



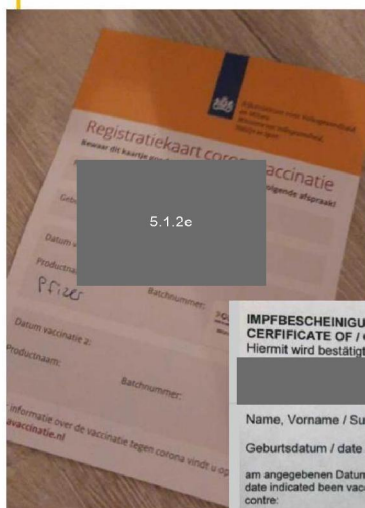
WAY FORWARD FOR CROSS-BORDER VERIFIABLE COVID-19 VACCINATION CERTIFICATES



2021-02-18

Background

- On 10-11 December, the European Council called for a coordinated approach to vaccination certificates. On 21 January, the European Council agreed to work on a standardised and interoperable form of proof of vaccination for medical purposes.
- There is an overall consensus on the use of such certificates for medical purposes (continuity of care, e.g. to ensure proper follow up between 1st and 2nd dose). On 21 January, the European Council indicated that leaders would determine at a later stage in what circumstances vaccination certificates could be used.
- On 27 January 2021, the eHealth Network adopted first interoperability elements: a minimum data set and a unique identifier.
 - Guidelines available at https://ec.europa.eu/health/ehealth/covid-19_en
- Further work is being conducted on a trust framework. Collaboration with WHO is instrumental.



IMPF BESCHEINIGUNG gemäß Infektionsschutzgesetz § 22
CERTIFICATE OF / CERTIFICATS DE VACCINATION
 Hiermit wird bestätigt, dass/This is to certify that/Nous certifions

5.1.2e

Name, Vorname / Surname, given name / Nom, prénom

Geburtsdatum / date of birth / né(e) le 5.1.2e

am angegebenen Datum gegen folgende Erkrankung geimpft wurde / has on the date indicated been vaccinated against / a été vacciné(e) à la date indiquée contre:

Datum / Date: 5.1.2e

Bezeichnung des Impfstoffs / Manufacturer and batch of vaccine / Fabricant du vaccin et numéro du lot:
COVID-19 VACCINE
MODERNA LDT:3000 5.1.2e

5.1.2e

Praxisstempel und Unterschrift des Arztes / Signature and stamp of physician / Signature et cachet du médecin

Allgemeine Hinweise:
 Gemäß §22 Abs. 3 Infektionsschutzgesetz (IfSG) weisen wir darauf hin, dass bei ungewöhnlichen Impfreaktionen der impfende Arzt benachrichtigt werden sollte. Er ist, falls der Verdacht einer gesundheitlichen Schädigung besteht die über das übliche Ausmaß einer Impfreaktion hinausgeht, verpflichtet, diesen dem zuständigen Gesundheitsamt namentlich zu melden (§ 6 Abs. 1 Nr. 3 IfSG). Im Falle eines Impfschadens besteht Anspruch auf Entschädigung in entsprechender Anwendung der Vorschriften des Bundesversorgungsgesetzes (§60 Abs. 1 IfSG). Der Antrag ist in der Regel beim zuständigen Versorgungsamt zu stellen (§ 64 Abs. 1 IfSG). Weitere Auskünfte erteilt das zuständige Gesundheitsamt.

