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CORONAVIRUS

How Northern Ireland relaunched contact tracing for covid-19 a month before the rest of the UK

Aided by its relatively small size, Northern Ireland is already tracing over 90% of positive cases within 24 hours—but the system has not escaped scrutiny and criticism, writes **Chris Baraniuk**

Chris Baraniuk *journalist*

In England, contact tracing for covid-19 was due to be relaunched by the middle of May,¹ after having been abandoned throughout the UK on 12 March. In the end it wasn't resumed until 28 May, with the launch of "test and trace," and the system has had widely reported teething problems.² Contact tracing was relaunched on 28 May in Scotland and on 1 June in Wales.

Across the Irish Sea in Northern Ireland, however, a different story has unfolded. A contact tracing pilot went live there on 27 April, more than a month before the other three home nations, and the Northern Ireland Department of Health reports in a strategy document that "from 18 May [the Public Health Agency] have been contact tracing all confirmed cases."³

Currently, 92% of all positive covid-19 cases and their contacts are traced within 24 hours, says Jonny Herron, a clinical lead at Northern Ireland's Public Health Agency (PHA), which is responsible for contact tracing. On some days, contact tracers in Belfast have reached 100% of cases and contacts.

"The numbers speak for themselves," says Herron. "That's down to the fact that we have been contacting people personally."

Northern Ireland has a small population of 1.8 million people—a far cry from England's 56 million—and the number of confirmed covid-19 cases⁴ reported each day in Northern Ireland for the past two weeks has rarely exceeded 10 people. Daily reports of positive cases were an order of magnitude greater during April, however, and there were several logistical challenges to restarting contact tracing after 12 March. This is the story of how Northern Ireland managed to do it before any other part of the UK.

Small team, widening scope

Jackie Hyland, a consultant in health protection who co-led the establishment of a contact tracing centre in Belfast for the PHA, remembers the earliest days of the pilot programme. She says that she and Mary Carey, emergency planning coordinator, sought a room at the PHA's offices in central Belfast where contact tracers could work together. They considered remote working but were wary of contact tracers having sensitive data on-screen at home. A suitably sized room was soon found, and training with a handful of staff commenced on 21 April.

Hyland, who has now completed her work with the PHA and is living at home in Scotland, was adamant that hundreds of staff were not necessary: she calculated that she'd need a maximum of 80-90, working shifts on a rotational basis. This was based on Northern Ireland's small population and the fact that, during lockdown, most people who tested positive would have a small number of close contacts to report, if any. That meant a reduced workload per case. As of 25 May, 78 tracers had been fully trained, says Hugo van Woerden, the PHA's director of public health.

People with positive test results are called within 24 hours of the result and are asked about close contacts who may also be infected. Those contacts are then also called. Close contacts are identified as people who have, for example, been living in the same home as an infected person or have spent more than 15 minutes with the person at a distance of less than two metres.⁵ Those deemed to be at risk are advised to self-isolate.

The team's initial inquiries on resuming contact tracing focused on positive cases among care home staff and healthcare workers. But, as the scope of the programme widened in early May, tracers soon became aware of clusters of covid-19 cases associated with meat processing factories in Northern Ireland.⁶

Friendly approach

With all tracing being done exclusively by telephone, Hyland and her team decided to take a convivial approach. "The principle behind it all was, 'We are nice people, we are going to be friendly to people,'" she recalls. "If they don't want to give us the answer we're not going to push them, because we want the reputation of somebody they can talk to—not somebody who's hounding them."

This strategy, says Hyland, meant that the responsiveness of contacts was high. When PHA tracers call someone the telephone number appears as withheld on smartphones, but the vast majority of recipients nonetheless pick up. Hyland thinks that this is partly because the PHA put out lots of information to local media about how the contact tracing programme would work, to raise awareness. Plus, it didn't matter if one individual was wary of giving out information, she explains, because clusters would still become apparent through testing and the reports of others. Clusters of cases at certain buildings or organisations were tracked with a whiteboard

system: ticks marked on the board next to the name of an employer, for instance, that was beginning to be associated with multiple or potential cases.

