

The Impact of Covid-19 on Urban Planning of Port Harcourt City, Nigeria

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Abstract

Background: Coronavirus disease is a communicable and contagious respiratory disease that has not only affected human social lives, interactions and relationships but equally changed other significant patterns of people's normal lives, and there is need for a robust urban planning to meet the emerging changes. This study sought to investigate how the COVID-19 pandemic has affected the inhabitants of Port Harcourt City and its implications on urban planning in Port Harcourt City, Nigeria. This study examined how the COVID-19 pandemic affected human interactions and business activities, and its implication on urban planning in Port Harcourt city.

Methods: The study adopted descriptive survey design with questionnaire used for data collection. Port Harcourt inhabitants aged 18 years and above were studied using four major clusters in Port Harcourt city. Purposive sampling technique was used to select participants from five most affected COVID-19 business areas in each cluster in the year 2020. A total of 400 participants assessed on people's economic activities and welfare attributes using Likert-scale. Data were analysed using simple percentages, mean and standard deviation.

Results: Major findings revealed that COVID-19 negatively affected the lives of people, closure of markets and other economic centres, lack of face-to-face communication and interaction, change in people's social welfare and lifestyle, to halt in education and academic activities, restriction in movement and transportation, and household welfare challenges. It is

suggested that policymakers should intensify efforts to ensure coronavirus is eradicated by providing COVID-19 drugs to all Nigerians.

Conclusion: The study underscores the urgent need for comprehensive measures to mitigate the multifaceted impacts of COVID-19 in Nigeria, emphasizing equitable access to essential medications as a crucial strategy for combating the pandemic's adverse effects on society.

Novelty: This research offers novel insights into the broad-ranging impacts of COVID-19 on various aspects of life in Nigeria, highlighting the imperative of equitable access to medications as a pivotal solution.

Keywords: COVID-19 virus, economic lockdown, socio-economic activities.

Introduction

In mid-December 2019, a disease caused by infection with severe acute respiratory syndrome coronavirus-2, which began in Wuhan, China, has spread throughout the country and many countries around the world. According to She et al. (2020), the WHO named the disease caused by the new coronavirus as coronavirus disease-2019 (COVID-19). COVID-19 was declared as a pandemic by the WHO on March 11, 2020, and until September 2020 the global tally spiked 28 million (Ghafoor et al., 2021).

The 'CO' means corona, 'VI' means influenza and 'D' means disease. Initially, the illness was referred to as the '2019 novel coronavirus' or '2019-nCoV' but was later known as 'COVID-19'. The COVID-19 virus is a new virus related to the same family of viruses as Severe Acute Respiratory Syndrome (SARS) and other cases of severe cold (Ornell et al., 2020). Fever, cough and shortness of breath can be symptoms. In more severe cases, inflammation can lead to pneumonia or trouble breathing. Very seldom, the condition can be fatal. Both signs are similar to pneumonia or common cold (influenza), which is far more severe than COVID-19. Therefore testing is important to determine whether anyone has COVID-19 (Ozdin & Ozdin, 2020). The virus is spread by direct contact with an infected person's respiratory droplets (generated by coughing and sneezing). Individuals can also be tainted by virus-contaminated surfaces that touch their skin (e.g., eyes, nose, and mouth). The COVID-19 virus can live several hours on surfaces but it can be destroyed by simple disinfectants.

Current knowledge

From the first case on February 27 to April 28, 2020 (Basiru et al., 2021) the number of coronavirus cases in Nigeria increased to 1,532 (Olaseni et al., 2020). According to Nigeria's National COVID-19 Multi-Sectoral Pandemic Response Plan, this increase virus, President Muhammadu Buhari declared 14-day back-to-back lockdowns in Lagos is attributed to the 'Community Transmission' stage. To curb the transmission of the and Ogun States, as well as the Federal Capital Territory, Abuja during two separate national broadcasts, while promising measures to reduce the imminent impact of lockdowns on the populace. It is worthy of note that frontline health workers have continued to do tremendous work in providing medical and non-medical assistance to those infected with the virus.

The fact that 255 people have been treated, recovered and discharged in Nigeria so far cannot be dissociated from the constant hard work and heroic sacrifice of these frontline workers, some of whom, sadly, have lost their lives in the course of their duties. Considering its serious impact, COVID-19 pandemic has been associated with natural disasters, mass disputes and outbreaks of war. However, the current pandemic is more devastating; unlike in a natural disaster or war outbreak where people can relocate or build a sophisticated defense system to minimize or escape any predictable negative impact, the impact of the COVID-19 pandemic is nowhere to escape ([Zhang & Ma, 2020](#)).

