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## **From contact tracing to COVID-19 pass holder; the tortured journey of the French TousAntiCovid contact tracing app.**

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We have are no relevant financial or non-financial competing interests to report

### **Abstract**

#### Objectives

Our study aimed to provide an updated overview of the use of the French contact tracing application, TousAntiCovid, and identify evolutions since the beginning of the pandemic.

#### Study design

We conducted a survey study on a representative sample of the French adult population.

#### Methods

Our data was collected by the Observatoire Régional de la Santé (ORS) using a self-administered online questionnaire. This was completed by a sample of 2,022 people stratified to match French official census

statistics for gender, age, occupation and area of housing. We conducted statistical analysis using Python (Pandas – Scipy - Statsmodels) with chi2 and Wilcoxon ranksum tests to control for statistical significance.

### Results

A small majority of respondents used TousAntiCovid (55.5%) while 41.0% had never downloaded it. Only one quarter of the respondents (23.3%) used it for contact tracing with Bluetooth, while a third (32.2%) only used it for storing their health pass. The app's use increased with education level, income and younger age. A large majority (85%) of non-vaccinated respondents had never downloaded TousAntiCovid.

### Conclusion

Our results suggest that the role and use of France's official COVID-19 app TousAntiCovid has evolved in line with the government's strategy; while initially focusing on contact tracing, its development has led to the possibility to store test and vaccination documentation. The survey also confirmed previous results pointing to the lasting differences in socioeconomic status in terms of adoption of the app. This is problematic because the long-term nature of the pandemic could require the government to keep a range of strategies open, including contact tracing. Public discussion of the current and future roles of the French contact tracing app is therefore needed.

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## **Introduction**

The spread of new SARS-CoV-2 variants, especially Omicron, is a serious challenge for the current vaccine strategy, and calls for complementary public health measures. Contact tracing offered the promise of a micro-level management of virus transmission (1) . Different types of contact tracing apps have been implemented in numerous Europe countries since the beginning of the COVID-19 pandemic (2) . In some countries, the use of contact tracing apps is based on voluntary adoption and is consequently largely dependent on communication by the government. Among them, the case of France stands out since the governmental strategy focused on vaccination and largely abandoned the communication regarding contact tracing while continuing to maintain the apps. After its announcement in 2020 (3) followed by an initial failure in uptake, the French contact tracing app saw both its development strategy and its name change (from StopCovid to TousAntiCovid). Although described as an historical success by a spokesperson for the French government, the app had almost disappeared from public communications by the end of 2020 before returning with the introduction of the COVID-19 health pass in the summer of 2021 (4). Adding to its contact tracing function, the new version of the app can store multiple QR codes (for proof of negative tests, of vaccination, and of recovery) and was *“enhanced by access to factual information and health information on the pandemic”* (5). In early December 2021, it was decided to extend app support until 31 July 2022. Due to the fast-paced evolution of the pandemic, there is a need of an updated picture of these apps’

current use, especially regarding prior results that pointed out the relation with the political management of the pandemic (6) .

## **Methodology**

In early December 2021 we conducted a survey on a representative sample of the adult French general population (N=2022). We asked questions on the use of the TousAntiCovid app (“Have you ever downloaded a contact tracing app as TousAntiCovid during this pandemic ?”; response options: “Yes, and I use it with Bluetooth for contact tracing”; “Yes, but I only use it to store my health pass”; “Yes, but I removed it”, “No, I have never downloaded it”) as well as respondents’ intention to vaccinate against COVID-19. We also asked questions about political engagement and trust in institutions, two factors which appear to have had strong effects on health behaviors during the present pandemic. Indicator of trust was calculated with dichotomizing 10 questions regarding trust in various institutions with 0 if respondents expressed trust, summing it and calculating quartiles.

## **Results**

We found that a small majority of respondents used TousAntiCovid (55.5%) while 41.0% had never downloaded it (**Table 1**). Furthermore, only one quarter of the respondents (23.3%) used it for contact tracing with Bluetooth, while a third (32.2%) only used it for storing their health pass.

**Table 1.** Use of TousAntiCovid according to respondents’ characteristics (N=2022).

The app’s use increased with education level, income and younger age. Using it for contact tracing ranged from 19% of the low income respondents to 32% for high income ones. Also to note, 40% and 39% of younger respondents and persons with a third-level education qualification only used it to store their health pass, respectively.

Above all, our survey shows that the use of contact tracing apps cannot be isolated from the rest of the current pandemic management policy. A large majority (85%) of non-vaccinated respondents had never downloaded TousAntiCovid. Moreover, political orientation had a tremendous influence; specifically, 72% of respondents who felt close to parties at the center of the political spectrum reported using the app compared to 46% and 49% of respondents close to the far right and far left, respectively. Furthermore, only a quarter (26%) of respondents with a great deal of trust in institutions and science had not downloaded TousAntiCovid.

## **Discussion**

Contact tracing appears to have efficacy in the fight against the COVID-19 pandemic (7) , yet more evaluation is needed for contact tracing app (8) , especially for countries which chose a voluntary-based adoption. Moreover, there is a need to take into account the broader picture of pandemic management, since trust in the government is a strong predictor of its uses (6) , as it is for attitudes towards vaccination and the health pass (4) .

Our results suggest that the role and use of France's official COVID-19 app TousAntiCovid has evolved in line with the government's strategy; while initially focusing on contact tracing, its development has led to the possibility to store test and vaccination documentation. The survey also confirmed previous results pointing to the lasting differences in socioeconomic status in terms of adoption of the app (3) .

