, and finally (9) strengthening national, regional and global collaboration to prevent cross-border transmission. A combination of several of the measures above should help ease lockdown and moreover sustain the gains in the absence of the vaccine – thus, ease the consequences of strict social distancing, travel bans and lockdown across settings.

Keywords: social distancing, lockdown, COVID-19, SARS-COV 2

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INTRODUCTION

More than a third of the world population is currently under some form of partial or total lockdown due to the novel corona virus pandemic caused by the severe acute respiratory syndrome corona virus 2 (SARS-COV-2) that originated from Wuhan in China in December 2019. In our recent article [1], we argued that social distancing and total lockdown was the mainstay in slowing and flattening the COVID 19 epidemic curves in the absence of a vaccine or appropriate treatment. Indeed, evidence from countries practicing social distancing and lockdown show that the measures are flattening epidemiological curves including in those countries that have been hit the hardest by the pandemic such as Spain, Italy,

and the United Kingdom [2]. In the United States, social distancing measures seem to slow the spread of the epidemic as well, – particularly in New York City, the epicentre of the epidemic in the Americas [2]. In Sweden, the hybrid version of social distancing is equally showing some benefits even on other seasonal influenza viruses [3]. In several African countries that have instituted lockdown and strict social distancing measures – such as Uganda, Ghana, and South Africa among others, the epidemic appear to have slowed down [2]. However, despite the impact of these measures on slowing the epidemic, the consequences of social distancing and lockdown are already biting especially on the economy and welfare at the global, regional

and national levels [4]. Already, some projections seem to suggest that sub-Saharan Africa will be hit hardest if appropriate measures are not quickly taken to lift lockdown restrictions. In the article by Panovska-Griffiths, ending lockdown too early could be catastrophic in the absence of appropriate measures – the best being a vaccine [5]. Unfortunately, the earliest a COVID-19 vaccine is expected is in 12 – 18 months' time. Thus, alternative measures that keep the pandemic at bay and at the same time relax the strict social distancing and lockdown measures are urgently needed to mitigate the broader impact of the pandemic. In this paper, we make a mini review of existing evidence and suggest measures that may be helpful in curtailing the spread of COVID-19 while relaxing the stringent lockdown measures. Foremost, what are the exit options? (a) Relaxing all measures and immediately returning to the old normal – prioritising social and economic freedoms over suppressing infections [6]. This option has been described as catastrophic and is not recommended due to its potential of facilitating a disease resurgence and the likelihood of losing all achieved gains [6]. (b) “Enhanced shielding” – this entails allowing infections to continue in a very controlled manner while protecting the vulnerable [6]. Context is critical if countries consider adopting this exit strategy. In low resource settings, this may be challenging due to high levels of interdependency across age groups and society. (c) Vaccination to enhance population immunity and prevent disease in case of exposure and mitigate disease outbreak. This would be the best exit strategy, but the drawback is we lack a vaccine, not even treatment. Moreover, to achieve the required population level herd immunity, more than 60% of the population need to be vaccinated. The earliest a vaccine is expected is 12 months' time. (d) Eradicating all circulating viruses before opening up. This is neither the most viable option. It means, a lengthy lockdown till all circulating viruses are eliminated. Moreover, borders have to remain closed to prevent importation as the population remains vulnerable. (e) Gradual opening up while limiting community transmission and ensuring case rates remain very low until the vaccine is found [6]. This entails; aggressive behavioural interventions, careful lifting of the lockdown in a staggered manner, closely monitoring hotspots and where possible, imposing restrictions. This seems to be the most feasible option given the prevailing circumstances. Based on these exit options with a focus on e, we suggest practical steps that countries could take to lift lockdown and loosen strict social distancing measures while minimising transmission till a viable vaccine, herd immunity or treatment is attained.

TRANSMISSION

Lifting COVID-19 lockdown and the stringent social distancing measures require an understanding of the disease transmission pathways and putting in place measures to interrupt the pathways. The first cases of COVID-19 disease were linked to direct exposure to animals; – animal-to-human transmission was presumed the main mechanism [7].