PASSPORT OF IMMUNIZATION


Name: 5.1.2e
 Date of birth or Personal Code: 5.1.2e

Disease targeted	Date of vaccination	Brand name of vaccine	Batch number of vaccine	Dose quantity	Dose number	Next booster	Vaccinator
	5.1.2e		5.1.2e	0.5 ml			5.1.2e
	5.1.2e		5.1.2e	0.5 ml			5.1.2e

Composed on: 19.01.2021 14:15:21

Composed by: Tervise ja Heaolu Infosüsteemide Keskus





Certifikát o provedené vakcinaci
Certificate of vaccination

Jméno a příjmení (Name and Surname):
František Očkovaný

Číslo pojistné (Health Insurance number)	Číslo občanského průkazu (ID No.)	Číslo pasu (Passport No.)
740512852	A225961454	45484136
Datum narození / Date of Birth (yyyy-mm-dd): 2000-03-21		

Původce, proti kterému byla vakcinace provedena: (Agent vaccinated against)	SARS-CoV-2 (ICD 11 XN109, SNOMED CT 840533007)		
Typ očkovací látky: Vaccine:	mRNA vakcína proti onemocnění COVID-19 COVID-19 mRNA Vaccine, Severe acute respiratory syndrome coronavirus 2 mRNA only vaccine product (SNOMED CT 1119349007)		
Název produktu: (Name of medicinal product)	Cominaty		
Držitel rozhodnutí o registraci: (Marketing Authorization Holder)	BioNTech Manufacturing GmbH		
Země vakcinace: (Country of vaccination)	CZ	Kód vakcinačního centra: (Vaccination center code)	IČ 2586963 PČZ 111111
Vakcinace ukončena: Vaccination schedule completed:	Ano Yes	Dávka/celkový počet dávek (Number in a series of vaccination/doses)	2/2
Šarže (Batch number)	Dávka(dose) 1/2	B1235742	Dávka(dose) 2/2 D5423452
Vydavatel certifikátu: Certificate issued by:	Ministerstvo zdravotnictví České republiky Ministry of Health of the Czech Republic		
Datum vakcinace: (Date of vaccination YYYY-MM-DD)	2021-12-26	Datum vystavení certifikátu: (Certificate issued YYYY-MM-DD)	2021-12-27


Verze certifikátu (Certificate version) 1.0.0



Certifikát vystavil (Signature)

MUDr. Jan Novák
Nemocnice na Františku
Na Františku 947/6, 110 00 Staré Město,
IČ: 008 79 444

Identifikátor certifikátu (Unique identifier of the certificate):

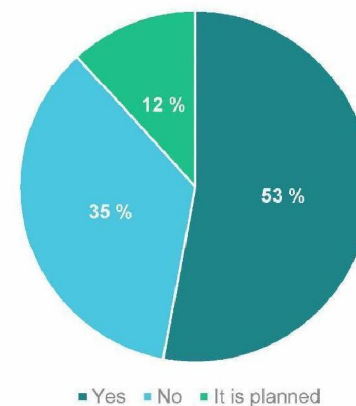


V1-CZ-45-8738-1306-1400-0000-NP-1-0-0

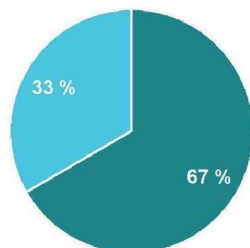
MS are working on and some are issuing vaccination certificates already.

- Both paper and digital solutions are supported

Member States with legislation to cover the issuance of the vaccination certificates

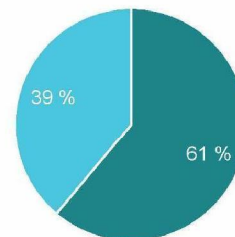


Do Member States issue vaccination certificates/proofs for COVID-19 vaccinated persons?



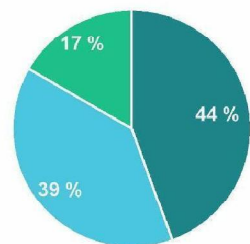
■ Yes ■ No, but it is foreseen

Who receives a vaccination certificate/Proof?



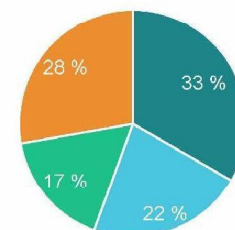
■ Everyone who receives vaccination automatically gets a certificate
 ■ Everyone who requests a vaccination certificate

When will the Vaccination Certificate be issued?