Overall, Hyland and her team were aided by the small size of the health system in Northern Ireland, relative to England. “It’s all one system,” she says. “We had the flexibility to move quickly.”

She and colleagues are reluctant to describe themselves as having beaten other parts of the UK in the race to trace, however. Van Woerden says, “I wouldn’t want it to be seen as a competitive thing—we’re not here to outcompete others, we’re here to collaborate.” He adds, however, that he thinks Northern Ireland has managed the pandemic well so far and is clearly proud of staff who have “very responsibly stepped up to the plate” and worked beyond their paid hours.

Hyland also praises the human element. She explains, “Everybody said, ‘Let’s get solutions.’ It was inspiring, actually, when I was working in Belfast—it was just amazing.”

Scrutiny and criticism

That’s not to say that those organising the response to covid-19 in Northern Ireland haven’t faced scrutiny or criticism. There were, for example, calls to hire far more contact tracing staff.⁷ And environmental health officers in local areas were identified as potential contact tracers and later “stood down,” says Donal O’Cofaigh, a councillor in Fermanagh and Omagh District Council in the south west of Northern Ireland. “I think it certainly would make more sense to me that this could be done remotely,” he says.

Ballymena, a large town in the north east of Northern Ireland, is currently being considered as the site for an expanded contact tracing operation. It’s roughly an hour and a half’s drive from Fermanagh, which O’Cofaigh says is too far away for staff in his area. He and colleagues have asked the Department of Health in Northern Ireland to explain why environmental health officers were ultimately not recruited, but they have yet to receive a formal response.

Herron says that, at the tracing centre in Belfast, “We have people from all round the different counties. The location of the centre itself I don’t think would make much difference.”

Suspension questions

Some people also question why contact tracing was suspended on 12 March in the first place—among them Colm Gildernew, chair of the Northern Ireland assembly’s health committee and a Sinn Féin (Irish republican) member of the legislative assembly.

“The contact tracing operation here should have been continued with,” he says, arguing that the 12 March suspension of contact tracing was “necessitated by what was happening in England and in particular London,” rather than what was appropriate on the island of Ireland.

The BMJ asked Northern Ireland’s Department of Health why tracing was suspended and was directed to its Test, Trace, Protect strategy document, which says, “On 12 March, the UK moved from the containment phase to the delay phase. The focus of our efforts then shifted from individual contact tracing to wider measures, including advising all of the public to immediately self-isolate if they had even mild symptoms.”

Hyland says that she herself supported suspending the programme in early March because there was limited testing of cases at the time and GPs were flooding the PHA with queries about patients reporting possible covid-19 symptoms. “The definition of a case became too

broad . . . we were relying on symptoms alone,” she says. “Without testing it was impossible to contact trace every person who met the broad case definition.”

Digital support

For now, the contact tracing operation in Belfast is clearly coping with demand. But, as lockdown rules are relaxed and people move around again, it’s possible that covid-19 will begin to spread exponentially once more.

Various measures are being considered to manage this, the Department of Health says, including an app. Herron says that people can be “more wary” about data privacy concerns around apps and that human callers can sometimes jog people’s memory about who they’ve been in contact with.

But software may yet flag up useful data, says Jim McLaughlin, a physicist at Ulster University who has been working with colleagues to develop a covid-19 app.⁸ Its features, including automatic contact detection based on smartphone proximity and a reporting function for antibody test results, could all be appropriated and built into Northern Ireland’s existing symptom checker app,⁹ he suggests.

Northern Ireland’s health minister, Robin Swann, has said that he will not encourage Northern Irish people to download an app recently trialled by the UK government on the Isle of Wight.¹⁰ He has also argued that a single app should be used throughout the UK and Ireland.¹¹ Because of the open land border between Northern Ireland and the Republic of Ireland, health officials have been sharing information gleaned from contact tracing¹² between both parts of the island.

For now, officials in Northern Ireland are committed to contact tracing—and very much for the long haul. As the Department of Health’s strategy document says, “This approach is likely to become a part of everyday life in Northern Ireland until an effective vaccine is developed and a vaccination programme for covid-19 has been delivered.”

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