However, now we know that human-to-human transmission is driving the global COVID-19 pandemic through aerosol droplets and contact [7]. Aerosol droplets contaminated with COVID-19 are released when an infected person sneezes, coughs or sheds the virus into the air and on surfaces. People become infected with the virus through inhaling infected droplets from infected people who cough or sneeze or through touching contaminated surfaces and then touching nose, mouth or eyes [8]. The virus then sneaks into the body via the mucous membranes, infecting the unsuspecting susceptible person(s). Evidence suggest that COVID-19 virus can live in the air and on surfaces between several hours and several days – up to 72 hours on plastics, 48 hours on stainless steel, and 24 hours on cardboard [9]. Thus, social distancing and lockdown measures are intended to minimise human interaction which elevates the basic reproductive number (the number of cases directly generated by one case in a population) denoted as R_0 for COVID-19. This means, lifting these measures in the absence of a COVID-19 vaccine or a viable treatment require instituting other alternative measures that may equally be stringent in order to avoid a resurgence but enable a return to pseudo normality. The World Health Organization (WHO) has issued six point guidelines for countries to progressively lift their countries out of the lock down [10]. In the context of these guidelines and based on the disease characteristic and observed practices in countries sustaining the grip on mitigating transmission, we suggest the following measures which should help ease lockdown and moreover sustain the gains in the absence of the vaccine. Fighting an invisible enemy whose strength is unfamiliar require full combat preparation and no room for complacency. Below are our suggestion.

1. All people should put on some form of protective barriers to prevent further spread and acquisition while in public or risky spaces. The core reason for instituting strict social distancing and lockdown during the COVID-29 epidemic is to prevent transmission and acquisition. In his speech, the Director-General of WHO Dr. Tedros Adhanom Ghebreyesus insinuated that lifting lockdown restrictions doesn't necessarily mean that the epidemic has ended (11) – rather, it is a movement from one phase to another in the fight against the pandemic. Thus, engaging and empowering people to play their part will be very critical in this fight (10). Moreover, transmission of COVID-19 by asymptomatic cases makes the case for protective barriers even stronger. Therefore, we suggest that: (i) All should wear masks that fully cover the nose and mouth while in public and risky spaces. Since we know that the recommended N95 masks are in short supply and may need to be reserved for the front line healthcare workers, local efforts should be stepped up to produce suitable masks for the population. This recommendation is even more important in low resource setting where mass testing will not be feasible in the near future due to the prohibitive costs. (ii) People working in high risk settings must wear complete face shields at the least

goggles. Whereas several protective efforts have focused on the nose and mouth, little emphasis is put on protecting eyes. We recommend that people working in high risk settings such as health workers, public transport sector and catering industry among others may require eye protective equipment to further limit their risk of disease acquisition. When the eyes, the nose, and the mouth are covered, transmission is significantly curtailed – setting an atmosphere for relaxing social distancing measures. However, it should be noted that currently, supply is still limited for these personal protective equipment. Therefore, stepping up measures to enhance production is extremely urgent. (iii) For front line workers, including those working in the security sector, banks, restaurants, cafeteria, public transport, and receptionists among others, we recommend the use of hand gloves while at work. Proper use of hand gloves prevent spread of respiratory infections [12]. Several guidelines during the current COVID-19 pandemic have recommended that people should not touch their face, at least not the mouth, eyes and nose. However, in practice, this is difficult to achieve [13]. By impulse, instinct or intentionally or unintentionally, hands will touch the mouth, the nose and the eyes which are the primary points through which COVID-19 virus gains access to the respiratory system. Use of gloves should be accompanied with frequent hand washing and re-usable gloves should be disinfected regularly. Users should be sensitised about the practice to promote proper use.

2. At the individual and group/community level, proactively prevent contamination of surfaces by promoting coughing and sneezing etiquette [14] and put in place disposal facilities for tissue or any contaminated materials such as used up masks and gloves. This practice is critical to mitigate environmental contamination.

3. Disinfect frequently all surfaces prone to contamination in public and private spaces by the following approaches: (i) put in place aggressive disinfecting measures in public places to decontaminate surfaces and sustain the measures for as long as COVID-19 remains a threat. Disinfection should target all common places and surfaces such as floors, doorknobs, countertops, tables, and toilets among other places that are prone to contamination. This measure is particularly critical for places such as restaurants, schools, public transport, and parks among others. To ensure that this recommendation is effected, employee(s) should specifically be assigned this responsibility and tasked to regularly report on adherence to the recommendation. Decontamination prevents further transmission of contagious diseases. (ii) Install adequate hand sanitizers or adequate hand washing facilities with soap and water at several points in public spaces, institutions and homes. Studies show that up to 44% of respiratory infections can be prevented with regular hand washing [15]. Hands play a critical role in transmission of COVID-19. Where possible, supervised hand washing practices in open public places

especially in areas where the practices are very poor is encouraged to promote the behaviour.