Research Gap

The situation in Port Harcourt, the capital city of Rivers State seems to be terrible, especially to small business owners. The pandemic led to lockdowns which had crippled economic activities in the largest commercial nerve centres. Then there was crash in global commodity prices particularly crude oil that affected global supply chains which had adverse effects on the Nigerian economy. No study had examined the consequences of the pandemic on the businesses in Port Harcourt city, Nigeria. In a period of ever-increasing rates of urbanization and rapid growth of cities in terms of population and areal expansion, staying home as means of protection from the pandemic implied residing within the boundaries of a property and its immediate surrounding built-up or natural environment. The resultant effects were the denial of someone from his source of livelihood and accessibility to healthcare services which crippled businesses. Therefore, this set the foundation of our study which will examine the effects of the challenges of the pandemic on businesses and its implications on urban planning in Port Harcourt city, Nigeria.

Research Objectives

The broad aim of the study was to examine the impact of COVID-19 pandemic and its implication on urban planning in Port Harcourt, Nigeria. The specific objectives are to:

1. To assess the impact of Covid-19 on the economy of Port Harcourt city.
2. To examine the measures taken by the government to mitigate the impacts of Covid-19 pandemic on the economy of Port Harcourt City.
3. To ascertain the implications on urban planning in Port Harcourt City.

Review of Literature

The Impact of COVID-19 on Urban Cities

To prevent further spread of the virus, the federal and state governments put up preventive measures by locking down the entire federation. All schools, religious centres, markets, and transporters were barred from their activities, and social gatherings, and essential services (banks, hospitals, para-military, and others) were allowed easy movements to discharge their duties. To cushion the effects of this lockdown, the federal and state governments distributed food and other materials to the lucky ones who were able to be available during distributions. Many people were not happy with the distributions because they did not cut across the citizens. Non-governmental organizations (NGOs), organizations, philanthropists, religious institutions, and private individuals also contributed their quotas. Among the palliatives were

hospital equipment, nose masts and sanitisers, foodstuffs, vehicles, cash donations, and other useful materials.

According to Abulude and Abulude (2020), some philanthropists donated various items to cushion the effect of the pandemic. For instance, a member of Nigeria's national basketball team donated COVID-19 relief materials to some residents in his home town, Mbieri, in Imo State and another footballer donated 1800 crates of eggs to residents located near his farm. Similarly, the Nigerian military forces contributed to their active participation in providing relevant equipment and treatment processes (Ogbole et al., 2020). The banking sector is one of the essential services allowed to operate during the COVID-19 problem, but with conditions. No banking hall is allowed to have more than twenty people in the banking hall. The simple rules of cleanliness (washing of hands, use of hand sanitizer, and using of nose mask) must be strictly adhered to. Social distances were also enforced. To abide by the rules, the bank management provided canopies and chairs outside the entrance to the gates for the customers' relaxation before being allowed into the banking hall. In addition to the simple rules, the temperature of the customers was taken perchance any person with a temperature above 38°C was not permitted to enter. Adequate money was dispensed into the ATMs and social distancing was applied in the queues.

A few studies show that the last millennium's major historical pandemics have typically been associated with subsequent low returns as assets (Jorda et al., 2022). Small and Medium Scale (SMEs) have a lack of financial resources as the biggest challenge to short and long-term recovery in the Covid-19 situation (Cumbie, 2017). Bartik et al. (2020) conducted a survey of more than 580 SMEs, between 28th March and 4th April, 2020. The result revealed that there were mass layoffs, closure of businesses, different beliefs about the likely duration of the COVID-related disruptions, many businesses are financially on the brink, and most businesses planned to seek funding. COVID-19 has caused a significant economic shock (Seth et al., 2020). Stanley et al. (2020) highlighted some of the consequences of COVID-19 on the economy and financial markets in Nigeria. Economic lockdown of major cities (Abuja, Lagos, and Ogun State) on 30th March, 2020, leading to economic loss, especially for daily income earners from small-medium scale businesses, withdrawal of money by investors from the stock exchange market and fall in oil prices was recorded (Ozili & Arun, 2020).