■ Don't know/not decided
 ■ After every dose
 ■ Only after the completion of the vaccination cycle

How will the Vaccination Certificates be issued?



■ Digitally certificates ■ On paper
 ■ Don't know yet ■ Digitally and on paper

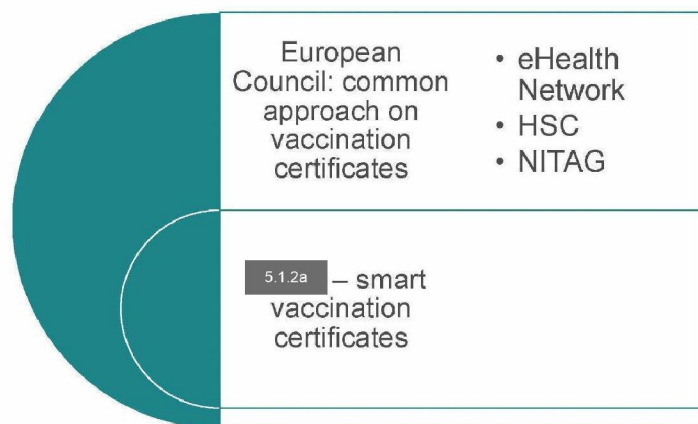


Purposes of use

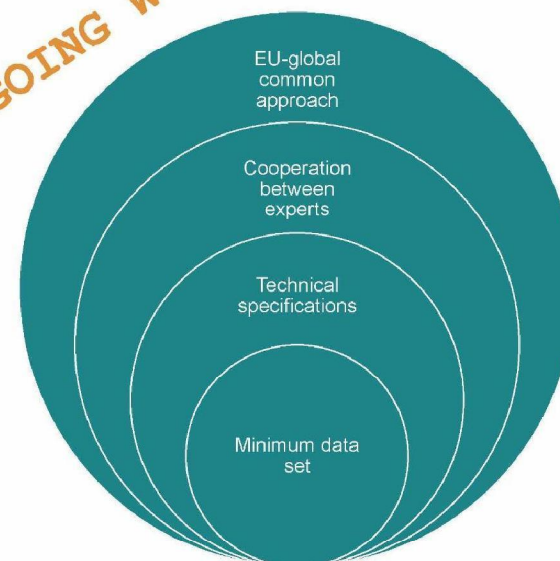
- **Medical purposes (continuity of care) – undisputable**
 - A vaccinated person who has received the first dose in Country A would like to receive the next dose in Country B. The only information available is that on the certificate.
 - A vaccinated person needs to receive information about the date of the next dose.
- **Proof of vaccination – debatable**
 - A vaccinated person presents the vaccination certificate in order to avoid or shorten a quarantine period during or after travel.
 - The organizer of a leisure event provides specific rules to vaccinated persons.
 - Support for proof for people who cannot get vaccinated (due to medical reasons) or cannot receive the next dose should be enabled.
- **Possible extensions – to be aware of**
 - Proofs of negative **test results** – *currently used for preserving free movement*
 - Proofs of a previously contracted **Covid-19 disease** – *used by some MS*

