Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Early lessons from a second COVID-19 lockdown in Leicester, UK

As the number of new cases of COVID-19 continues to decline in the UK, national lockdown measures are being cautiously relaxed. However, Leicester has become the first city in England to have lockdown measures re-imposed. There are growing concerns about further local outbreaks, with the potential to culminate in a second wave. The national strategy for managing, if not mitigating, these risks has been centralised and primarily focused on so-called pillar 2 community-based swab testing completed by remote lighthouse laboratories and contact tracing.[1] This is supported by continued pillar 1 testing, in National Health Service hospital laboratories, of patients admitted to hospital.[1] Here we report our early experience of the second spike in COVID-19 cases in Leicester. The ethnic pluralism and cultural diversity celebrated by the city now presents complex and considerable public health challenges. As the city enters a local lockdown, we consider whether lessons should be learnt to avoid or better manage similar inevitable surges across other areas of the UK.

News of this outbreak, first announced by the Health Secretary on June 18, 2020, based on pillar 2 data, was a surprise to local health organisations. These local services only had access to pillar 1 data, which showed that the number of new cases per day was low through the first half of June, 2020. It was subsequently reported that a quarter of all cases in Leicester were confirmed between June 1 and June 15, 2020.[2] Most of these new cases were reportedly concentrated in ten wards in the east of the city (appendix). Census results and official estimates of populations of local wards in Leicester show that 72·5% of the population of these wards are from Black, Asian, and Minority Ethnic backgrounds, mostly of South Asian ethnicity, who are disproportionately affected by adverse outcomes of COVID-19.[3]

As the situation continues to rapidly evolve, this second spike in COVID-19 cases in Leicester has exposed key problems that must be urgently addressed. In particular, the opportunity to escalate interventions locally has been stymied by the inadequacy of information sharing. Pillar 2 data, which indicated this ongoing spike, were not communicated in a timely manner to the local authority and local health organisations that had been tasked with local public health preparedness, and they did not contain full information on key demographics (age, address, place of work, and ethnicity). Instead, a nationally mandated increase in pillar 2 testing capacity, including mobile testing units run by the Ministry of Defence, was introduced. This was ineffective in the absence of a locally directed coordinated response, leading to lockdown measures being reintroduced on June 30, 2020.

What can be done to improve the management of local outbreaks? The current centralised platform cannot function effectively in isolation and must be revised to adopt a network structure that integrates with the local authority and local health services in every region. In this respect, the success of the multi-disciplinary network structure of the National Tuberculosis control strategy to manage the growing epidemic of another deadly airborne infection[4] offers an effective precedent. We know that health-care needs can vary widely between regions, influenced by demography, deprivation, and other socioeconomic parameters. A one-size-fits-all approach is myopic—local authorities, public health teams, and clinicians are best placed to understand the needs of their communities and should be empowered to implement context-specific and area-specific interventions developed within existing programmes. For Leicester, the relationships established with community leaders and services to tackle inequality of health provision in ethnic minority groups are acutely relevant to support measures for effective control. These includes culturally appropriate implementation of the test, track, and trace programme, alongside public health messaging that these communities can easily access.

Although increased local lockdown restrictions are being imposed in Leicester, we must be careful to consider whether this will necessarily have the desired impact in areas of high ethnic diversity. An area-specific imposition will necessarily target and disproportionately affect ethnic minority communities, many of whom live in areas of high social deprivation and work in care, health, and transport sectors. Their support will be needed for adherence to any proposed measures, and this will require effective community engagement. We should remain mindful that lockdown is a blunt and damaging tool of last resort that represents a failure of timely intervention.

Our experience brings into sharp focus the shortfalls in the current identification and management of local COVID-19 outbreaks. As we enter the second phase of the COVID-19 pandemic, we all remain in this together. This philosophy needs now to be applied to tackling the challenges ahead with an inclusive and coordinated public health response that is locally led, agile, and responsive to prevent unnecessary morbidity and mortality.

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See **Online** for appendix

For **census data of ward populations in Leicester** see https://www.citypopulation.de/en/uk/eastmidlands/wards/

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1 Department of Health & Social Care. Guidance. COVID-19 testing data: methodology note. June 2, 2020. https://www.gov.uk/government/publications/coronavirus-covid-19-testing-data-methodology/covid-19-testing-data-methodology-note (accessed June 30, 2020).

2 Martin D, Orton A. Is there still a coronavirus 'outbreak' in Leicester? Statistics show current rate of new cases. June 24, 2020. https://www.leicestermercury.co.uk/news/leicester-news/still-coronavirus-outbreak-leicester-statistics-4259107 (accessed June 30, 2020).

3 Pan D, Sze S, Minhas JS, et al. The impact of ethnicity on clinical outcomes in COVID-19: a systematic review. *EClinicalMedicine* 2020; **23:** 100404.

4 Public Health England. Tuberculosis collaborative strategy for England. Jan 19, 2015. https://www.gov.uk/government/publications/collaborative-tuberculosis-strategy-for-england (accessed June 30, 2020).