The outbreak of Coronavirus negatively affected educational activities worldwide. Stanley et al., (2020) stated that school closing is very controversial, and it can have spillover effects on a large number of students in receiving schools. The increase in prices of foodstuffs, beverages, vegetables and palm oil was noticeable. The simple fact was that there was limited transportation of food from the farm and the closing of markets affected the prices. The National Bureau of Statistics (NBS) reported that the average price of some selected food items in the country increased in April. In the survey conducted by The NBS conducted a survey with over 10,000 respondents from the 774 local governments across all states and the FCT. The results revealed that average price of one dozen of 'agric.' medium sized eggs increased by 3.38 per cent to ₦476.72 monthly, from ₦461.15 in March. The average price of one kilogram of rice (imported high quality) increased by 7.56 per cent to ₦471.84 in April from ₦438.66 in

March. The price of 1kg of tomato also increased by 8.49 per cent to ₦277.00 in the same month as against ₦255.33 in March. In a similar manner, the average price of 1kg of yam tubers increased by 11.63 per cent to ₦230.09 in April from ₦206.12 in March (Kalu, 2020). NBS made it clear that an increase in food prices had an incremental rise in inflation.

Strategies Adopted to Mitigate the Impact of Covid-19

Governments of various nations have responded to the Pandemic, by lockdowns, and shutdowns of economic activities, giving out what is termed palliatives in many countries to workers and companies (Adadejebi, 2020). Due to the rapid spread of the virus, governments worldwide have taken unprecedented measures to contain the rate of spread. The measures that include travel restrictions, total country lockdown, and curfew have disrupted various forms around the world (Adadejebi, 2020). The discovery of the coronavirus and its spread has led many governments to take drastic measures. The lockdown of large parts of society and economic life has come as an exogenous shock to many businesses, not least innovative start-ups (Adadejebi, 2020).

The lockdown measures as a response to the spread of the new coronavirus threaten the existence of many innovative start-ups (Adadejebi, 2020). In the United Kingdom, the government instituted various schemes that will help various business groups. This includes a Business interruption loan scheme, Job retention scheme, business rate holidays, small business grant fund, deferral of VAT and business tax payments, and deferral of self-assessment payments, retail, and hospitality grant scheme.

The Central bank of Nigeria (CBN) provides palliative measures to ensure the stability of the economy like:

- a) Reduction of interest rate on all CBN intervention loans from 9% to 5% per annum;
- b) Extension of Moratorium period on all principal repayment on CBN facilities by one year, effective from 1st March, 2020;
- c) Credit facility through Nigeria Incentive-Based Risk Sharing for Agricultural lending (Nistral) Microfinance bank for household SMEs has gone through an adverse effect of Pandemic;
- d) Consideration of a temporary and time-limited restructuring of the tenure and loan terms for households and business by Deposit Money Banks (DMRs); and
- e) Extension of ₦100billion credit support pharmaceutical firms that intend to expand or start drug manufacturing plans in Nigeria and healthcare practitioners who plan to build or expand first-class health facilities.

Methodology

The capital and largest city of Rivers State, Nigeria is Greater Port Harcourt which comprises of Port Harcourt City and Obio Akpor Local Government Areas. In Nigeria, it ranks fifth in terms of population behind Lagos, Kano, Ibadan, and Benin. It is situated in the Niger Delta near the Bonny River.

