

LETTER

Equitable exit strategy is required: lessons learnt from Hong Kong's current resurgence of local outbreaks among individuals from highly deprived neighbourhoods

The impact of social inequalities on people's vulnerability to COVID-19, especially by non-pharmaceutical interventions (NPIs), has been widely discussed.^{1 2} However, recent resurgence of community outbreaks in Hong Kong clearly warns us that, without taking social inequalities into account when planning exit strategies, the pandemic may stage a comeback and spread even more rampantly.

Hong Kong is currently undergoing the 'third wave' of local outbreaks. Its first two waves were mainly brought by visitors in late January and by return-students studying overseas in March. In mid-June, with no local cases for over 2 weeks, the government relaxed its NPIs, including lifting restrictions on physical distancing and reopening schools. However, an abrupt community outbreak struck the city 2 weeks later. The number of confirmed cases had almost tripled within 1 month from 1206 (30 June) to 3273 (31 July).³

Unlike the first two waves, several clusters identified in the latest outbreak were related to elders living in residential homes, residents from public rental houses and low-skilled workers.³ We studied the 1698 locally infected cases reported by government as of 28 July 2020 and matched their residential addresses published by the Centre of Health Protection with a social deprivation index (SDI) developed based on the neighbourhood characteristics provided by the 2016 Hong Kong Population Census data.⁴ The higher the SDI, the higher the proportion of residents from the socially deprived neighbourhood.

Figure 1 clearly shows the change in the socioeconomic profile of the patients from low SDI neighbourhoods in the initial two waves to higher SDI areas in the third wave. As of 28 July, the number of locally infected cases reported in the three waves were 74 (22 January–29 February), 310 (11 March–30 June) and 1314 (1 July–28 July). The patients aged 65 years and above increased from 5.48% to 37.84%, while patients living in public housing

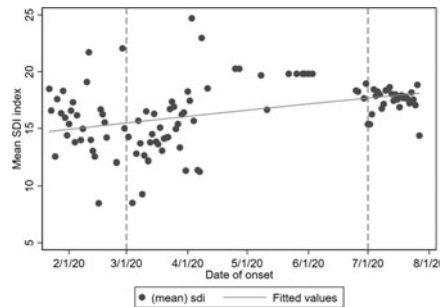


Figure 1 Daily average social deprivation index (SDI) of locally infected COVID-19 cases in Hong Kong as of 28 July 2020.

Notes: Data points in the figure represent the daily mean SDI of locally infected COVID-19 cases sorted by date of symptom onset as of 28 July 2020. The neighbourhood characteristic was aggregated on Tertiary Planning Unit (n=214), a geographical unit devised by the Planning Department for town planning purposes. While there is no consensus on the indicators for constructing SDI in Hong Kong, three indicators were extracted based on principal component analysis from the list of neighbourhood characteristics provided by the 2016 Hong Kong Population Census data. The three factors are the proportions of the population with (1) unemployment, (2) monthly household income under poverty line and (3) education attainment with primary school or below. SDI was calculated by taking the average of these three selected variables, that is, $SDI = (\text{poverty}(\%) + \text{low education}(\%) + \text{unemployment}(\%)) \times 100$. The solid line represents adjusted time trends of SDI using individual-level linear regression. After adjusting for age, sex and Hong Kong residence status, the correlation between SDI and date of symptom onset is 0.02 ($p < 0.001$).

increased from 19.68% to 41.78%. The average SDI was 15.39 (SD=4.79), 15.64 (SD=3.42) and 17.58 (SD=3.12) for the three waves, indicating an increasing prevalence of cases in areas with higher unemployment and poverty rate, and lower education level.

Hong Kong's experience further confirms that individuals with lower socioeconomic position are more vulnerable to community outbreaks, which may have a profound impact on the resurgence of outbreaks in the wider society. Policymakers must develop interventions to mitigate the socioeconomic impact when deploying exit strategies.

Yushan Wu ,¹ Xiang Yan,² Dong Dong ,^{1,3} Roger Yat-nork Chung ,^{1,4} Eng-kiong Yeoh^{1,3,4}

¹JC School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong SAR, China

²Department of Urban Planning and Design, University of Hong Kong, Hong Kong SAR, China

³Centre for Health Systems and Policy Research, The Chinese University of Hong Kong, Hong Kong SAR, China

⁴CUHK Institute of Health Equity, The Chinese University of Hong Kong, Hong Kong SAR, China

Correspondence to Dong Dong, The Chinese University of Hong Kong, JC School of Public Health and Primary Care, Shatin, Hong Kong SAR, China; dongdong@cuhk.edu.hk

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ORCID iDs

Yushan Wu <http://orcid.org/0000-0002-0687-1187>

Dong Dong <http://orcid.org/0000-0001-9784-6472>

Roger Yat-nork Chung <http://orcid.org/0000-0003-4407-8208>

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