

Suggested draft PQs to the Secretary of State for Health and Social Care on contact tracing and testing

Summary

Contact tracing, testing of contacts and isolation are the classic tools and approaches in public health to infectious diseases. They have been adopted in China in response to the COVID-19 outbreak, and have been strongly recommended by the WHO. In England, there is a lack of data - contact tracing appears to have been adopted only initially, whilst the authors of one of the scientific papers published by the government today state that they expect that it would enable the outbreak to be contained.

China

In February 2020, 25 experts from China, Germany, Japan, Korea, Nigeria, Russia, Singapore, the US and WHO undertook a [9-day Joint Mission](#) on COVID-19 to China.

It stated the following on contact testing:

“China has a policy of meticulous case and contact identification for COVID-19. For example, in Wuhan more than 1800 teams of epidemiologists, with a minimum of 5 people/team, are tracing tens of thousands of contacts a day. Contact follow up is painstaking, with a high percentage of identified close contacts completing medical observation. Between 1% and 5% of contacts were subsequently laboratory confirmed cases of COVID-19, depending on location. For example:

- As of 17 February, in Shenzhen City, among 2842 identified close contacts, 2842 (100%) were traced and 2240 (72%) have completed medical observation. Among the close contacts, 88 (2.8%) were found to be infected with COVID-19.
- As of 17 February, in Sichuan Province, among 25493 identified close contacts, 25347 (99%) were traced and 23178 (91%) have completed medical observation. Among the close contacts, 0.9% were found to be infected with COVID-19.
- As of 20 February, in Guangdong Province, among 9939 identified close contacts, 9939 (100%) were traced and 7765 (78%) have completed medical observation. Among the close contacts, 479 (4.8%) were found to be infected with COVID-19” (pp.8/9).

During the second stage of the outbreak, “[m]easures were taken to ensure that all cases were treated, and close contacts were isolated and put under medical observation” (page 15).

It is not clear from the report whether all contacts were tested, though they were apparently quarantined. Contacts have been both tested and quarantined [in Singapore](#), where the army has been called in to help with tracing, according to the BBC.

In considering next steps for other countries, the report states (emphases added):

“3. Much of the global community is not yet ready, in mindset and materially, to implement the measures that have been employed to contain COVID-19 in China. These are the only measures that are currently proven to interrupt or minimize transmission chains in humans. **Fundamental to these measures is extremely proactive surveillance to immediately detect cases, very rapid diagnosis and immediate case isolation, rigorous tracking and quarantine of close contacts,** and an exceptionally high degree of population understanding and acceptance of these measures.

Achieving the high quality of implementation needed to be successful with such measures requires an unusual and unprecedented speed of decision-making by top leaders, operational thoroughness by public health systems, and engagement of society.

Given the damage that can be caused by uncontrolled, community-level transmission of this virus, such an approach is warranted to save lives and to gain the weeks and months needed for the testing of therapeutics and vaccine development. Furthermore, as the majority of new cases outside of China are currently occurring in high and middle income countries, a rigorous commitment to slowing transmission in such settings with non-pharmaceutical measures is vital to achieving a second line of defense to protect low income countries that have weaker health systems and coping capacities. The time that can be gained through the full application of these measures – even if just days or weeks – can be invaluable in ultimately reducing COVID-19 illness and deaths. This is apparent in the huge increase in knowledge, approaches and even tools that has taken place in just the 7 weeks since this virus was discovered through the rapid scientific work that has been done in China.”

The mission recommended countries outside China with imported cases and/or outbreaks of COVID-19 to “[p]rioritize active, exhaustive case finding and immediate testing and isolation, painstaking contact tracing and rigorous quarantine of close contacts” (page 21).

England

Blogs by PHE CEO ([Duncan Selbie](#)) and PHE’s Deputy Director, National Infections Service ([Nick Phin](#)) in mid-February state that contact tracing was being undertaken:

“PHE now has a very extensive and complex contact tracing operation underway with health protection teams around the country diligently talking to people that might have been in close contact with carriers of the virus to assess their risk, provide advice and ultimately prevent further spread.”

“So far in the UK we’ve seen a small number of novel coronavirus cases. At the moment we undertake contact tracing to prevent the infection spreading further. Contact tracing is a fundamental part of outbreak control that’s used by public health professionals around the world.”

There was no statement that those traced would be tested, isolated or quarantined, and apparently this would be done only if the contact developed symptoms:

“When we get in touch with a contact we provide them with advice on what to do if they become unwell or develop certain symptoms. This way they can speak to the right health expert, so that the right advice can be given and right action taken.