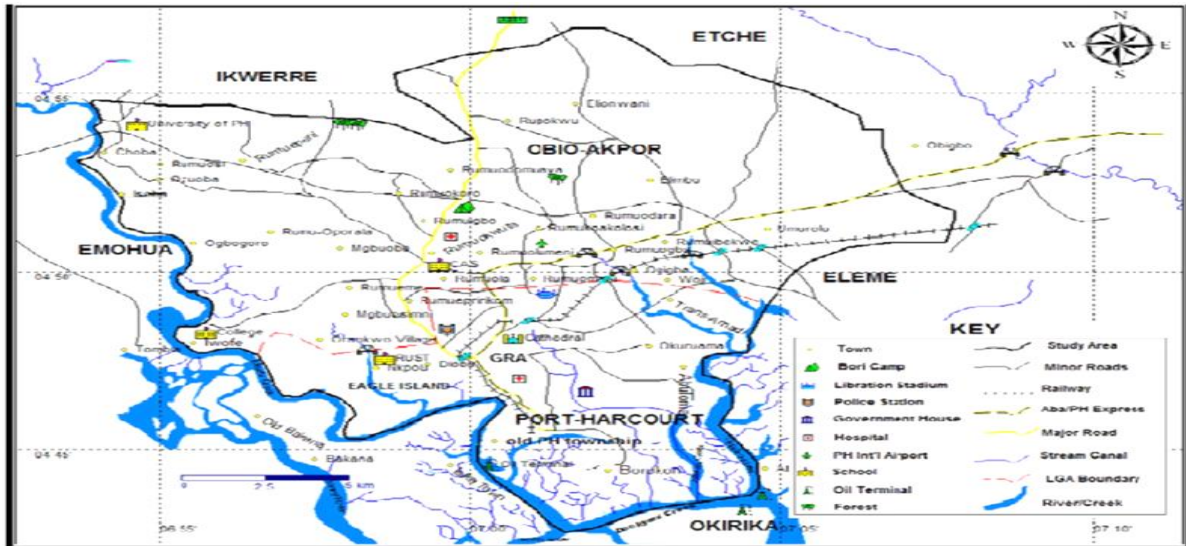


Figure 1: Map showing Port Harcourt City

Source: Akukwe and Ogbodo, (2015).

A descriptive and survey design was adopted in the study. It involves the description, recording, analysis and interpretation of the present nature composition or processes of phenomena. The crucial place of population of the study cannot be overemphasized in this research work. The population of this study therefore, consists of two million, four hundred and sixty-seven thousand (2,467,000) persons who are indigene of Port Harcourt City. It is difficult to cover the entire population in Port Harcourt City, so there was need to reduce the population to the number that can be reached and generalized. The sample size for this study therefore, is 400 respondents selected from the four (4) major roads in Port Harcourt. The study adopted multistage sampling procedure. In the first stage, the study purposively selected four major roads in Port Harcourt City namely Aba road, Ikwerre road, East-West road and Aggrey road. In the second stage, Purposive sampling technique was adopted to select one (100) business owners in each of the roads. Data collected from the field were presented on tables and bar charts for the socio-demographic data and the research questions. Simple percentage was used to analyse the demographic data, mean and standard deviation for the research questions while Chi-square analysis was used to test the hypotheses.

Results and Discussion

Research Question 1: What are the impacts of Covid-19 on development in Port Harcourt City?

Table 1: Analysis of the Impact of COVID-19 on Development in Port Harcourt

S/N	Item	SA	A	D	SD	Mean	Std.	Decision
1	Disruption in academic calendar due to closure of schools	133	175	42	14	3.17	0.77	Accepted

2	Closure of markets	129	197	28	10	3.22	0.70	Accepted
3	Reduction in sales/work activity/contracts in companies due to the coronavirus outbreak	164	161	30	9	3.31	0.72	Accepted
4	Reduction in the number of staffs	137	177	39	11	3.20	0.74	Accepted
5	Closure of business as a result of the coronavirus	125	165	60	14	3.10	0.80	Accepted
6	Paying of half salaries during the lockdown	171	149	33	11	3.31	0.76	Accepted
7	Lockdown and restriction of interstate transportation businesses	191	129	33	11	3.37	0.77	Accepted
8	Affected the tourism industry	133	175	42	14	3.17	0.77	Accepted
9	Affected the hospitality industry	168	161	27	8	3.34	0.71	Accepted
10	Reduction in revenue to the federal and state government	154	174	25	11	3.29	0.72	Accepted
11	Pressure on the existing medical facilities and personnel	131	171	55	7	3.17	0.74	Accepted
	Grand Mean					3.24	0.74	Accepted

Source: Fieldwork Survey (2022)

[Table 1](#) above presented the views of the respondents on the impact of covid-19 on socio-economic activities of Port Harcourt dwellers. The analysis revealed that the impact of covid-19 was severely negative on the people in Port Harcourt ranging from disruption in academic calendar due to closure of schools (Mean = 3.17, Std. = 0.77), closure of markets (Mean = 3.22, Std. = 0.70), reduction in sales/work activity/contracts in companies due to the coronavirus outbreak (Mean = 3.31, Std. = 0.72), reduction in the number of staffs (Mean = 3.20, Std. = 0.74), closure of business as a result of the coronavirus (Mean = 3.10, Std. = 0.80), paying of half salaries during the lockdown (Mean = 3.31, Std. = 0.76), lockdown and restriction of interstate transportation businesses (Mean = 3.37, Std. = 0.77), affected the tourism and hospitality industry (Mean = 3.17, Std. = 0.77) and (Mean = 3.34, Std. = 0.71) respectively, and the reduction in revenue to the federal and state government (Mean = 3.29, Std. = 0.72) to pressure mounted on the existing medical facilities and personnel in the city of Port Harcourt with the (Mean = 3.17, Std. = 0.74).

