Research note: Use of the NHS COVID-19 App

Prof. Henry Potts

2 Nov 2020

**Exec. summary**

1. The sample used in DHSC polling shows higher smartphone usage and NHS COVID-19 app usage than the general population.
2. Predictors of having the app (in the whole population) are being in work; not being a sole carer for dependent children; and worrying about coronavirus
3. Predictors of having the app (in those with smartphones) are not being a sole carer for dependent children; and worrying about coronavirus

**Introduction**

This note covers use of the NHS COVID-19 App, focusing on predictors of whether has the app. While uptake has been high (approx. 18 million to date), penetrance remains below what is needed for a contact tracing app to be fully effective. To increase uptake, it is useful to know why people may not have the app.

DHSC polling data collected 12-14 October 2020 (*n* = 2072) was analysed.

**Descriptive analyses**

***Do you have a smartphone?***

 Yes, and I usually take it out with me: 81%

 Yes, but I do not usually take it out with me: 8%

 No: 10%

 Don’t know: 1%

OFCOM (2019) reported 79% of adults have a smartphone. In comparison, 89% (81% yes and take it with them + 8% yes and do not take it with them) of respondents report having a smartphone.

***Have you downloaded the NHS COVID-19 app?*** (of those with a smartphone)

 Yes, I downloaded it and I have it on my phone: 51%

 Yes, I previously downloaded it but since deleted it: 2%

 I tried to download it but couldn’t: 7%

 No, I have not tried to download it: 37%

 Don't know: 3%

The UK adult population is around 52 million. If 79% have a smartphone (OFCOM, 2019), that means there are 41 million adults with a smartphone. The app has had 18 million downloads, so that means about 44% of adults with a smartphone have downloaded the app. In comparison, 53% (51% downloaded and have + 2% downloaded but since deleted) of respondents have downloaded the app.

It is perhaps not surprising that members of an Internet panel would be greater adopters of such technologies.

***Which functions have people used?***

Viewed my area’s risk level 76%

Checked in at a venue using a QR code 51%

Checked if I have coronavirus symptoms 27%

Booked a coronavirus test 7%

Kept track of my self-isolation countdown 12%

Had “contact tracing” mode switched on when out and about 72%

Was alerted that I had come into close contact with someone who tested positive for coronavirus 8%

Note the figure of 72% for having “contact tracing” mode switched on. If people have this mode switched off, that reduces the effective penetrance of the app.

***For those who have downloaded the app, proportion saying strongly agree or agree:***

The app will allow me to actively protect my loved ones 69%

The app is the fastest way to know when I am at risk of Coronavirus 67%

The app helps limit the spread of coronavirus 63%

The app is easy to use 81%

The app has useful functions 70%

I have concerns about privacy and the use of my data in the app 37%

A factor analysis found the first 5 items to group together, while the final item constituted a separate factor.

***How likely are you to recommend the app to family and friends?*** From 0 not at all likely to 10 extremely likely:

4% say 0

median rating of 8

34% say 10

**Who has the app?**

We conducted a series of analyses looking at possible predictors of having the app. Individuals were classified as having the app if they have a smartphone and answered “Yes, I downloaded it and I have it on my phone” to the question “Have you downloaded the NHS COVID-19 app?” Thus, people without a smartphone *and* people with a smartphone but not using the app are combined.

We started with univariable analyses comparing individual variables with having the app. The following variables did not show a significant relationship with having the app.

Region: no difference (χ2(11) = 13.8, *p* = 0.2)

Gender: no difference (exact *p* = 0.2)

English as first language: no difference (exact *p* = 0.1)

Live alone: no difference (exact *p* = 0.055)

Have a long-standing illness? No difference (exact *p* = 0.8)

Another member of household has a long-standing illness? No difference (exact *p* = 0.4)

Religion: no difference (exact *p* = 0.067)

Hardship (3 = least hardship to 15 = most hardship): not significant (Mann-Whitney *p* = 0.1)

The following variables did show a significant relationship with having the app:



Figure 1: Loess plot of having the app against age.

Age: significant negative correlation with having the app: see Fig. 1.

Ethnicity: significant difference (exact *p* = 0.006). Percentage having the app:

 White British 47% Asian/Asian British 41%

 Mixed 40% White Other 37%

 Black/Black British 20%

Marital status: significant difference (exact *p* = 0.002) Percentage having the app:

 Married/partnered 49% Not 42%

Are you the sole carer for the dependent children in your household? Significant difference. Percentage having the app:

 Yes 43% No 55%

Work for the NHS? Significant (exact *p* = 0.016). Percentage having the app:

 Yes 55% No 45%

Education level: significant difference, *e.g.* with Master’s 51% *vs*. no qualification 31%

In work: significant difference (exact *p* = 0.001). Percentage having the app:

 In work 49% Not 42%

Perceived credibility of government (4 = lowest credibility to 20 = highest credibility): higher perceived credibility associated with having the app (Mann-Whitney *p* = 0.001)

Worry about COVID-19 (1=not at all worried to 5=extremely worried): higher worry associated with having the app (Mann-Whitney *p* < 0.001)

A multivariable logistic regression was constructed to predict having the app. The only significant predictors were:

Being a sole carer for dependent children: OR = 0.54 (95% CI 0.38-0.76)

Being in work: OR = 1.49 (95% CI 1.02-2.17)

Worry about coronavirus (5-point scale): OR per point = 1.36 (95% CI 1.17-1.59)

**Who has the app (smartphone owners only)?**

We repeated analyses but only for individuals who have a smartphone: only the multivariable analysis is shown. Individuals were classified as having the app if they have a smartphone and answered “Yes, I downloaded it and I have it on my phone” to the question “Have you downloaded the NHS COVID-19 app?” People without a smartphone were excluded.

A multivariable logistic regression was constructed to predict having the app. The significant predictors were:

Being a sole carer for dependent children: OR = 0.52 (95% CI 0.36-0.75)

Worry about coronavirus (5-point scale): OR per point = 1.36 (95% CI 1.15-1.60)

**Conclusion**

Worry about the virus is a key driver for having the app.

Being a sole carer for dependent children is a strong predictor of **not** having the app, controlling for hardship, being in work and other variables: qualitative research is recommended to explore what might be happening with this group.

Being in work is a predictor for having the app across the whole population, although it fails to reach significance when considering just those who have a smartphone.

Other variables are not significant predictors once controlling for the above.

**References**

OFCOM (2019). Communications Market Report 2019. OFCOM. https://www.ofcom.org.uk/\_\_data/assets/pdf\_file/0028/155278/communications-market-report-2019.pdf [data accessed: 2 Nov 2020]

*Please note that this work has been conducted rapidly and has not been peer reviewed or subject to normal quality control measures.*

Professor Henry W.W. Potts (UCL), Dr Louise E. Smith (KCL), Professor Nicola T. Fear (KCL), Professor Susan Michie (UCL), Professor Richard Amlȏt (PHE), Dr G James Rubin (KCL)

Contact details: h.potts@ucl.ac.uk, louise.e.smith@kcl.ac.uk, richard.amlot@phe.gov.uk, gideon.rubin@kcl.ac.uk