Article

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Asymptomatic COVID-19 Carriers Education App (2)

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Abstract: Background: The World Health Organization (WHO) said the situation in India was a "devastating reminder" of what the coronavirus could do. COVID-19 cases suddenly spiked across India. Union Health Minister Harsh Vardhan has said that one of the major reasons for the spike in coronavirus cases was people not following COVID-appropriate behaviour. The Union minister noted that the sudden rise in cases is largely or maybe event-driven comprising local body elections, grand weddings, and farmers' protest. These events may cause asymptomatic covid-19 carriers to spread wide covid-19 to others. Malaysia is also facing a surge in Covid-19 may due to the spread of covid-19 by asymptomatic covid-19 carriers. Therefore, it is important to develop an application that can publicize information on asymptomatic covid-19 carriers. The purpose of this application is to provide sufficient information and scientific research evidence to ensure that prevention strategies for asymptomatic covid-19 carriers must be implemented. The app is also open to anyone who uses it to educate others so that information can be shared more quickly to prevent other countries from becoming "Second India or Malaysia". Method: The homepage of the app shows that asymptomatic covid-19 carriers may have a lower viral load, the same viral load, or a higher viral load than symptomatic covid-19 carriers. When the user app is pressed by each category, they will see sufficient information and scientifically based research evidence about each category. These apps also show the evidence that on January 13, 2021 - Malaysian Health Department Director Dr Noor Hisham Abdullah instructs test Only those Close Contacts With Symptoms and The Malaysian Medical Association (MMA) has urged the Health Ministry to urgently improve the management of mild Covid-19 cases and revert to its policy of testing all close contacts. In addition, These apps also show App raise public awareness of the importance of COVID-19 vaccination(version 4) [Peter Chew, 2021] can intuitively see that countries with high vaccination rates can solve the problem of asymptomatic transmission of covid-19 carriers. Result: This application displays sufficient information and scientifically based research evidence to prove asymptomatic covid-19 carriers are the main key to the outbreak of covid-19. Some countries are using covid-19 symptom prevention strategies. They are only testing the symptomatic closed contact of covid-19 patients, because they may think that asymptomatic covid-19 carrier is just a low viral load and a low transmission rate, which is wrong. Some asymptomatic covid-19 carriers of covid-19 have high viral loads. The accumulation of asymptomatic covid-19 carriers with high viral load is the main cause of the covid-19 outbreak. Conclusion: Three apps have been developed to educate the public about the importance of asymptomatic covid-19 carriers. The asymptomatic covid-19 carrier education app (1) will provide sufficient information and scientific research evidence to educate citizens of any country to ensure that preventive strategies must be implemented for asymptomatic carriers to prevent the country's Covid-19 outbreak. App, Game Base Learning to Prevent Infection from COVID-19 (version 3) [Peter Chew, 2020]. The app allows anyone to intuitively see that when the second wave covid-19 arrives, the accumulation of a large number of asymptomatic carriers in some countries has led to the high infection rate of covid-19. This is what is happening in India now. App raise public awareness of the importance of COVID-19 vaccination(version 4) can intuitively see that countries with high vaccination rates can solve the problem of asymptomatic transmission of covid-19 carriers. This is what is happening in Israel now.

Keywords: COVID-19; education app; biochemist; global issue analyst

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1. Background

The World Health Organization (WHO) said the situation in India was a "devastating reminder" of what the coronavirus could do. COVID-19 cases suddenly spiked across India. Union Health Minister Harsh Vardhan has said that one of the major reasons for the spike in coronavirus cases was people not following COVID-appropriate behaviour. The Union minister noted that the sudden rise in cases is largely or maybe event-driven comprising local body elections, grand weddings, and farmers' protest. These events may cause asymptomatic covid-19 carriers to spread wide covid-19 to others. In addition to the sudden surge of COVID-19 cases across India, Malaysia is also facing a surge in Covid-19 may due to the spread of covid-19 by asymptomatic covid-19 carriers. Therefore, it is important to develop an application that can publicize information on asymptomatic covid-19 carriers. The purpose of this application is to provide sufficient information and scientific research evidence to ensure that prevention strategies for asymptomatic covid-19 carriers must be implemented. The app is also open to anyone who uses it to educate others so that information can be shared more quickly to prevent other countries from becoming "Second India or Malaysia".