Research Question 2: What are the measures taken by the government to mitigate the impacts of Covid-19 pandemic on the economy of Port Harcourt City?

Table 2: Analysis of the Measures Adopted to Mitigate the Effects of COVID-19 Pandemic

S/N	Item	SA	A	D	SD	Mean	Std.	Decision
12	Lockdown and restriction measures	124	184	42	14	3.14	0.76	Accepted
13	Provision of palliatives and relief items	93	202	59	10	3.03	0.72	Accepted
14	Relaxation of loan payment	31	36	135	162	1.82	0.92	Not Accepted
15	Relaxation of taxation payment	61	79	111	113	2.24	1.06	Not Accepted
16	Loan on low-interest rates	81	125	148	10	2.76	0.82	Accepted
17	Improvement on distance learning and online meetings	133	175	42	14	3.17	0.77	Accepted
18	Investment in the health sector	105	149	67	43	2.86	0.96	Accepted
19	Amendments in regulations/simplification procedure	143	178	33	10	3.24	0.73	Accepted
	Grand Total					2.78	0.84	Accepted

Source: Fieldwork Survey (2022)

Table 2 shows that the respondents were asked to rank the measures adopted by the government of Rivers State and other concerned stakeholders in mitigating the impact of the pandemic on the people in Port Harcourt City. The analysis revealed that the government issued lockdown and restriction measures (Mean =3.14, Std. = 0.76), provision of palliatives and relief items (Mean = 3.03, Std. = 0.72), reduction of interest rate on loans (Mean = 2.76, Std. = 0.82), improvement on distance learning and online meetings (Mean = 3.17, Std. = 0.77), investment in the health sector (Mean =2.86, Std. = 0.96), and amendments in regulations/simplification procedure (Mean = 3.24, Std. = 0.73). On the other hand, the mean ratios of relaxation of loan payment (1.82) with corresponding standard deviation (0.92) and the mean ratios of relaxation of taxation payment (2.24) with corresponding standard deviation of (1.06) was also not done.

Research Question 3: What are the implications on urban planning in Port Harcourt City?

Table 3: The Implications on Urban Planning in Port Harcourt City

S/N	Item	SA	A	D	SD	Mean	Std.	Decision
20	Streets redesign to accommodate space for cyclist and pedestrian	38	52	139	135	1.98	0.96	Not Accepted

21	Constructions and redesigning of markets to reduce crowd in the existing markets	101	132	72	59	2.75	1.03	Accepted
22	Building of new campuses to decongest the educational institutions in the city centre	128	182	42	12	3.17	0.75	Accepted
23	Building of more shopping centres to decongest the available ones	117	199	36	12	3.15	0.72	Accepted
24	Redesigning of public spaces and parks to ensure social distancing	140	182	30	12	3.23	0.73	Accepted
	Grand Total					2.85	0.83	Accepted

Source: Field Survey (2022)

[Table 3](#) above presented the views of the respondents on the implications of the impact of covid-19 pandemic on urban planning in Port Harcourt. The finding with the mean ratio of 1.98 and corresponding standard deviation of 0.96 revealed that the pandemic did not influence the design of streets in Port Harcourt to accommodate space for cyclists and pedestrians. The mean ratio of 2.75 and standard deviation of 1.03 revealed that the government invested in the construction and redesigning of markets to reduce crowding in the existing markets while the mean ratio of 3.17 and 3.15 and the standard deviation of 0.75 and 0.72 revealed that building of new campuses to decongest the educational institutions in the city centre and building of more shopping centres to decongest the available ones were some of the implications of covid-19 on urban planning in Port Harcourt City, Rivers State. The mean ratio of 3.23 and corresponding standard deviation of 0.73 revealed that the redesigning of public spaces and parks to ensure social distancing was one of the implications of the effect of COVID-19 in the urban city of Port Harcourt.

