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## BRIEFING

# Covid-19: How does local lockdown work, and is it effective?

England has announced its first local lockdown in response to covid-19, just as it begins to ease national restrictions. But will it work—and is this the first of many?

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Leicester, a city in England's East Midlands, has been placed under local lockdown after it was found to have three times more covid-19 cases than the next highest city.<sup>1</sup> The area accounted for around 10% of all positive cases in the country in the week leading up to the announcement on 29 June, with six to 10 hospital admissions a day, compared with around one at other NHS trusts.

### What does a local lockdown mean in practice?

In this case, the city of Leicester and the surrounding urban areas have shut non-essential retail and closed schools to all but vulnerable children and children of critical workers. People have been advised to stay at home as much as possible and to maintain a physical distance of two metres when outside.

Meanwhile, local testing capacity has been increased. The additional measures will be reviewed at two weeks and will remain in place for as long as they are needed—although the criteria for relaxing the restrictions have not been made public. However, the police have said that they still need clarity from the government on their role in enforcing the restrictions.

Dave Stokes, Leicestershire Police Federation chair, said, “As we have seen over recent weeks and months, if the guidance and messaging from government is confusing for the public then it will be almost impossible for our colleagues to police.

“We still wait for confirmation on what our colleagues' exact roles will be in policing, and potentially enforcing, this ‘Leicester lockdown’ and what legislation our members will be asked to use. We have seen examples from across the country that ‘common sense’ is impossible to police.”

### Could it have been avoided?

Yes, says the Independent Scientific Advisory Group for Emergencies (iSAGE),<sup>2</sup> describing the situation in Leicester as “both predictable and avoidable.” The group argues that this is a consequence of prematurely lifting restrictions when the virus was still circulating widely, when there was “no functional system of find, test, trace, isolate, and support and when the prime minister was sending an implied message that things are ‘back to normal.’”

iSAGE said in an official statement, “The current situation arose out of a failure to respond to the increase of infections in Leicester (and other localities) at an early stage and before they reached crisis levels.

“This was a result of several factors: (a) an excessive centralisation and unavailability of data; (b) the fragmentation of the testing system; (c) a lack of coordination with both the local authorities and with the NHS, PHE [Public Health England] and other agencies locally in understanding the cause, nature and response to the outbreak. This has eroded trust in government and the information it provides about covid-19 risk.”

The BMA's council chair, Chaand Nagpaul, has echoed concerns around data sharing with the teams on the ground. “This is crucial to allow swift action and to protect lives and the health service, something that is not happening right now,” he said. The Department of Health and Social Care has since agreed to share postcode level data on covid-19 cases with local authorities.

iSAGE has also warned that, considering Leicester's high levels of disadvantage and poverty, imposing lockdown without the prior involvement of local authorities risks creating a “deep sense of resentment and of inequity in the local populations.” This could lead to disorder and—given that “Leicester is a city rich in multiple cultures and traditions”—could result in racist groups politicising resentment by “blaming ethnic minorities for the lockdown.”

### What triggers such an alert?

No specific criteria have been made public, and the government said only that the decision in Leicester was made by the prime minister, Boris Johnson; England's health secretary, Matt Hancock; local leaders; and public health teams.

Public Health England has released its preliminary investigation into the covid-19 situation in Leicester, but this does not provide much clarity.<sup>3</sup> It reported that the “strongest evidence of an outbreak” was that, unlike in other Midland areas, a rising proportion of new infections were in children and in people of working age.

It found “no explanatory outbreaks in care homes, hospital settings, or industrial processes to immediately explain the apparent rise in new diagnoses,” noting that the evidence for the scale of the outbreak was “limited and may, in part, be artefactually related to growth in availability of testing.”