A) The silent spread of COVID-19

The study publish at International Journal of Infectious Diseases, The high prevalence of asymptomatic SARS-CoV-2 infection reveals the silent spread of COVID-19 [Marwa Ali Almadhi[a] et all, 2021] highlights:

i) The risk of asymptomatic spread of COVID-19 may be higher than anticipated.
ii) Asymptomatic cases made up 50% of a random sample of index cases.
iii) Infectivity rates were similar for asymptomatic and symptomatic index cases.
iv) Asymptomatic-to-asymptomatic transmission was the most common transmission.
v) Middle-aged males were the most common transmitters of the virus.

The conclusion of this study is that the high asymptomatic incidence of SARS-CoV-2 infection in Bahrain and subsequent positive contacts from an index case were more likely to be asymptomatic, showing the high “silent” risk of transmission and need for comprehensive screening for each positive infection to help halt the ongoing pandemic.

The study publish at PMC, COVID-19: asymptomatic carrier transmission is an underestimated problem [Hongjun Zhao et all , 2020] . The study concluded that the asymptomatic carriers may jeopardise efforts to contain COVID-19 transmission in public health. Because the proportion of the asymptomatic cases is underestimated and the infectiousness and prevention measures of the asymptomatic have not attracted enough attention, there will be a critical flaw in prevention and control of COVID-19. Thus, the danger of asymptomatic spread should arouse public awareness and more scientific attention into researching asymptomatic transmission in order to contribute to developing more scientific prevention and control strategy and overcoming the epidemic as soon as possible.

The study of Clinical Characteristics of 24 Asymptomatic Infections with COVID-19 Screened among Close Contacts in Nanjing, China [Zhiliang Hu, et al 2020] examines the history of close relationships of diagnosed patients, detects 24 non-symptomatic patients, and reveals that COVID-19 patients do not have symptoms that could potentially provoke others. ""The importance of this study is to know that patients with COVID-19 are not symptomatic, highly contagious, the duration of the infection may be 3 to 4 weeks, and that their infected patients may have severe disease.

B. Viral load of asymptomatic carriers of SARS-CoV-2

A studies, published in the Lancet, Transmission of COVID-19 in 282 clusters in Catalonia, Spain: a cohort study [Michael Marks, PhD et all, 2021], interpret the viral load of index cases was a leading driver of SARS-CoV-2 transmission. The higher the viral load, the greater the transmissibility of the virus.

Different research results compare the viral load of asymptomatic carriers of SARS-CoV-2 and confirm case.

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a) Viral load of asymptomatic carriers of SARS-CoV-2 is lower than confirmed cases

(Transmission efficiency of asymptomatic carriers is lower than confirmed cases study.)

The study publish at International Journal of Infectious Diseases, The assessment of transmission efficiency and latent infection period in asymptomatic carriers of SARS-CoV-2 infection [ZhirongLiu et all , 2021] highlights:

i) 10.9% of asymptomatic SARS-CoV-2 carriers subsequently developed symptoms to become confirmed cases.
ii) The transmission efficiency of asymptomatic SARS-CoV-2 carriers was assessed.
iii) The attack rate for asymptomatic carriers was lower than that for confirmed cases.
iv) Close contact screening should be extended to include the incubation period.

The conclusion of this study is that the transmission efficiency of asymptomatic carriers is lower than that for confirmed cases

b) Viral load of asymptomatic carriers of SARS-CoV-2 is the same as confirmed cases

The study publish at NEJM , No Difference in SARS-CoV-2 Viral Loads and Clearance Time in Symptomatic vs. Asymptomatic Patients.[Daniel Kaul , 2020]. The investigators ***a South Korean cohort study*** compared cycle threshold (Ct) values — a surrogate for viral load — between asymptomatic and presymptomatic / symptomatic patients, and found no significant difference. Further, these groups had no difference in median time to negative testing (17 days for asymptomatic and 19.5 days for presymptomatic/symptomatic patients).

c) Viral load of asymptomatic carriers of SARS-CoV-2 is higer than confirmed cases

The study publish at PMC, Higher viral loads in asymptomatic COVID-19 patients might be the invisible part of the iceberg [Imran Hasanoglu, et all , 2020] The conclusion of this study is that asymptomatic patients have higher SARSCoV-2 viral loads than symptomatic patients and unlike in the few study in the literature.