4. Ensure that all public spaces including work place, school and other public places are issued or have COVID-19 prevention protocols to guide their disease prevention practices. Measures should be instituted to ensure that the protocols are strictly followed. Without these protocols in place, it is not recommended to open such places.

5. Develop an efficient surveillance system that ensures early detection, testing and isolation of COVID-19 suspected and confirmed cases. Without a robust surveillance system that is able to detect, ramp up testing and isolate COVID-19 cases, stringent social distancing and lockdown measures may not be compromised. Otherwise, a resurgence becomes inevitable and a second epidemic peak may quickly crop up. In a low income setting, mass testing will be a challenge for a while. However, active case based surveillance, screening, contact tracing and isolation of cases and testing of suspected cases will be a good precursor in facilitating further prevention of population wide spread of COVID-19. Where clusters are identified, localised quarantining measures may be instituted to prevent further spread. A rapid response unit that quickly identifies suspected cases is critical in preventing rapid spread. To improve on the surveillance response, decentralising the response and engaging lower level facilities and community health teams may be worth exploring in resource limited settings.

6. Strengthen and equip primary healthcare facilities to screen, test, isolate, and manage COVID-19 cases and ensure early management to prevent complications. In places where COVID-19 cases have been identified and managed early, better clinical outcomes have been reported [16]. This means, healthcare workers in primary healthcare facilities will need to be trained and facilities equipped with the necessary logistic supplies and isolation units/centres set up as a preparation and response measure. It is particularly important to strengthen lower level facilities to prevent a surge of patients that may require specialised and advanced care. Sub-Saharan Africa and other resource constrained settings will not have the capacity to deal with a surge of advanced corona patients. Therefore, the main measure will have to be setting up primary prevention efforts.

7. Step up health education and awareness campaigns at population level on prevention measures for COVID-19 using all possible platforms. Misinformation has been one of the main challenges during the lockdown mainly via social media. When social distancing measures are loosened, robust awareness and education programs should be established to promote the preventive behaviours. This phase will be even more critical as some members may interpret lifting the lockdown as an end to the epidemic.

8. Design special prevention measures for congested neighbourhoods and slum dwellings, care homes, and other institutionalised dwellings to prevent a surge in infection and

catastrophes. Preliminary analysis in several European Countries revealed that half of coronavirus deaths happen in care homes. These findings have triggered the need for special measures to prevent the spread of the virus in institutionalised settings. In sub-Saharan Africa, the main challenge will be slums, refugee camps, congested urban settings and institutionalised settings. Special preventive intervention for these settings will urgently be warranted if lockdown measures are to be lifted.

9. Strengthen national, regional and global collaboration to prevent cross-border transmission. Finally, this disease is a pandemic meaning that the global spread will require a global effort to contain it. Even high-income settings have struggled with COVID-19 in that some of the countries have had their health care systems stretched to the limit. Indeed, many of these have sought for external support to contain the epidemic. For low income settings, regional collaboration and global support will be very critical in containing the epidemic.

CONCLUSION

A combination of several of the measures above should help facilitate easing lockdown and moreover sustain the gains in the absence of the vaccine – thus, ease the consequences of strict social distancing, travel bans and lockdown across settings. Maintaining a high institutional/government trust is a necessary premise for the strategies to hold. As countries entered strict social containment measures, citizens in most countries showed spectacular levels of compliance and the “honeymoon” resulted in rising institutional/government trust [17]. Whether such initial societal cooperation will survive the easing of the lockdown is difficult to predict. However, it is inevitable that the growing economic crisis [18] will continue to be unsettling and may potentially frustrate and undermine the citizen-government relationships, making policy initiatives harder. Therefore, countries need to consider economically affordable policies that balance the benefits on infection prevention and the costs to the overall economy. Such policies will be sustainable long-term.