Cooperation with

5.1.2a



ONGOING WORK



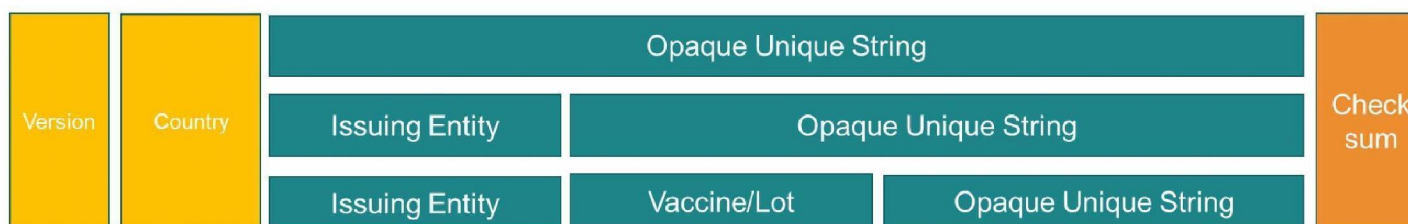
Minimum dataset

Section	Data element	Description	Preferred Code System
Person identification	Person name	The legal name of the vaccinated person	
	*Person identifier (optional, repeatable)	An identifier of the vaccinated person, according to the policies applicable in each country. It should be captured what type of identifier is used. Examples: citizen ID card or identifier within the health system/IIIS/e-registry.	
	Sex (optional)	Administrative gender	
	Person date of birth (conditional)	Vaccinated person's date of birth. Mandatory if no Person Identifier is provided.	Complete date, without time, following the ISO 8601.
*Vaccination / prophylaxis information * means that the whole section may be repeated	Disease or agent targeted (optional)	Disease or agent that the vaccination provides protection against	ICD-10 or SNOMED CT (GPS). In the future ICD-11.
	Vaccine / prophylaxis	Generic description of the vaccine/prophylaxis or its component(s) Example: J07BX03 covid-19 vaccines (temporary code, to be implemented in ATC 2022) 1119349007 COVID-19 mRNA vaccine 1119305005 COVID-19 antigen vaccine	SNOMED CT and ATC Classification (J07 therapeutic subgroup); In the future substances from the ISO IDMP Implementation-EU-SRS system
	Vaccine medicinal product	Medicinal product name Example: COMIRNATY concentrate for dispersion for injection	For the time being, this should be the name of the medicinal product as registered in the country. In the future the information on the medicinal product can incorporate the identifiers from the implementation of the ISO IDMP Standards and the medicinal package's unique identifier
	Marketing Authorization Holder	Marketing Authorisation Holder Example: Pfizer BioNTech	EMA's Organisations System data (SPOR)
	Number in a series of vaccinations / doses	Order in the vaccination course Example: 1/2	
	Batch/lot number (optional)	A distinctive combination of numbers and/or letters which specifically identifies a batch	
	Date of vaccination		Complete date, without time, following ISO 8601
	Administering centre Health Professional identification (optional)	Name/code of administering centre or a health authority responsible for the vaccination event Name or health professional code responsible for administering the vaccine or prophylaxis	
Certificate metadata (minimum dataset)	Certificate issuer	Entity that has issued the certificate (allowing to check the certificate)	
	Certificate Identifier	Unique Identifier of the certificate (UVCI), to be printed (human readable) into the certificate; the unique identifier can be included in the IIS	See next slide
	Certificate valid from (optional)	Certificate valid from (required if known)	Complete date, without time, following ISO 8601
	Certificate valid until (optional)	Certificate valid until (validity can differ from the expected immunisation period)	Complete date, without time, following ISO 8601
	Certificate schema version	Version of this minimum dataset definition - currently set at 1.0.0	Semantic versioning (ISO, https://semver.org/ version 2.0.0 or newer).