The study publish at PMC, Transmission and clinical characteristics of asymptomatic patients with SARS-CoV-2 infection [Jie Tan et all , 2021] found that individuals infected with SARS-CoV-2 can be asymptomatic, and simultaneously a source of infection in others. The viral load detected in nasopharyngeal swabs of asymptomatic carriers is relatively high, with a great potential for transmission. More attention should be paid to the insidious spread of disease and harm contributed by asymptomatic SARS-CoV-2 carriers.

C) Testing all closed contacts to reduce infection.

The preprint the Lancet, **Available at SSRN**, Game Base Learning to Prevent Infection from COVID-19 [Peter Chew , 2020], The analysis concluded that the second wave of Covid19 swept through many countries, such as the United States, but had little impact on certain countries (such as South Korea and China). The wrong prevention strategy is the main reason why these countries face higher infection rates. Asymptomatic carriers (silent carriers) have not been tested and isolated in these countries, which has led to the accumulation of many asymptomatic carriers in these countries. These asymptomatic carriers cause high infections in these countries. But China and South Korea tested all people who had contact with covid19 patients, even if they were not sick (silent carriers). Therefore, we call these countries virus prevention countries. Research teams think that mild or no symptoms might be passing the virus to 60% of all infections. A new study pins down the source of the 'rapid spread' of the coronavirus in China previously— people with little or no symptoms. The game will show the situation. When the second COVID-19 wave arrives, L4 countries (high infection country) will face many viruses from many silent carriers.

The study of SARS-CoV-2 Transmission From People Without COVID-19 Symptoms [Michael A. Johansson, PhD, et al 2021] The study concluded that transmission from asymptomatic individuals was estimated to account for more than half of all transmissions. In addition to identification and isolation of persons with symptomatic COVID-19, effective control of spread will require reducing

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the risk of transmission from people with infection who do not have symptoms. These findings suggest that measures such as wearing masks, hand hygiene, social distancing, and strategic testing of people who are not ill will be foundational to slowing the spread of COVID-19 until safe and effective vaccines are available and widely used.

A studies, published in the Lancet, SARS-CoV-2 viral load predicts COVID-19 mortality [Elisabet Pujadaset all, 2020]. The study show an independent relationship between high viral load and mortality. Transforming qualitative testing into a quantitative measurement of viral load will assist clinicians in risk-stratifying patients and choosing among available therapies and trials. Viral load might also affect isolation measures on the basis of infectivity. Future work will address SARS-CoV-2 viral load dynamics and the quantitative relationship with neutralising antibodies, cytokines, pre-existing conditions, and treatments received, among other covariates, as we develop integrative algorithms for risk prediction.

A studies, published in the Nature Communications, SARS-CoV-2 viral load is associated with increased disease severity and mortality [Jesse Fajnzylber, et all, 2020], report that higher levels of SARS-CoV-2 plasma RNA had the strongest relationship with disease severity, key laboratory markers, and mortality. SARS-CoV-2 plasma viremia is commonly detected in hospitalized individuals but can also be detected in symptomatic non-hospitalized outpatients diagnosed with COVID-19. SARS-CoV-2 viral loads, especially within plasma, are associated with systemic inflammation, disease progression, and increased risk of death.

A studies, published in the Asia Pacific Journal of Public Health, High Viral Load and Poor Ventilation: Cause of High Mortality From COVID-19 [Shyam Aggarwal et all, 2020], Vaccine offers 100% protection against coronavirus hospitalisations and deaths.

Home quarantine all asymptomatic virus carrier repeats mistake made in China

[Bloomberg News,2020]

- **Italy needs to shift to mass quarantining of mild cases**
- **WHO urges countries to isolate all patients and close contacts**

China publicly explained some of the mistakes in the Wuhan strategy when it began to fight against covid-19, some countries are repeating the same mistakes".

