Mobile applications to support contact tracing in the EU's fight against COVID-19

Progress reporting June 2020

Background

- In follow-up of the Commission Recommendation C(2020)2296 of 8 April, the eHealth Network adopted on 15 April 2020 the "Common EU Toolbox for Member States on Mobile applications to support contact tracing in the EU's fight against COVID-19". The Recommendation and the Toolbox are complemented by the Commission's Guidance on privacy and data protection aspects of contact tracing and warning apps, adopted on 16 April 2020.

- Since 25 March 2020, the eHealth Network has held more than 30 meetings (including weekly meetings on COVID-19 coordination actions, and subgroup meeting, with the aim to implement the toolbox.

Objective and structure

- The Member States reported end of May on the progress made in the further development and implementation of the "Common EU Toolbox for Member States on Mobile applications to support contact tracing in the EU's fight against COVID-19". Member States filled in a survey provided by the Commission.

- The main findings from the survey and an update on the implementation of Commission Recommendation C(2020)2296 are summarised in this presentation. A full progress report is planned.

- Part I summarises the Member States' progress made on the common EU approach to mobile contact tracing applications as reported in the survey.

- Part II gives an overview of the progress made towards implementing the common approach across the EU to the use of mobile tracing and warning apps, as well as other EU actions.

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Survey results / reporting from Member States

Part I

List of ongoing European initiatives

Country	National contact tracing app	Release (2020)	Centralised / decentralised	Voluntary to install	Sunset clause
Austria	Yes	25 March	Decentralised	Yes	Yes
Belgium	Yes	TBD	Decentralised	Yes	Yes
Bulgaria					
Croatia	Yes	July	Decentralised	Yes	Yes
Cyprus					
Czechia	Yes	4 April	Decentralised	Yes	Yes
Denmark	Yes	18 June	Decentralised	Yes	Yes
Estonia	Yes	23 June	Decentralised	Yes	Yes
Finland	Yes	31 August	Decentralised	Yes	Yes
France	Yes	Beginning of June	Centralised	Yes	Yes
Germany	Yes	Mid-June	Decentralised	Yes	Yes
Greece					
Hungary	Yes	13 May	Centralised	Yes	Yes
Ireland	Yes	June	Decentralised	Yes	Yes
Italy	Yes	1 June	Decentralised	Yes	Yes
Latvia					
Lithuania	Yes	July	Decentralised	Yes	Yes
Luxembourg	No	N/A	N/A	N/A	N/A
Malta	Yes	TBD	Decentralised	Yes	Yes
Netherlands					
Norway	Yes	16 April	Centralised	Yes	Yes
Poland	Yes	20 April	Decentralised	Yes	Yes
Portugal	Yes	TBD	Decentralised	Yes	Yes
Romania					
Slovak Republic	Yes	TBD	Centralised	Yes	No
Slovenia					
Spain	Yes	TBD	Decentralised	Yes	Yes
Sweden	No	N/A	N/A	N/A	N/A

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General / Member State state of play

- Many Member States of the EU and the EEA have implemented or plan to implement **voluntary and temporary mobile apps that support contact tracing** as part of public health strategies to combat the COVID-19 pandemic. Additionally, many Member States (ES, LT, DK, DE, HU, HR, IT, FR, MT, PL, PT, SK) have implemented or plan to **implement other mobile applications** such as symptom checkers.

- While most countries' contact tracing apps have been released, others are planned to be released within the coming months. Still, it is **too early to evaluate the apps' uptake** in Member States' population as well as the effectiveness of the apps in support of MS contact tracing strategies to contain and reverse the spread of COVID-19.

- Many Member States report that the contact tracing app was/is being developed in collaboration between public health agencies and IT companies. For about **two thirds of the national apps** (ES, IE, DE, CZ, IT, FR, MT, EE, PL, PT, AT), **the source code and technical specifications are made public** on platforms such as github.com. The different apps are available on the operating systems iOS and Android.

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Architectural models and interoperability of national contact tracing app

- Most of the Member States followed publicly available protocols while developing an approach for their national contact tracing mobile application. Most of the Member States implementing a **decentralised protocol** followed DP-3T and the Exposure Notification API by Google and Apple . Member States that opted for a centralised approach used the public protocol ROBERT or another specific protocol.

- Member States reported on 31 May 2020 that **currently the mobile apps are not yet interoperable** (not able to work with different apps). However, the majority of the Member States considers **interoperability as a top priority** and supports the eHealth Network role in designing interoperability elements and specifications

- Most Member States are not considering to use contact tracing applications for epidemiological purposes.

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Independent technical reviews and safeguards

- Most countries reported that they had conducted independent technical reviews on the code before releasing the app, had assessed cybersecurity risks and had in place a plan for incident management and vulnerabilities.

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Legislation

- Only 2 Member States reported having **adopted a specific legislation** for the launch of the mobile applications (IT, NO). Several Member States were in the **process of adopting** specific legislation (DK, FR) or amending existing legislation (EE, FI). SK and MT indicated that a specific legislation was under consideration.

- **10 Member States reported not having a specific legislation** for the launch of the mobile applications (CZ, DE, ES, HU, HR, HU, IE, LT, PL, PT). Some of them consider that such a specific legislation is **not necessary because the app is based on the consent** of individuals fulfilling the GDPR requirements (DE, IE, LT), while others indicate that existing national legislation is sufficient to cover the processing in the mobile applications (HR, PL, PT).

