Isaac Newton Institute
for Mathematical Sciences

20 Clarkson Road
Cambridge, CB3 0EH, UK
tel: +44 (0)1223 335999
email: info@newton.ac.uk
www.newton.ac.uk

Recommendations for Augmenting Contact Tracing in the UK: Learning from Other Diseases

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On behalf of participants of the Isaac Newton Institute for Mathematical Sciences workshop, "Contact Tracing – Learning from Other Diseases" held 1st – 4th June 2020.

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Summary of Recommendations

1. All reported contacts should be tested to prevent onward spread, regardless of symptoms

1.1. All symptomatic and all asymptomatic contacts should be tested for current infection

1.2. Use serological testing to prevent repeated quarantine requests

2. Ensure that programme participants are empowered, engaged and well informed to maximise effectiveness

2.1. Educate individuals to assess their own risk. Provide flexible options to identify and notify contacts

2.2. Acknowledge COVID19 stigma and support individuals economically, practically and socially to adhere to the contact tracing policy

2.3. Ensure active evaluation of the programme to assess remaining barriers and address them

3. Use strong communication to boost engagement

3.1. Improve the description of the contact tracing process for the general public, as well as any changes made to it

3.2. Use personal stories and regional data from the programme to build empathy, engagement and public awareness

3.3. Improve health literacy, particularly among hard to reach and vulnerable groups

Recommendations in detail

1. All reported contacts should be tested to prevent onward spread, regardless of symptoms

1.1. All symptomatic and all asymptomatic contacts should be tested for current infection

Evidence suggests that transmission from both asymptomatic and pre-symptomatic individuals are an important part of ongoing disease transmission: contact tracing can help identify those individuals to break transmission chains. Offering testing to asymptomatic traced contacts is a key component of successful STI and TB contact tracing (1, 2) and positive tests can mitigate risky behaviours in asymptomatic individuals (3). The timing of testing for asymptomatics must be carefully optimised, balancing test performance against exposure risks.

1.2. Use serological testing to prevent repeated quarantine requests

A positive serological test could be used to exempt from further test and trace quarantine requests. This strategy requires careful communication to ensure public understanding that only a positive test qualifies an individual as low risk. This strategy should be contingent on current understanding as to whether or not seroconversion is a sufficient indicator that an individual is both not infectious and not likely to be infected again in the short term. The duration of the exemption should also remain subject to the latest research findings on the potential for reinfection over time. Preventing repeated requests to quarantine would likely reduce the burden on keyworkers and could also improve general adherence.

2. Ensure that programme participants are empowered, engaged and well informed to maximise effectiveness

2.1. Educate individuals to assess their own risk. Provide flexible options to identify and notify contacts

Individuals' compliance with guidelines is related to their perceptions of their risk, consequences for named contacts, negative impact of isolation, workplace pressures, frequency of requirement to isolate and absence of symptoms, as well as socio-cultural norms about complying with official regulations. Perceptions of an individual's own risk are often inaccurate, for example perceived risk of TB, HIV and Hepatitis B/C in UK migrants has been found to be low, despite this group being high risk (4). Improving health literacy improves individuals' ability to use and navigate public health guidance (5). Providing flexible options for contact tracing is used in provider referral in sexual health, and experience from STIs has informed COVID contact tracing approaches (6). Any tools developed for anonymous tracing should not cause operational delay.

2.2. Acknowledge COVID stigma and support individuals economically, practically and socially to adhere to the contact tracing policy

In settings such as HIV and sexual health where stigma exists, shaming individuals about behaviour has been found to be very unhelpful, and such parallels with COVID have already been drawn (7). Therefore, the contact tracing process should be non-judgemental. Reluctance to disclose behaviour not compliant with the rules may drive behaviours underground and disincentivise testing in situations of risk. Sexual health contact tracing guidance and standards from UK organisations: BASSH (British Association for Sexual Health and HIV) and SSHA (Society of sexual health advisers) may serve as useful templates (8, 9).