Coronavirus: Italy home quarantine repeats mistake made in China, doctors say[19] 30/3/20

Doctors in Wuhan made the same error early on in the outbreak, said Liang Zong'An, head of the respiratory department at the West China Hospital at Sichuan University. While seriously ill patients were admitted to hospitals, doctors at the time recommended that those with "mild symptoms isolate themselves at home", in part to reduce the strain on Wuhan's overburdened health care system.

Back then, it was not well understood how infectious the virus can be even in those who don't seem very sick. But researchers now know that

"Those with mild symptoms who are told to stay at home usually risked passing the virus to family members, as well as to others outside their homes as some still moved around freely".

"Wuhan began quarantining all mild cases in makeshift hospitals converted from offices, stadiums and gymnasiums in early February, a move that helped dramatically slow the spread of the virus. Liang said his team advised Italy to follow China's lead to forcibly isolate patients with mild symptoms from their families".

Institutional, not home-based, isolation could contain the COVID-19 outbreak

The studies, published in the Lancet, Institutional, not home-based, isolation could contain the COVID-19 outbreak [Borame L Dickens et all, 2020] show the need for institution-based isolation to reduce household and community transmission. They also provide theoretical support for the

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approach successfully implemented in Wuhan, where fangcang isolation shelters were established for all infected and potentially exposed individuals.

These shelters provided triage, basic medical care, frequent monitoring, rapid referrals, and essential living and social engagements for the wellbeing of those isolated. Crucially, the fangcang obviated most of the risk of within-household transmission, which frequently occurs as viral loads can be high for mild infections.

"Home-based isolation [Usualy for asymptomatic virus carrier by some country], which is reliant on personal compliance, will therefore inevitably lead to increased transmission".

Malaysia is also facing a surge in Covid-19

On January 13, 2021 (https://codeblue.galencentre.org/2021/01/14/moh-home-quarantine-close-contacts-test-only-those-with-symptoms/) – MOH: Home Quarantine Close Contacts, Test Only Those With Symptoms. Malaysian Health Department Director Dr Noor Hisham Abdullah instructs test Only those Close Contacts With Symptoms , which may lead to the accumulation of asymptomatic high viral load covid-19 carriers and cause the current COVID-19 in Malaysia -19 surge.

On January 21, 2021 (https://www.nst.com.my/news/nation/2021/01/659661/dr-m-covid-patients-should-be-hospitalised-home-quarantine-only-leads). Former premier Tun Dr Mahathir Mohamad say Covid patients should be hospitalised; home quarantine only leads to more infections.

On February 7, 2021 (https://www.nst.com.my/news/nation/2021/02/663793/test-all-close-contacts-health-ministry-urged), The Malaysian Medical Association (MMA) has urged the Health Ministry to urgently improve the management of mild Covid-19 cases and revert to its policy of testing all close contacts.

Growing number of Covid-19 patients Malaysia dying at home.

Because some asymptomatic carriers of SARS-CoV-2 have a higher viral load than confirmed cases, leaving the asymptomatic carrier with a higher viral load to Home Quarantine without testing may also result in death at home. Therefore, untested home quarantine will not only lead to a surge in covid-19, but it will also face higher mortality rate.

As report at news , 8 February 2021 (https://malaysia.news.yahoo.com/growing-number-covid-19-patients-010300577.html), In the first week of this month, 10 Covid-19 patients Malaysia have died before they could receive treatment at a hospital.

Man in home quarantine found dead in Taipei (https://focustaiwan.tw/society/202105220015)

The man had been ordered by local health authorities to remain in quarantine at his residence on Xi Chang Street, Wanhua District, because his girlfriend who lives with him recently tested positive for COVID-19 and was hospitalized. Taiwan and Malaysia are also facing similar problems. Due to the coivd-19 case, deaths from home quarantine are increasing.

My next study, the management of asymptomatic covid19 carriers educational app will educate how to reduce the deaths of asymptomatic covid19 carriers.

Another study, low vaccination rate, high infection country prevention strategy education App will educate low vaccination rate, high infection countries how to effectively reduce the high infection rate. The app will focus on the sequence of use of prevention strategies to reduce high infection rates. As we have seen, China solved the problem of the surge in covid-19(2020) without a vaccine at the end of February. Therefore, this shows that the low vaccination rate and high-infected countries can also recover from high-infection. In any case, a faster vaccination program in any country is the best solution to prevent the surge in covid-19 at any country. Israel is the best example.