This shift can be interpreted in two contrasting ways: as a failure of the 'nearly forgotten' contact tracing strategy or as an innovative way to develop the app's capabilities in order to change its use and possibly its usefulness. The app's failure is reflected in the very small proportion of the French population using it for its contact tracing feature. The probable main reason for this is the lack of communication from the government, which is now focusing all its efforts on vaccination. This is problematic because the long-term nature of the pandemic

will require the government to keep a range of strategies open. Public discussion of the current and future roles of the French contact tracing app is therefore needed (9).

In terms of innovation, the current uses of TousAntiCovid provide a perspective of what the app is evolving into: a dedicated management tool for storing documents and a source of access to public health content. This evolution suggests the possibility of creating a new channel of communication between health authorities and citizens regarding changes in the pandemic and related health protocols and policies. However,, one of the strongest arguments against their use is the concern over their technical limitations and the risk of data security breaches (10) . For this reason, any transformation of digital devices for public health purposes requires vigilance, as new functions tend to create flaws in security and concerns about data privacy, which in turn can erode general public trust and the perceived legitimacy of communicated information.

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Variable	Modality	1-Yes, and I use it for contact tracing	2-Yes, but I only use it to store my health pass	No, I have never downloaded it	Yes, but I removed it	Proportion
Gender (**)	Man	253.9 (26.4%)	318.8 (33.1%)	359.2 (37.3%)	30.6 (3.2%)	46.1%
	Woman	216.6 (20.4%)	333.0 (31.4%)	472.9 (44.6%)	37.0 (3.5%)	53.9%
Age (years) (***)	18-34	79.0 (15.7%)	205.2 (40.7%)	196.5 (39.0%)	23.3 (4.6%)	25.0%
	35-49	113.1 (23.2%)	158.2 (32.4%)	193.1 (39.6%)	23.2 (4.8%)	22.3%
	50-64	127.2 (25.8%)	148.7 (30.2%)	207.2 (42.0%)	9.8 (2.0%)	25.2%
	65+	151.1 (28.1%)	139.7 (26.0%)	235.3 (43.8%)	11.4 (2.1%)	27.4%
Level of education (***)	lower than USS certificate	243.7 (23.4%)	283.7 (27.2%)	482.3 (46.3%)	32.4 (3.1%)	51.3%
	USS certificate	49.0 (27.7%)	52.3 (29.6%)	65.9 (37.3%)	9.5 (5.4%)	8.6%
	higher than USS	177.8 (22.1%)	315.8 (39.3%)	283.9 (35.3%)	25.8 (3.2%)	40.1%
Monthly income (***)	0-1000€	36.4 (19.2%)	48.3 (25.5%)	92.3 (48.8%)	12.1 (6.4%)	8.8%
	1000-2000€	104.2 (18.8%)	159.9 (28.9%)	265.1 (47.9%)	24.8 (4.5%)	27.6%
	2000-4000€	200.2 (25.3%)	292.4 (36.9%)	282.0 (35.6%)	18.1 (2.3%)	39.7%
	4000€ and over	80.4 (32.3%)	84.5 (33.9%)	78.3 (31.4%)	6.1 (2.4%)	12.3%
	NA	49.3 (20.8%)	66.7 (28.2%)	114.4 (48.3%)	6.4 (2.7%)	11.6%
Indicator of general trust (***)	Q1 - Low	80.8 (12.8%)	156.4 (24.8%)	363.7 (57.7%)	29.6 (4.7%)	31.1%
	Q2	97.9 (19.6%)	166.7 (33.4%)	213.5 (42.8%)	20.5 (4.1%)	24.8%
	Q3	121.0 (29.4%)	150.5 (36.5%)	127.6 (31.0%)	13.1 (3.2%)	20.4%
	Q4 - High	170.8 (35.5%)	178.1 (37.1%)	127.3 (26.5%)	4.4 (0.9%)	23.6%
Vaccin status (***)	Already vaccinated or in favor	467.9 (25.8%)	637.3 (35.2%)	652.7 (36.0%)	52.9 (2.9%)	89.8%
	Not vaccinated and against vaccination	2.6 (1.2%)	14.5 (6.9%)	179.4 (84.9%)	14.7 (7.0%)	10.2%
Political orientation (***)	Center	110.9 (40.0%)	88.2 (31.8%)	75.1 (27.1%)	3.3 (1.2%)	13.7%
	None	10.8 (17.5%)	27.5 (44.6%)	22.1 (35.9%)	1.2 (1.9%)	3.0%
	Left	89.0 (28.7%)	99.6 (32.1%)	116.9 (37.7%)	4.8 (1.5%)	15.5%
	Right	59.7 (27.3%)	75.7 (34.6%)	77.7 (35.5%)	5.9 (2.7%)	10.9%
	Far left	52.1 (21.0%)	69.3 (28.0%)	105.9 (42.7%)	20.5 (8.3%)	11.7%
	Far right	52.1 (17.8%)	82.6 (28.2%)	150.6 (51.5%)	7.3 (2.5%)	14.7%
	Other	95.8 (15.6%)	208.9 (34.1%)	283.8 (46.3%)	24.6 (4.0%)	30.4%
Total		470.5 (23.3%)	651.8 (32.2%)	832.1 (41.2%)	67.6 (3.3%)	2022 (100%)

Table 1. Use of TousAntiCovid app according to respondents' characteristics (N=2022).  
*Percentage per line, e.g. 26.5% of the men downloaded the app and use it for contact tracing.*  
*Statistical signicativity of two-sided  $\chi^2$  tests : (\*\*\*) ,  $p < 0.001$  ; (\*\*),  $p < 0.005$ ; (\*),  $p < 0.01$*   
*Absolute counts are expressed with a decimal because of the weighting procedure used.*  
*Acronyms : USS, upper secondary school; NA, not answered; Q, Quartile.*