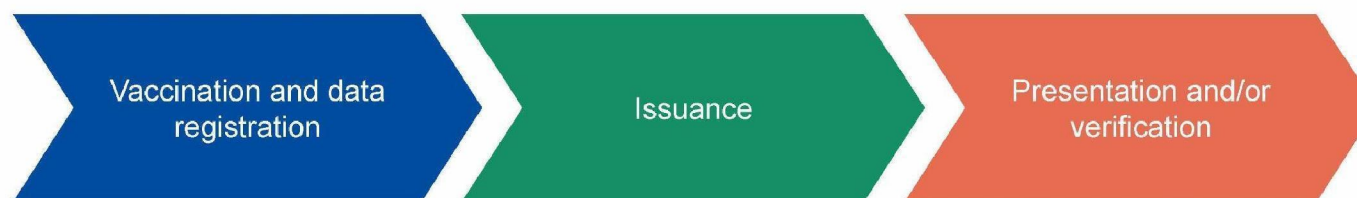
ADOPTED AND
PUBLISHED

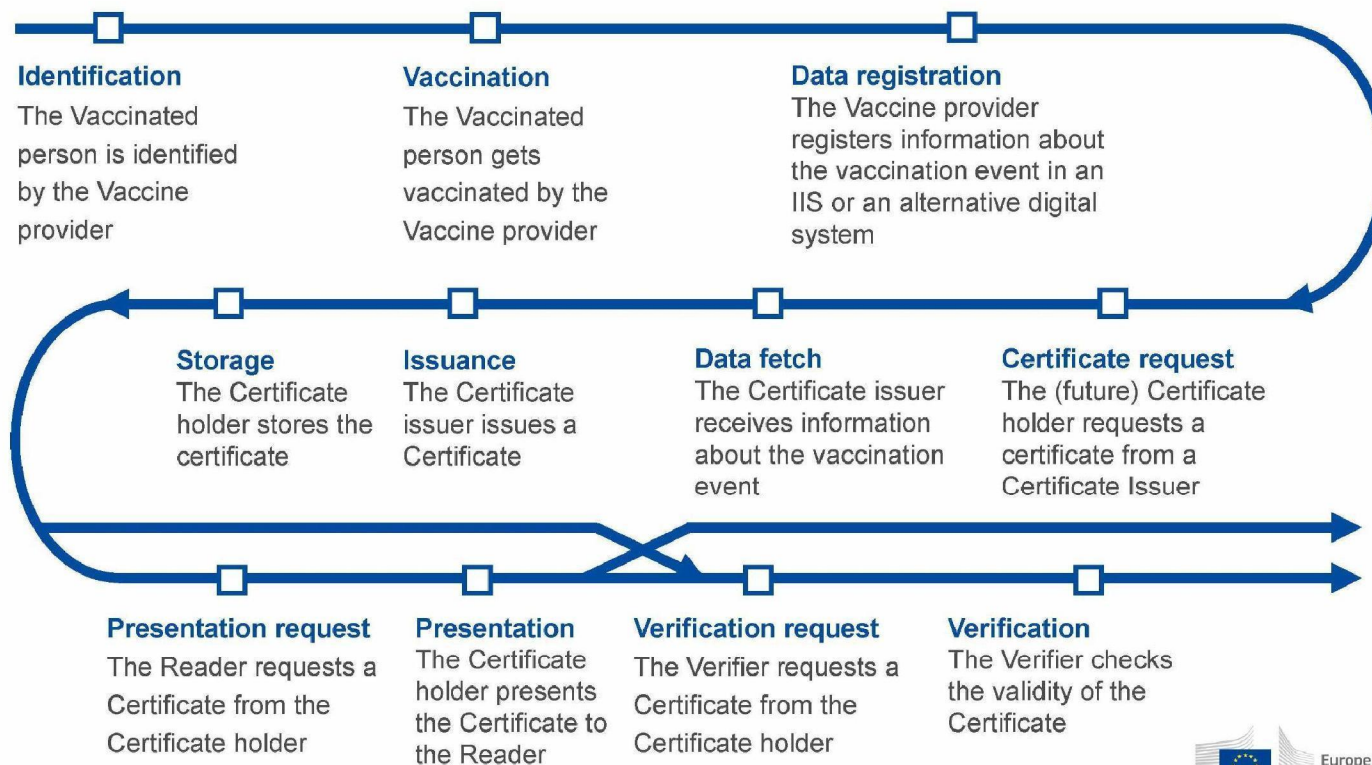
Unique Vaccination Certificate/assertion identifier (UVCI)

ADOPTED AND
PUBLISHED



User story, steps





Trust Framework

ONGOING WORK

The Trust Framework should provide answers to at least the following questions:

- What entities can issue vaccination certificates?
- How can a certificate reader or verifier establish whether a certificate has been issued by a trustworthy entity?
- How can a verifier ascertain whether the data in the certificate is authentic, valid, and sufficient for a given use case, respecting the data minimization principle?
- What kind of infrastructure is needed for supporting the interoperability of vaccination certificates?
- What would be the legal basis for data processing?