Discussion

One of the major challenges of the covid-19 pandemic is its hardship on the socio-economic activities of people engaged in businesses which call for urgent urban planning. The results of this study reflect the impact of the pandemic on economic development and its implication on urban planning in Port Harcourt. The sample population cut across all the major businesses in Port Harcourt ranging from sole proprietorship to industries, therefore presenting the general picture of the impact of the outbreak. The wide margin between the registered businesses, and sole proprietorship showed the remarkable preference for sole proprietorship amongst small businesses ([Jugu and Obaka, 2020](#)).

The analysis revealed that the impact of COVID-19 was severely negative on the businesses in Port Harcourt ranging from disruption in the academic calendar due to the closure of schools, closure of markets, and reduction in sales/work activity/contracts in companies, reduction in

the number of staffs, paying off half salaries during the lockdown, restriction of interstate transportation businesses. These affected the tourism and hospitality industry, and the reduction in revenue to the federal and state government. Results also show that many businesses were not paying their staff full salaries during the lockdown.

The investigation also showed that one of the consequences of the effect of COVID-19 in the metropolitan city of Port Harcourt was the remodelling of public areas and parks to ensure social distance. There is no denying that our cities' explosive growth over the past 200 years has rendered them more susceptible to numerous health conditions and pandemics, which has presented a dilemma for urban planners. Therefore, there need to develop a visionary plan for sustainable and healthy cities that will not only address all the challenges of COVID-19 but will equally achieve a good city form.

The study found that well planned cities avoid overcrowding, reduce extreme density and promote walkability within a walking distance of 10 minutes to other land use activities. This design approach is more acceptable to tackle the pandemic because the greater the population density the greater the risk of infections and the spread of epidemics. Redesigning the street to include lanes for cyclists and pedestrians is necessary to create a healthy, pollution-free environment. According to Sanmi et al. (2021), the design actually aims to make the city greener and lower in carbon emissions, in addition to creating more space for pedestrians and cyclists. The design must be more socially sustainable, dynamic, and walkable. Public space and park design must be based on human needs and in line with the concept of a neighbourhood in terms of distance and density. In addition to respecting social distance, it must be planned to include appropriate landscaping that will increase the amount of green space, provide visual access to nature, and improve people's physical and mental health.

Conclusion

The COVID-19 pandemic was one of the events that had the most impact on modern history. It spread to over 216 countries and territories around the world and induced the most economic downturn since the great depression. No organization or government was likely to have prepared for COVID-19, irrespective of business size. This study focused its attention on city centre such as Port Harcourt to understand the impacts of the pandemic and the resultant effect on urban planning and improvement in Port Harcourt. The pandemic led to a new normal that made the government to issue executive orders to restrain people from interacting in open spaces as well as gathering in public places. This resulted in severe consequences on the global economy. The adverse effects include interruptions of supply chains, cash flow problems, weaker demand for imported goods and services, inability to meet delivery dates, and increased risk aversion in financial markets. Based on the level of devastating impact of COVID-19 globally and Nigeria in particular there is a need and call for sustainable physical planning mitigation approach. However, for proper implantation of the needed planning approach requires the participation of the government and other stakeholders in terms of finance and other logistics.

Recommendations

In view of the following challenges therefore, urban planning strategies should focus more on the major economic needs of cities. The recommendations are as follows:

- a) Government and urban planners should focus on key issues such as the type and quality of housing provision; the density and local services heterogeneity; the location of destinations and accessibility; the quality of public transport; and the availability, size, variety of open and green spaces.
- b) Government should make or improve on the existing policies geared towards assisting the small businesses to enable them cope effectively with pandemic crisis and its negative effects on the society.
- c) Government and other stakeholders involved should create easy access to inclusive, large, well-maintained parks, gardens, and other open public spaces; easy access to nearby nature and in general contact with greenery; focus on short distances and the neighbourhood level along with the provision of multiple, diverse facilities and services and available space for walking in the surroundings; avoidance of cramped dwellings and housing support for vulnerable groups; communal, outdoor spaces attached to apartment blocks; improvements in walkability and cyclability; provision of frequent, well-ventilated, and safe public transport; and affordable and accessible new mobility options are some measures that could ensure and strengthen the capacities of cities to deal with the effects of a public health crisis and improve the health and well-being of their citizens.

Declarations

The authors whose names are listed in the article certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants, consultancies, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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