There are economic and social consequences of self isolating and not going to work, including impact on co-workers and family. Statutory pay is not sufficient remuneration. Provision of sufficient support to avert financial loss has been linked to adherence: Singapore's quarantine allowance during the 2003 SARS epidemic (10) and financial incentives successfully used to improve STI testing adherence (11). Provision of temporary housing may help particularly for individuals in households with high-risk occupants.

2.3. Ensure active evaluation of the programme to assess remaining barriers and address them

Use programme evaluation to reveal remaining barriers and barriers which may develop as the epidemic progresses. Consider different approaches for groups where conventional contact tracing may be suboptimal, particularly *identifying where transmission is taking place*. Risks of transmission might be better related to places or settings rather than particular populations. For example, homeless naming fewer TB contacts (12) led to suggested focus on identifying location of exposure rather names of contacts for homeless contacts (13). Tracing of individuals linked to a particular place (e.g. pubs, workplaces) has been effective in control of TB and HIV (13, 14).

3. Use strong communication to boost engagement

3.1. Clarify the contact tracing process and any changes made to it

Current UK contact tracing requires more extensive promotion and clarity regarding its process. Basic knowledge of COVID19, such as the most common symptoms, is suboptimal in the UK (Lucy Yardley, *personal communication*), so all processes and messages should be conveyed simply. As the epidemic progresses and the contact tracing process changes, keep the public informed. Liaise with current contact tracing systems and expertise in local public health teams and sexual health services on methods for effective message delivery.

3.2. Use personal stories and regional data from the programme to build empathy and public awareness

COVID19 statistics can be hard to interpret and do not have the influence of personal stories, which build empathy and public awareness (similar to Ebola (15)). Local situation reports have been successfully used to support vaccination campaigns (16). Sending personalised thank you emails to traced individuals at the end of their isolation period to maintain morale and increase future compliance.

3.3. Improve health literacy, particularly among hard-to-reach and vulnerable groups

Provide individuals with the appropriate skills, knowledge, understanding and confidence to access, navigate, understand and use contact tracing guidance (5). Limited health literacy is associated with low use of preventive health service and of health-damaging behaviours (17). Particular groups of interest here include the elderly and the BAME communities. Co-design communication strategies with members of target communities, including hard-to-reach and BAME groups – interventions are more effective when they are culturally appropriate for the populations they serve (18-20).

WARNING: this report contains preliminary findings that have not been peer reviewed. The findings are intended to provoke further study and policy discussion and should not be treated as definitive scientific advice in response to the SARS-CoV-2 epidemic. Whilst we expect these principles to help others formulate coherent and consistent guidelines, time has prevented any quantitative study of their effectiveness with respect to SARS-CoV-2.

Contributors

Rebecca F Baggaley, University of Leicester; Ben Ashby, University of Bath and University of Oxford; Lauren Chappell, University of Oxford; Emma Davis, University of Oxford and University of Warwick; Chris Dye, University of Oxford; Rosalind Eggo, London School of Hygiene and Tropical Medicine; Liz Fearon, London School of Hygiene and Tropical Medicine; Martyn Fyles, University of Manchester; Katie Hampson, University of Glasgow; Anatole Menon-Johansson, Guy's & St Thomas' NHS Foundation Trust; Jane Meyrick, University of West of England; Denis Mollison, Heriot-Watt University; Jane Nicholls, Cardiff and Vale University Health Board; Manish Pareek, University of Leicester; Lorenzo Pellis, University of Manchester; Gianpaolo Scalia Tomba, University of Rome Tor Vergata; Caroline Trotter, University of Cambridge; Katy Turner, University of Bristol; Cerian Webb, University of Cambridge; Lucy Yardley, University of Bristol; T Déirdre Hollingsworth, University of Oxford; Julia Gog, University of Cambridge.

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