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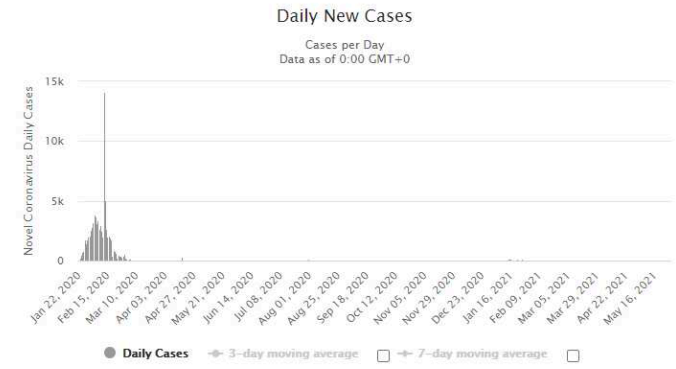
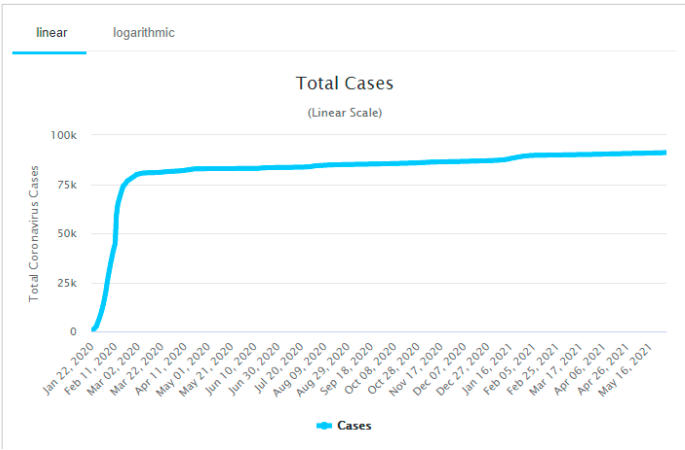
Daily New Cases in China



Total Coronavirus Cases in China



2. Method:

The homepage of the app shows that asymptomatic covid-19 carriers may have a lower viral load, the same viral load, or a higher viral load than symptomatic covid-19 carriers. When the user app is pressed by each category, they will see sufficient information and scientifically based research evidence about each category. These apps also show the evidence that on January 13, 2021 - Malaysian Health Department Director Dr Noor Hisham Abdullah instructs test Only those Close Contacts With Symptoms and The Malaysian Medical Association (MMA) has urged the Health Ministry to urgently improve the management of mild Covid-19 cases and revert to its policy of testing all close contacts. In addition, These apps also show App raise public awareness of the importance of COVID-19 vaccination(version 4) [Peter Chew, 2021] can intuitively see that countries with high vaccination rates can solve the problem of asymptomatic transmission of covid-19 carriers

