



Covid-19  
Tracing Apps  
May 2020

**National Consumer Federation  
Says  
Trust the UK Public more**

Covid-19 Tracing Apps whose purpose is  
the safety of individuals and protection of the general public

**1. Executive summary**

The NCF is concerned that current proposals for the design and use of the NHS Covid-19 Tracing app are significantly less effective than they should be if the public were provided with more functionality on their smartphones. The NCF wishes to make a positive contribution to the country's strategy and to improve the country's Covid-19 tracing capability.

This paper focuses on making any Covid-19 app more effective in terms of

- the ability of members of the public to take sensible decisions as to their actions, precautions and working with local authorities
- the level of uptake of Covid-19 tracing apps by the general public

**The recommendations are in priority order**

**R1. Better decisions by individuals**

- a) That apps should provide much more support to individuals' decision taking with more private processing by apps on their smartphones

**R2. Apps uptake and supply resilience**

- a) That a diversity of supply should be provided to the public allowing use of different apps from a highly regulated set of apps suppliers.

Rationale: Offering choice between apps should lead to greater uptake of tracing apps and also guard against single supplier problems.

*Note: Diversity of supply would allow special apps that covered an individual's private life and in addition app adaptations for their workplaces such as schools, care homes, factories, offices and so on.*

- b) That app and system interworking standards are rapidly established to enable coherent national working between apps from different suppliers.

*Note: Undertaken with care this step would help consumers to get back to taking holidays and visits aboard by enabling tracing capability between nations.*

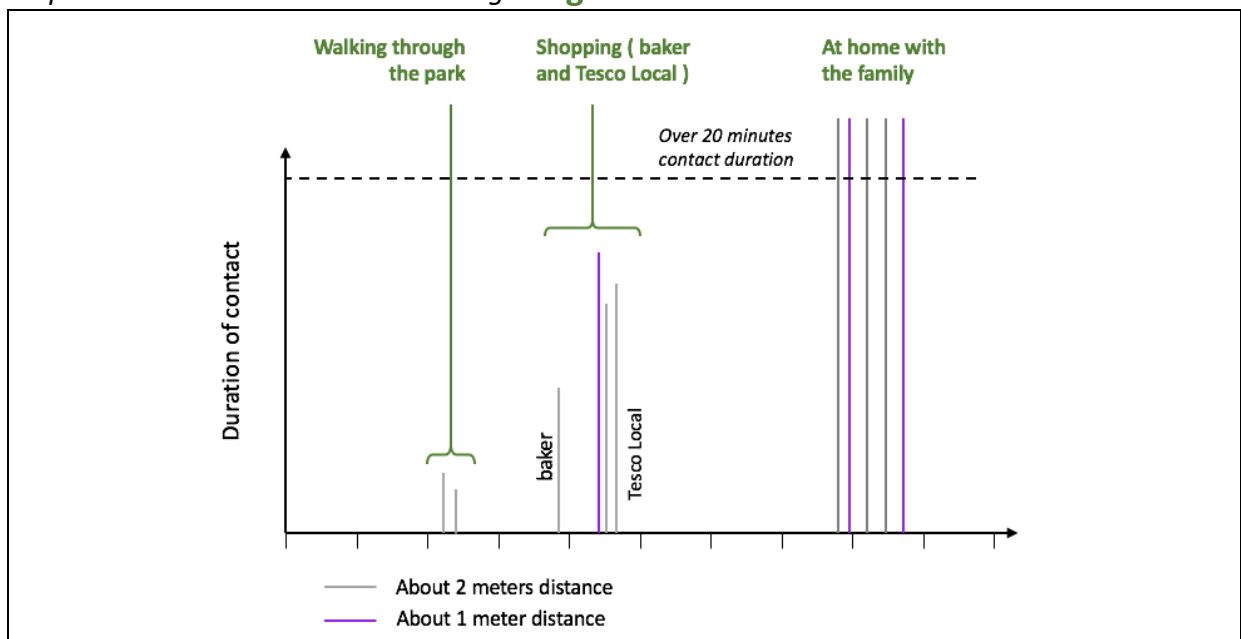
## 2. Trust the Public - More private tracing app functionality

The current strategy, adopted by the Government, has a centralised resource deciding that your Covid-19 contacts are endangering and that your health conditions make you vulnerable. You are then notified to take care accordingly. This keeps the individual short of information. The NCF believes that with more processing of an individual's Covid-19 contact data privately on their own phone they can be provided with much more insightful information.