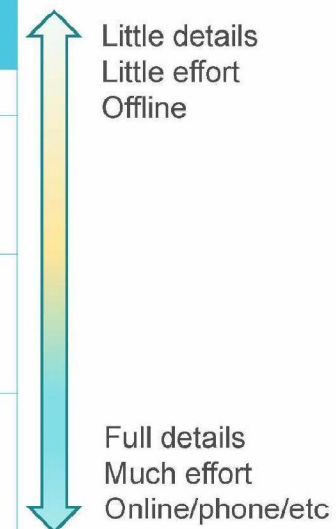
Trust framework: high-level requirements

- Interoperability (cross-border, preferably global, not only EU-wide)
- Data protection (data minimization, purpose limitation etc.)
- Security and privacy by design/default, robustness
- Simplicity & user-friendliness
- Inclusiveness (medium-agnostic)
- Flexibility on implementations
- Modularity and expandability (to accommodate for instance additional use cases)
- Use of open standards (e.g. FHIR, W3C VC etc.)

Data minimization



Might be performed in this order, depending on the law

Verification + sensitivity level	Contents and requirements
None	Visual check only, no verification.
Basic	Only very limited data. Should however enable a basic identity check. Fast. Should work offline.
Standard	Limited data sufficient for most cases. Should enable identity check. Should be reasonably fast. May require online connection.
Full	All data. Used rarely. May be slow. May require additional actions such as contacting the issuer.



A “keep it simple” model

Proof of vaccination
for medical purposes





V1-ME-12345678
ASBCD-56789-44

Name: DOE Joe
Date of Birth: 1987-06-05
Adm. gender: Male
Passport number: PF12345678
National health ID: 050687-987F
Certificate issued: 2021-06-02

Dose 1/2		Dose 2/2	
Type	C19-mRNA	Type	C19-mRNA
Date	2021-02-03	Date	2021-02-24
Brand	Comirnaty	Brand	Comirnaty
MAH	Pfizer Oy	MAH	Pfizer Oy
Batch	AB123CD	Batch	EF456GH
Adm. centre	Hospital 1	Adm. centre	Health centre 2

Country: Middle Earth
Issued by: National health service
Signature: Digitally signed

Online verification: <https://www.npsme.health/c19verify>
Scan to open verification page:  Enter cert. ID and verification code: HFGT-HETS-POZ3-BS12-ABSC

QR code is the same as in “Basic” or “Standard”

ME-telecom

Proof of vaccination



Level: Basic

Name: D*** J***
Date of Birth: **8*.*.*5
Certificate issued: 2021-06-02

Vaccination
Type: C19-mRNA
Date: 2021-02-24

“Quick simple check”

ME-telecom

Proof of vaccination



Level: Standard

Name: Doe Joe
Date of Birth: 1987-06-05
Adm. gender: Male
Passport number: PF12345678
Certificate issued: 2021-06-02

Dose 2/2
Type: C19-mRNA
Date: 2021-02-24
Brand: Comirnaty
MAH: Pfizer Oy

Scroll for more?

“Standard check”

