ASPHER Statement – Contact Tracing Apps

Several European countries that had their coronavirus outbreaks under control have lifted restrictions. However, many are now beginning to see a rise in cases again. To avoid the re-imposition of lockdown measures, complementary strategies need to be considered for this novel situation where people have to "live with the pandemic" amid the absence of pharmacological solutions. As part of a comprehensive set of contact tracing procedures, contact tracing apps are a promising option to help to break the chain of infection by electronically contributing to identify and notify individuals who may have been exposed to the infection.

Cross-Country Overview

Across the European region, many countries have developed and launched contact tracing apps. The vast majority of these apps is based on proximity tracing using Bluetooth Low Energy (BLE) signals. Some use BLE jointly with other technologies such as GPS to increase precision and only few countries solely use GPS. A decentralised approach far outnumbers a centralised approach. Few apps allow for the user's contact details to be transferred to public health authorities, with their consent. Apps have very similar approaches but differ vastly in execution and infrastructure. In most countries, the ministry of health or national public health agency administers an app that was developed by private companies or public research institutions. To ensure transparency, most countries have made the app source code publicly available. Many countries have sunset clauses in place to ensure that their contact tracing apps do not outlive the effort against COVID-19. Lastly, a general consensus has emerged to keep these apps on a voluntary basis.

Integration of Contact Tracing Apps into existing Public Health Structures

Contact tracing apps make no sense in isolation and need to be integrated into existing public health structures for contact tracing and laboratory testing.

Manual contact tracing remains essential to epidemic control, with contact tracers using highly specialized analytical and interpersonal skills to identify contacts. However, COVID-19 poses new challenges with a potentially high reproductive rate outpacing manual efforts. The virus continues to spread amid delays between confirming a case and manually finding a person's contacts. These delays can be reduced with a contact tracing app.

Apps can reduce the workload of contact tracers giving them the opportunity to continue with the manual identification of contacts with high-risk exposure, such as family members and friends. It is important that they are personally informed about reporting symptoms early and how to reduce their risk of passing on the virus.

Apps can also be used to bridge memory gaps, as they capture all encounters that pose a risk of infection. They particularly helpful to trace community transmission and for the

notification of contacts with a low-risk exposure, such as other passengers on public transport. For app-notified contacts, phone hotlines staffed with well-trained health workers are needed to provide education, information, and support to understand and manage risk.

Apps will not achieve full coverage of the population, in particular key populations (such as the elderly) or groups not willing to download it. Manual contact tracing is essential for these gaps. Thus, if manual contact tracing and apps are used in tandem, the contact tracing process can be vastly improved. This tandem can only be effective if it is linked to laboratory testing for the virus and management of positive cases (isolation and surveillance of symptoms). Apps can also contribute to raise awareness.

Strengths and Limitations of Contact Tracing Apps

The forte of contact tracing apps is speed and scalability. These apps act automatically, thus enabling fast contact tracing that is not bound by a high reproductive rate. Additionally, they can quickly be scaled up because they are using technologies that most people carry with them on their smartphones. This also makes them a cost-effective contribution.

Their parameters for proximity and duration can be modified to be highly sensitive, allowing them to capture most significant encounters. Using such apps could be crucial for lifting lockdown measures and enabling a return to normal life. Even if there is a low uptake of the app, it can contribute to lowering the reproductive rate as part of broad strategy of preventive measures and contact tracing.

Nevertheless, contact tracing apps have significant limitations. The most common is the risk for individual privacy. If personal data is not sufficiently protected by privacy-preserving technologies, people may feel discouraged to download it, which reduces their effectiveness. However, strict privacy-preservation has an epidemiological cost. It impedes the collection of data that could be used to understand the virus dynamics and leaves health authorities with limited insight into population-aspects, such as hot-spots or the rate of spread. The potential lack of precision associated with their high sensitivity or technological obstacles entails a cost of false positive identifications.

Also, the choice of different tools and technologies in different countries in Europe will also create difficulties for tracing persons travelling from one country to the other, especially in border areas. Thus, ASPHER welcomes the initiative by the European Commission to establish a Pan-European approach for the interoperability of national apps.

Lastly, if apps are used to open up countries, they could lead to discrimination if considered a requirement to participate in certain activities. Additionally, the current hype has the potential to divert attention away from other crucial activities, such as general hygiene measures and testing.

To summarize, a series of trade-offs must be made when employing contact tracing apps for COVID-19. Their strengths and weaknesses must be balanced in their design to resolve the tension between individual rights and efficiency.

Blueprint of a good Contact Tracing App

Having reviewed the current evidence, Bluetooth Low Energy-based proximity tracing with publicly available source codes appears to be the best choice. It offers more precise results while allowing stronger privacy protection than GPS-based location tracking.

However, apps need to be highly regulated to ensure that they are not misused and should adhere to the highest privacy standards of the General Data Protection Regulation of the EU.

To ensure this, privacy-preserving decentralized approaches, such as DP-3T, should be recommended for high public trust and participation rate. The objective of these apps should be to find at-risk individuals– richer population-health data can be collected through other means involved in the general process of epidemiological surveillance.

Finally, a Health Education approach should be promoted to explain to all groups and communities why a contact tracing strategy is so important to fight this epidemic and the advantages and limits of apps.