If we believe a contact is at higher risk of infection they may be asked to self-isolate, remaining in their home and staying away from work, school or public places and we contact them daily until they can be given the all-clear.

If the person being monitored does develop symptoms, we would test them and provide them with specialist care if they have the novel coronavirus.”

There is also an implication in Nick Phin’s blog that as more cases develop, less contact tracing might be undertaken (emphasis added):

“Our experts have considerable experience at using contact tracing to prevent and contain outbreaks and to keep the public safe.

However, it does involve a lot of resources so as part of our comprehensive approach to tackling novel coronavirus in the UK, we’re putting extra resources into our contact tracing efforts. If the virus becomes established in the UK then we **may** need to move to a different phase of the response which focuses less on containment – but we are a long way off that.”

Concern has been expressed about the UK’s approach to contact tracing and testing - see, for example, Martin Hibberd, professor of emerging infectious diseases at the London School of Hygiene and Tropical Medicine, [quoted in The Guardian](#) on 12/3/20 as saying that “the UK’s response ‘has clearly not been sufficient’. He and other experts called for much more extensive testing and tracing of the contacts of those diagnosed with Covid-19”.

The government [published today](#) the scientific evidence supporting its COVID-19 response. According to modelling conducted by the authors of [one of the papers published](#), entitled ‘The Efficacy of Contact Tracing for the Containment of the 2019 Novel Coronavirus (COVID-19) (Keeling *et al.*) :

“Aggregating across all individuals and under the optimistic assumption that all the contact tracing can be performed rapidly, we expect contact tracing to reduce the basic reproductive ratio from 3.11 to 0.21 - enabling the outbreak to be contained (figure 2). Rapid and effective contact tracing can therefore be highly effective in the early control of COVID-19, but places substantial demands on the local public-health authorities.”

The basic reproductive ratio basic reproductive ratio, R_0 , is a [standard epidemiological construct](#) for understanding the epidemic potential of an infection; the higher the ratio, the more difficult it will be to control its spread. Ideally, R_0 should be 0. If R_0 is less than 1, an infected person will transmit the infection to less than one other person, and so the epidemic potential is critically reduced. On basis of this modelling, if contact tracing

is not being rigorously conducted now, the possibility of critically reducing the epidemic would be missed.

We have not been able to find any data on contact tracing, the testing of contacts, isolation or quarantine in any part of the UK, and have not been able to find any PQs on the subject so far (despite the hundreds already tabled).

Draft PQs (1) and (2) below are therefore aimed at obtaining those data for England.

Draft PQ (3) directly addresses the government's response to the expectation of the Keeling et al. paper published today.

Draft PQ (4) has been prompted by personal knowledge and conversations with other public health professionals, and concern that public health expertise in infectious diseases and in disease control more generally has been disappearing in local areas.

Draft PQ (5) is wider than testing of contacts, but cost may very well be a factor that might have contributed to a lack of testing, and so we have suggested framing the question more broadly.

Draft PQs

(1) To ask the Secretary of State for Health and Social Care if he will specify, by local authority area, the contact tracing that is currently underway in England in relation to those who have been, or are suspected as having been, infected or contaminated with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), including (a) the number of personnel carrying out such tracing and (b) the number of close contacts (i) identified and (ii) traced.

(2) To ask the Secretary of State for Health and Social Care if he will specify, by local authority area, the number and percentage of close contacts of those who have been, or are suspected as having been, infected or contaminated with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), who (a) are undergoing testing (b) have tested positive and (c) have been isolated or quarantined.

(3) To ask the Secretary of State for Health and Social Care whether he is ensuring rapid and effective contact tracing in relation to COVID-19, in light of the authors of the Keeling et al. study entitled "The Efficacy of Contact Tracing for the Containment of the

2019 Novel Coronavirus (COVID-19) published by the government on 20th March 2020, stating that “we expect contract tracing to reduce the basic reproductive ratio from 3.11 to 0.21 - enabling the outbreak to be contained”; and if not, why not.

(4) To ask the Secretary of State for Health and Social Care if he will publish the latest data for the numbers of (a) consultants in communicable disease control and (b) community infection control nurses, and c) their location by local authority area.

(5) To ask the Secretary of State for Health and Social Care if he will specify (a) the public bodies and/or (b) the companies which are carrying out the tests for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and explain the sensitivity and specificity of each test and their cost .

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