### Have other countries used local lockdowns?

At the start of the covid-19 outbreak the Chinese government placed a local lockdown on Wuhan, the city where the pandemic is thought to have started. Since then, many other countries have done the same when local spikes in cases have appeared, especially as they have emerged from national lockdown measures. Germany currently has two districts in the state of North Rhine-Westphalia under lockdown (imposed on 23 June), and the Chinese government has restricted 27 neighbourhoods in Beijing after a spike of cases surrounding a food market. In Australia, meanwhile, 300 000 Melbourne residents have been put under new stay-at-home measures as the city has reintroduced lockdown for certain suburbs.

### Do they work?

“We know widespread lockdowns work, and what remains to be seen is how a local one will in the UK,” said Keith Neal, emeritus professor of the epidemiology of infectious diseases at the University of Nottingham. “In some countries local lockdowns have been enforced by the police to a degree that would not be tolerated in this country . . . With a high level of compliance, cases should begin to fall in one to two weeks, although increased testing could also mask what is a real decline in new infections.”

Researchers from the University of Padova, Italy, and Imperial College London, UK, have reported that the local lockdown in the small town of Vo allowed the community to suppress covid-19 within a few weeks. However, this was combined with mass testing regardless of symptoms and quarantining. The research paper noted that around 40% of people who tested positive were asymptomatic.<sup>4</sup>

### Could other areas be next?

Many other areas around England are reportedly being monitored to see whether they need local lockdown measures.<sup>5</sup> Public Health England’s statistics on 2 July showed that the weekly number of covid-19 cases per 100 000 population varied considerably among local authorities, from 0.31 (Lambeth, London) to 141.32 (Leicester).<sup>6</sup> The next highest areas were Bradford (45.8), Barnsley (35.07), Rochdale (35), and Oldham (30.13), respectively, which could therefore be under consideration for restrictions, although they have notably fewer cases than Leicester.

Scotland’s first minister, Nicola Sturgeon, has said that because of a spike in cases the lockdown rules that were due to be relaxed will remain in place in parts of Dumfries and Galloway—which borders England. People living in Gtretna, Annan, Dumfries, Lockerbie, and Canonbie must now stay within five miles of their homes. They also cannot visit care homes or outdoor restaurants.

Neil Ferguson, director of the MRC Centre at Imperial College London and former covid-19 adviser to the government, said it was “inevitable” that more local areas would be locked down. Speaking on the BBC on 1 July, he said, “We’re relaxing lockdown rules, and that means contacts in the populations are going up. That’s a very variable process from place to place.

“That means, in some places where there are too many contacts, we’ll get clusters of transmissions. What’s critically important is that we detect those early and adopt the measures necessary to locally reduce transmissions again.”

1 Mahase E. Covid-19: Leicester placed under lockdown after spike in cases and hospital admissions. *BMJ* 2020;369:m2635. doi: 10.1136/bmj.m2635 pmid: 32605928

2 Independent SAGE. Statement on Leicester and local lockdowns. 2020. <https://www.independentsage.org/independent-sage-statement-on-leicester-and-local-lockdowns/>.

3 Public Health England. Rapid Investigation Team: preliminary investigation into COVID-19 exceedances in Leicester (June 2020). 29 Jun 2020. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/897128/COVID-19\\_activity\\_Leicester\\_Final-report\\_010720\\_v3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897128/COVID-19_activity_Leicester_Final-report_010720_v3.pdf).

4 Mahase E. Covid-19: Four in 10 cases in Italian town that locked down early were asymptomatic. *BMJ* 2020;370:m2647. doi: 10.1136/bmj.m2647 pmid: 32611551

5 Coronavirus: Areas with highest number of weekly COVID-19 cases revealed. *Sky News* 2020 Jul 1. <https://news.sky.com/story/coronavirus-bradford-and-london-boroughs-among-36-at-risk-areas-that-could-be-just-days-away-from-local-lockdowns-12018594>.

6 Public Health England. National COVID-19 surveillance reports. 23 Apr 2020. <https://www.gov.uk/government/publications/national-covid-19-surveillance-reports>.

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