ME-telecom

Proof of vaccination



Level: Full details

Verification details
UVCI: 
V1-ME-12345678ASBCD-56789-44

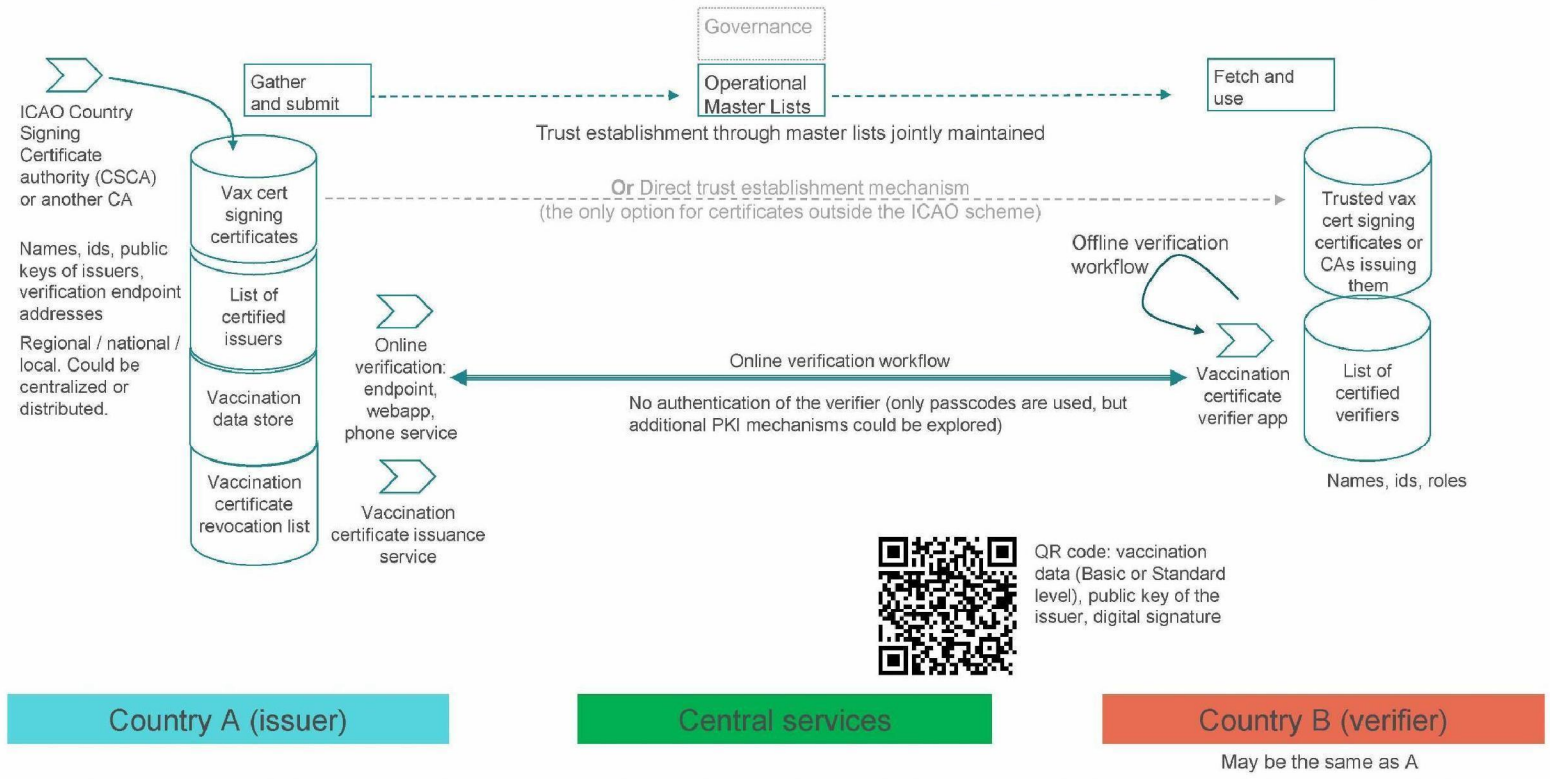
Pass code (valid for 15 mins): 
HFGT-HETS-POZ3-BS12-ABSC

Name: Doe Joe
Date of Birth: 1987-06-05
Adm. gender: Male
Passport number: PF12345678
National health ID: 050687-987F