- The main reasons given by Member States for adopting legislation relate to the **necessity to provide a legal basis for processing data** in the mobile applications and to clarify the processing of personal data in the mobile applications, as well as to allow public authorities to offer a mobile application.

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Lessons learned

- There are several **reported challenges to the implementation of contact tracing apps** such as ensuring a broad public acceptance and therewith a wide usage, interoperability due to differing approaches for tracing apps and legislation issues, and finding the right balance between security, user privacy, usability and public perception.

- Other hurdles are of technical nature since the app will be dependent on the two operating systems for mobile phones (iOS, Google's Android) provided by US-based corporations (Apple/Alphabet) which leads to questions of technological sovereignty.

- The **reported key factors for a functioning tracing app** are: Public trust, the app offered in a voluntary manner, a combination of symptom-checking and exposure notification, as well as inclusion of relevant experts (health professionals) who need to be aware of the tool's existence and know how to interpret results.

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Overview of the progress made towards implementing the common approach across the EU and other EU actions

Part II

Interoperability framework

- Interoperability aspects are considered in the **Guidelines on interoperability of approved contact tracing apps** delivered by the Member States with the support of the Commission on 13 May.

- On 16 June, Member States, with the support of the Commission, agreed on a set of **technical specifications** to ensure a safe exchange of information between national contact tracing apps based, as a first stage, on a decentralised architecture. Once the technical solution is deployed, such national apps will work seamlessly when users travel to another participating Member State.

- To support further streamlining of the system**, the Commission will set up a gateway service**, an interface to efficiently receive and pass on relevant information between national contact tracing apps and servers.

- **The Commission continues to support the work of Member States on extending interoperability also to centralised tracing apps**.

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Engagement with owners of the mobile operating systems

- In April Apple and Google announced their intention to release Application Programming Interfaces, or an 'Exposure Notification system', to support apps that adopt the decentralised architecture that was one of the approaches envisaged in the Common Toolbox. These APIs were released on 22 May.

- Separate discussions have taken place at a technical level between individual Member States and the Commission with Google and Apple to ensure that the interoperability solution developed by the eHealth Network would be compatible with the APIs.

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Cybersecurity

- An extraordinary meeting of the NIS Cooperation Group was held on 5 May 2020 where Member States' cybersecurity authorities had the opportunity to exchange views on their plans as regards national cybersecurity measures to ensure a secure roll-out of COVID applications.

- The particular issue of cybersecurity requirements and testing of the COVID applications was discussed at the European Cybersecurity Certification Group meeting that took place on 20 May 2020 and ENISA in cooperation with the Commission's DG DIGIT provided further guidance

- The CSIRTs network and ENISA have provided weekly reports on the state of play as regards cybersecurity incidents and threats throughout this period. These reports combine information from all EU member states including open sources and are disseminated to relevant stakeholders including the EU crisis management mechanisms.

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Explore cutting-edge and privacy enhancing technical solutions (1/2)

- In April 2020, the EC launched a procurement for the establishment, maintenance and operation of a collaboration environment for supporting the technical assessment of technologies proposed to fight COVID-19 in terms of their effectiveness, security, privacy, accessibility and interoperability and alignment with the EU toolbox. As a result of this procurement, a technical review facility (reviewfacility.eu) was set up in May 2020.

- The review facility is a collaborative environment, which aims to stimulate communities' expertise to quickly and transparently analyse technologies involved in the fight against COVID-19, first and foremost mobile applications for contact tracing and warning.

  - It is primarily based on expert assessment of the source code of the technologies under review and will provide recommendations for improvement or remediation.

  - In addition, the tech review facility will provide monitoring and mapping of relevant technology developments, as well as on-demand community advice and support to the teams in charge of the development and the implementation of the technologies.

- A number of contact tracing apps, technologies and protocols are currently under review, with first results to be published in July 2020.

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Explore cutting-edge and privacy enhancing technical solutions (2/2)

- In March 2020, the [European mHealth Innovation and Knowledge Hub](mHealth Hub) (mHealth Hub) started the creation of the **COVID-19 apps repository** which is constantly evolving and gets updated with public, private and community based initiatives in using mobile apps to fight the pandemic.

- The mHealth Hub is producing a set of Knowledge Tools to provide guidance to countries for implementation of mobile health programs. In July 2020 a 'Catalogue of app assessment frameworks and repositories in Europe' will be published to guide MS in the process of 'Evaluation and accreditation of national apps'.

- Next the mHealth Hub will provide methodological guidance for MS on monitoring the effectiveness of the contact tracing apps and setting-up setting up/updating national monitoring systems (including effectiveness KPIs).
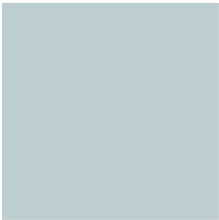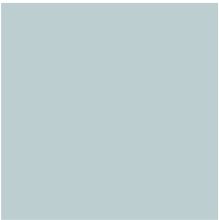
Assessing apps effectiveness: KPI examples

Impact
- False +/-ives
- Asymptomatic carriers identified
- X-border cases

Performance
- #downloads
- UX metrics
- User reviews

Engagement
- Daily active users
- Churn
- Retention

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Use of mobility data to inform COVID-19 measures and exit strategy

- Member States are working on a common approach for modelling and predicting the evolution of the COVID-19 pandemic through anonymised and aggregated mobility data.

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Thank you

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