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REFERENCES

- Musinguzi G, Asamoah BO. The Science of Social Distancing and Total Lock Down: Does it Work? Whom does it Benefit? *Electronic Journal of General Medicine*. 2020;17(6):em230. doi: 10.29333/ejgm/7895.
- Johns-Hopkins-University. Has the curve flattened? 2020. Available at: <https://coronavirus.jhu.edu/data/new-cases> (Accessed: 22 April 2020).
- Paterlini M. ‘Closing borders is ridiculous’: the epidemiologist behind Sweden’s controversial coronavirus strategy. *Nature*. 2020;21(10):020-01098. PMID: 32317784. doi: 10.1038/d41586-020-01098-x.
- IMF. World Economic outlook. International Monetary Fund, 2020 April 2020. Report. Available at: <https://www.imf.org/en/Publications/WEO>
- Panovska-Griffiths J. Coronavirus: when should we lift the lockdown?: *The Conversation*; 2020. Available at: <https://theconversation.com/coronavirus-when-should-we-lift-the-lockdown-136473> (Accessed: 22 April 2020).
- James Trauer BJM, Emma McBryde. Now we’re in lockdown, how can we get out? 4 scenarios to prevent a second wave. *The Conversation*; 2020. Available at: <https://theconversation.com/now-were-in-lockdown-how-can-we-get-out-4-scenarios-to-prevent-a-second-wave-135246> (Accessed: 24 April 2020).
- Cascella M, Rajnik M, Cuomo A, Dulebohn SC, Di Napoli R. Features, evaluation and treatment coronavirus (COVID-19). *StatPearls* [Internet]; StatPearls Publishing; 2020. Pubmed: 32150360.
- Shereen MA, Khan S, Kazmi A, Bashir N, Siddique R. COVID-19 infection: Origin, transmission, and characteristics of human coronaviruses. *Journal of Advanced Research*. 2020;24:91-8. PMID: 32257431 doi: 10.1016/j.jare.2020.03.005.
- van Doremalen N, Bushmaker T, Morris DH, Holbrook MG, Gamble A, Williamson BN, et al. Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1. *New England Journal of Medicine*. 2020;382(16):1564-7. PMID: 32182409 doi: 10.1056/NEJMc2004973.
- WHO. COVID-19 strategy update - 14 April 2020. Geneva: World Health Organisation, 2020 14th April 2020. Report. Available at: <https://www.who.int/publications-detail/covid-19-strategy-update---14-april-2020>
- UN. Lifting lockdowns does not signal the end of COVID-19: WHO chief. 2020. Available at: <https://news.un.org/en/story/2020/04/1062172> (Accessed: 25 April 2020).
- Cohen SH, Gerding DN, Johnson S, Kelly CP, Loo VG, et al. Clinical practice guidelines for *Clostridium difficile* infection in adults: 2010 update by the society for healthcare epidemiology of America (SHEA) and the infectious diseases society of America (IDSA). *Infection Control & Hospital Epidemiology*. 2010;31(5):431-55. PMID: 20307191 doi: 10.1086/651706.
- Kwok YLA, Gralton J, McLaws M-L. Face touching: A frequent habit that has implications for hand hygiene. *American Journal of Infection Control*. 2015;43(2):112-4. PMID: 25637115 doi: 10.1016/j.ajic.2014.10.015.
- Musinguzi G, Mandere NM, Asamoah BO, Foreman E. A cross-sectional internet-based survey of influenza A (H1N1) pandemic: risk perceptions, behavioural responses and vaccination practices at Lund University, Sweden. *J Pub Health Epidemiology*. 2012;4(4):78-87. doi: 10.5897/JPHE11.109.

15. Rabie T, Curtis V. Handwashing and risk of respiratory infections: a quantitative systematic review. *Tropical Medicine & International Health*. 2006;11(3):258-67. PMID:16553905 doi:10.1111/j.1365-3156.2006.01568.x.
16. Zhai P, Ding Y, Wu X, Long J, Zhong Y, Li Y. The epidemiology, diagnosis and treatment of COVID-19. *International journal of antimicrobial agents*. 2020;105955. PMID: 32234468 doi:10.1016/j.ijantimicag.2020.105955.
17. Blais A, Bol D, Giani M, Loewen PJ. The effect of COVID-19 lockdowns on political support: Some good news for democracy? 2020. Available at: <https://osf.io/preprints/socarxiv/7hpj9>
18. Olivier Coibion YG, and Michael Weber. The cost of the COVID-19 crisis: Lockdowns, macroeconomic expectations, and consumer spending. 2020; Available at: <https://voxeu.org/article/cost-covid-19-crisis>