To make it easier to understand what the NCF is proposing visualisations of potential personal information displays have been provided in this paper.

Figure 1 Provides a visualisation of what an app could provide on a smartphone if there were displays of an individual's own Covid-19 contact information. This visualisation makes use of the contact timing and contact proximity data collected in any case by the phone. We envisage that this could allow the consumer to use what they know about their own activities ( tacit personal knowledge not written down or recorded ) to add to their own decisions and how to help others.

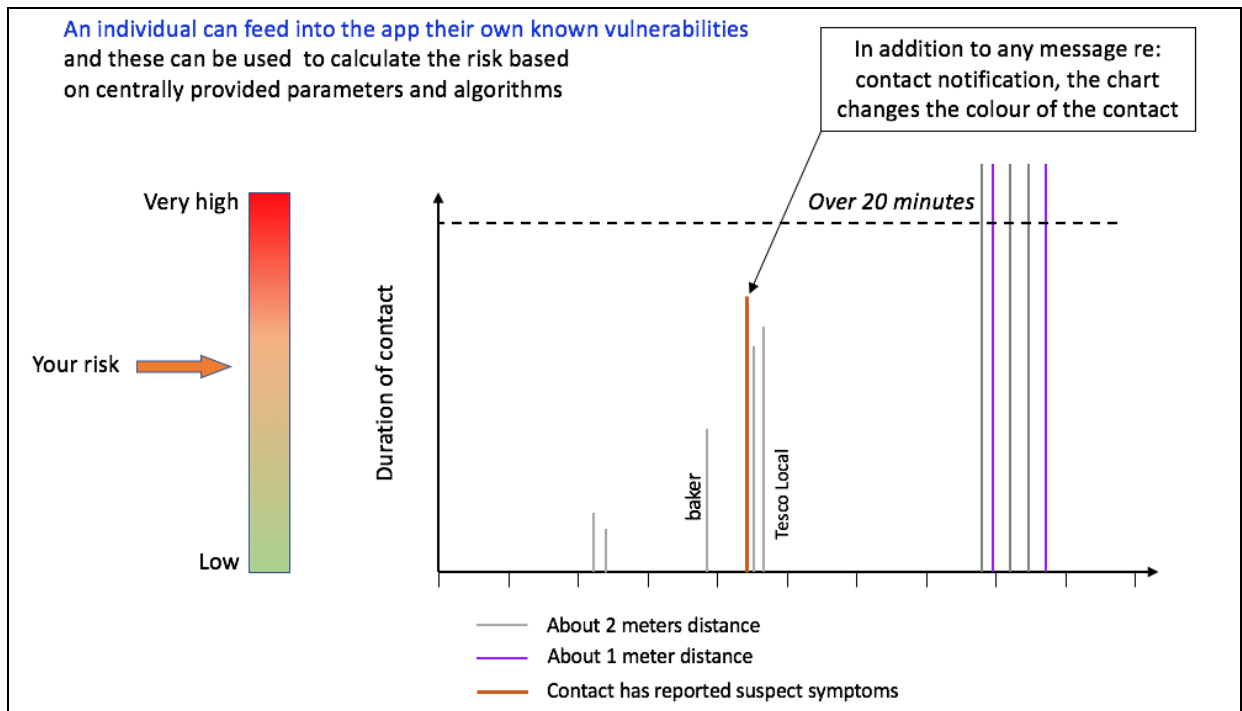
Figure 1. A possible personal contacts display when there have been no Covid-19 positives reported - Consumer 'tacit' knowledge in green



In the Figure 2 visualisation it is assumed that with suspect contact data distributed to the phone, from a Cloud service, the individual could enter their own vulnerability information probably from a list provided by the apps ( most people know of their own medical conditions ). This allows the app on the smartphone to calculate an individual's risk from parameters on contact times, distances and medical vulnerabilities. The risk parameters for that calculation being inbuilt, and updated in the software on the phone.