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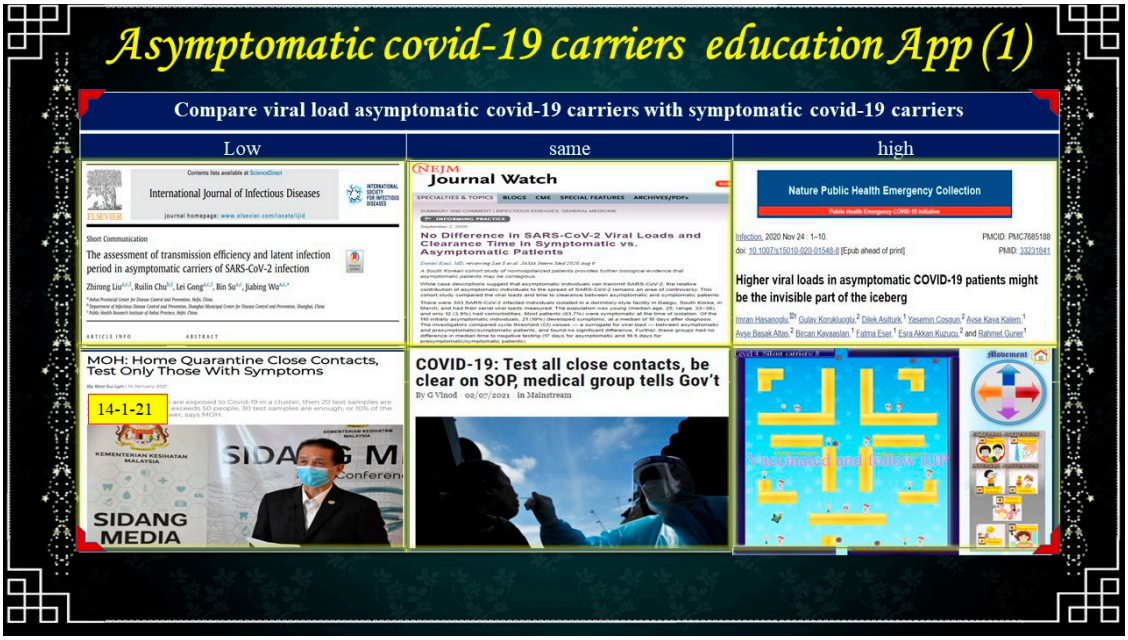

3. Result:

This application displays sufficient information and scientifically based research evidence to prove asymptomatic covid-19 carriers are the main key to the outbreak of covid-19. Some countries are using covid-19 symptom prevention strategies. They are only testing the symptomatic closed contact of covid-19 patients, because they may think that asymptomatic covid-19 carrier is just a low viral load and a low transmission rate, which is wrong. Some asymptomatic covid-19 carriers of covid-19 have high viral loads. The accumulation of asymptomatic covid-19 carriers with high viral load is the main cause of the covid-19 outbreak. On January 13, 2021 - Malaysian Health Department Director Dr Noor Hisham Abdullah instructs test Only those Close Contacts With Symptoms , which may lead to the accumulation of asymptomatic high viral load covid-19 carriers and cause the current COVID-19 in Malaysia -19 surge and higher mortality rate.

4. Conclusion:

Three apps have been developed to educate the public about the importance of asymptomatic covid-19 carriers. The asymptomatic covid-19 carrier education app (1) will provide sufficient information and scientific research evidence to educate citizens of any country to ensure that preventive strategies must be implemented for asymptomatic carriers to prevent the country's Covid-19 outbreak. App, Game Base Learning to Prevent Infection from COVID-19 (version 3) [Peter Chew, 2020]. The app allows anyone to intuitively see that when the second wave covid-19 arrives, the accumulation of a large number of asymptomatic carriers in some countries has led to the high infection rate of covid-19. This is what is happening in India now. App raise public awareness of the importance of COVID-19 vaccination(version 4) can intuitively see that countries with high vaccination rates can solve the problem of asymptomatic transmission of covid-19 carriers. Because vaccination can greatly reduce the viral load and the number of viruses transmitted by asymptomatic covid-19 carriers also reduced greatly.

According to study [Sharon Amit et al., 2021], the COVID-19 vaccine was found to reduce transmission. For all SARS-CoV-2 positives, after the first dose , adjusted rate reduction compared with unvaccinated (95% CI) is 75%. In the App, if players are vaccinated with silence carriers, only one virus will be transmitted, while those silence carriers that have not been vaccinated will transmit 5 viruses, a reduction of 80%. The purpose is to let everyone know how COVID-19 vaccination can help control and reduce transmission. The App will show the situation, especially in high-infection countries (L4). Because the vaccinated person has a lower viral load, the infected person may also be

a low-viral load and asymptomatic covid-19 carrier who can easily recover without being hospitalized. This is what is happening in Israel now.

Malaysian Health Department Director Dr Noor Hisham Abdullah repeated the wrong prevention strategies of some high-infected countries. These wrong strategies have been emphasized in the preprint of The Lancet. Game Base Learning to Prevent Infection from COVID-19 [Peter Chew , 2020]. This App once again emphasizes that it is hoped that no more countries will repeat similar wrong prevention strategies and cause high-level infections in their own countries in the future.

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