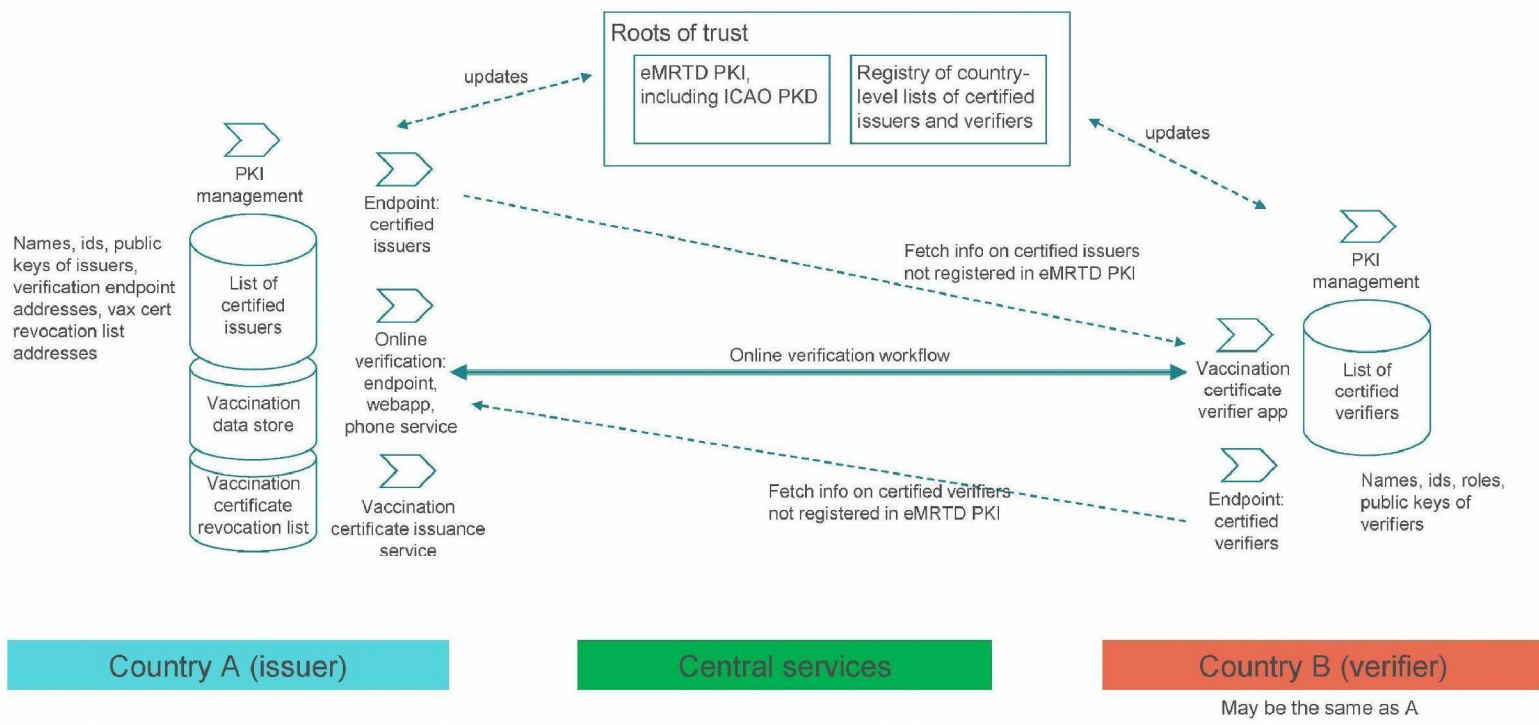
Scroll for more

For authorized and authenticated verifiers only

Overall architecture (option “fully distributed”)



Overall architecture (option “hybrid PKI”)



Next steps

- Discussions in the eHealth Network about the draft Trust Framework
 - Adoption of the document in the form of the eHN guidelines?
- Understanding the legal basis for establishing and operating the system
 - Multiple options under consideration
- Decisions on establishing and operating the infrastructure
- Providing support to national projects

Thank you



© European Union 2021

Unless otherwise noted the reuse of this presentation is authorised under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.