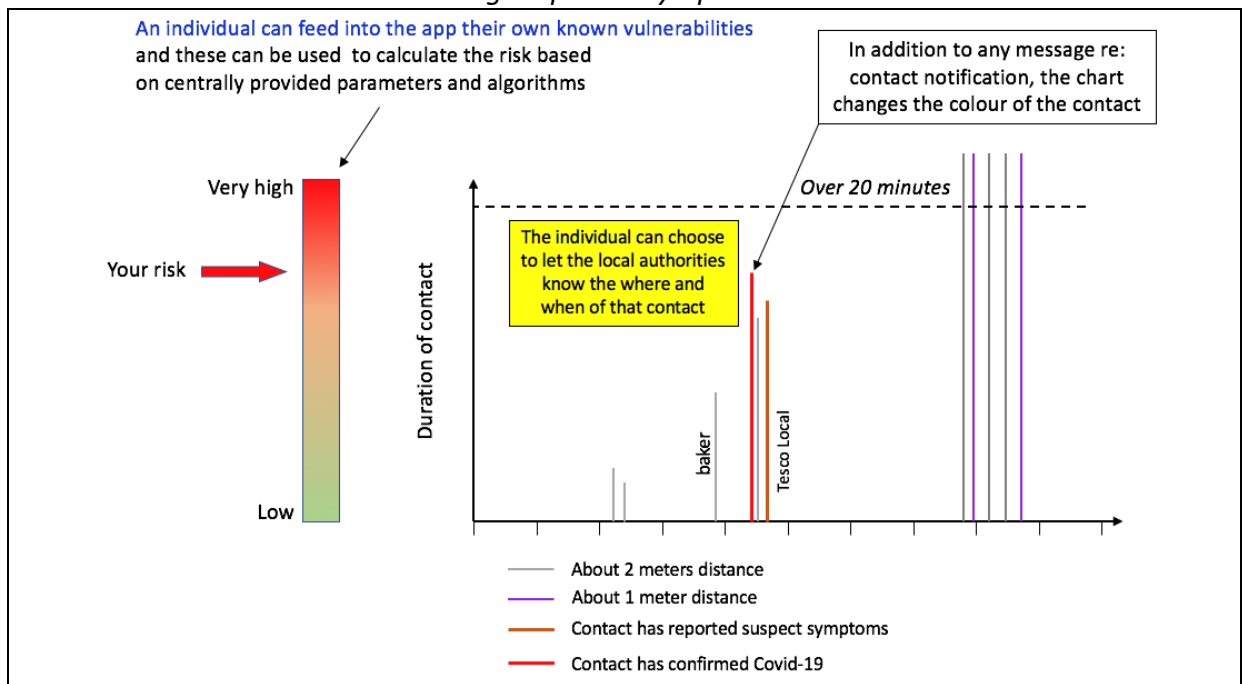
The display now changes to show on a graduated scale the individual's risk and also colour codes the contacts display for, in this case, a suspect set of symptoms being reported by another member of the public anonymously through their own app.

Figure 2. When there has been a Covid-19 report of suspected symptoms from a contact



In Figure 3 the visualisation shows what could be added if further contact Covid-19 data was distributed. In this case the confirmation that a previous suspect contact has tested positive and adding a new report of a suspect set of symptoms.

Figure 3. When a Covid-19 report has been updated from suspect symptoms to confirmed Covid-19 and another contact having suspected symptoms.



The display updates both the phone owner's risk level and the colour coding on their contacts display.

The tacit knowledge of the public as to where they were when risky contacts were made can be made use of by reporting to local authorities on a voluntary basis. Such location reporting could be either provided by the app functionality or outside of the app through existing local authority communication channels.

Such local information would allow hot spots to be identified by councils, social services, police etc from collated voluntary individual reports giving locational information that is far more accurate than the current high-level post code being collected through the NHS process that gives geographic location to a few thousand addresses<sup>1</sup>.

### **3. Increasing the take up of Covid-19 apps and providing choice**

#### **App performance**

The current UK strategy for Covid-19 tracing apps is an ‘all our eggs in one basket’ strategy. This carries some significant risks that can be mitigated with a bit more diversity of supply.

- With a single source of supply any shortfalls or mistakes have to be ‘put up with’ and the reputation of the app becomes tarnished, reducing uptake and creating a reluctance to take the app. This may well be exacerbated by the current privacy concerns about the NHS Covid-19 app design and centralization of data with the risk of mission creep on a sensitive set of data and app data collection capability.
- There is also the risk that those responsible for the app would oversell capabilities and also adopt defensive attitudes to any shortfalls, which is behaviour that reduces public trust.

#### **Lack of choice**

Consumers have a researched and understood single option aversion<sup>2</sup>. Choice can boost the take up of products by 10’s of percent. One often quoted set of figures took choice from no better than 10% for single choice to 66% combined uptake for a two-choice option between different products. Though the public good purpose of Covid-19 tracing is different from normal consumer choice the NCF believes that offering a bit more choice could dramatically increase the uptake of Covid-19 tracing by the public by offering a small number of suitable apps.

#### **Different contexts needing additional risk management**

It is being said that about 60% of a population needs to take up a tracing app to be fully effective. The very young, up to about 10 years old<sup>3</sup>, and the over 65’s<sup>4</sup> have significantly fewer smartphones than are needed for that 60% tracing coverage in their age groups. So, the whole UK effort would benefit from apps that were designed to work in the context of schools and care homes and where home carers were involved.

<sup>1</sup> <https://www.mapmarketing.com/pages/custom-postcode-maps-site-centred-maps-to-suit-your-business>

<sup>2</sup> <https://foundr.com/increase-conversions>

<sup>3</sup> [https://www.ofcom.org.uk/data/assets/pdf\\_file/0023/190616/children-media-use-attitudes-2019-report.pdf](https://www.ofcom.org.uk/data/assets/pdf_file/0023/190616/children-media-use-attitudes-2019-report.pdf)

<sup>4</sup> <https://www.finder.com/uk/mobile-internet-statistics>

Although not the NCF's main focus, if Covid-19 tracing apps were allowed anonymous tracing in our private lives and then, in addition, functionality suited to different work situations, that would be a great help in allowing sectors to craft apps that address Covid-19 tracing in their workplaces.

### **Regulation**

App provision from a small number of suppliers for such a key, sensitive area of application would need very close overview and thorough regulation.

### **Interworking of different apps and standards**

Multiple apps, with their supporting 'contact information distribution' Cloud services, present the technical issue of 'different apps interworking' that arises in order to provide effective national coverage.

National and International standards for basic contact information anonymization and sharing between Covid-19 tracing apps to enable interworking would be very necessary within the UK.

It should be noted that such interworking would also be needed as international travel is brought back, to enable different countries to trace visitors Covid-19 contacts and help all manage the infection risks of such travel.

### **Long term benefits**

The NCF believes that if interworking arrangements were undertaken with due care for Covid-19, then the basis for a key part of the UK and the world's long-term ability to handle future pandemics much more effectively would have been established.

### **Tracking the spread of Covid-19**

The NCF believes that the experiment documented in the BBC4 programme "Contagion: The BBC4 Pandemic<sup>5</sup>" demonstrates that a much smaller sub set of the population can be used to track the spread of the virus than a total sample of all Covid-19 tracing app users. About 30,000 volunteers took part in the BBC experiment.

The NCF would suggest a different app design for detailed tracking of volunteers movements and Covid-19 contacts, with the number of volunteers needed for statistical significance to be determined by statisticians allowing for the reproduction ( spreading ) rate of the virus.

ENDS

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<sup>5</sup> <https://www.bbc.co.uk/programmes/p059y0p1>

## NOTES

The National Consumer Federation (NCF) represents the voice of UK consumers. We are an independent, not-for-profit charity, with over 50 years' experience of tackling issues that affect large numbers of consumers, and campaigning for positive change.

Our aim is to influence Government, regulators and businesses to ensure that the consumer voice is at the heart of decision-making. We provide a platform for everyone interested in consumer protection – from individuals, to local groups and national consumer organisations – bringing them together to share their knowledge, skills and experience. Our expertise adds value to the collective consumer voice, making it a more powerful force for change.

## CONTACTS

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