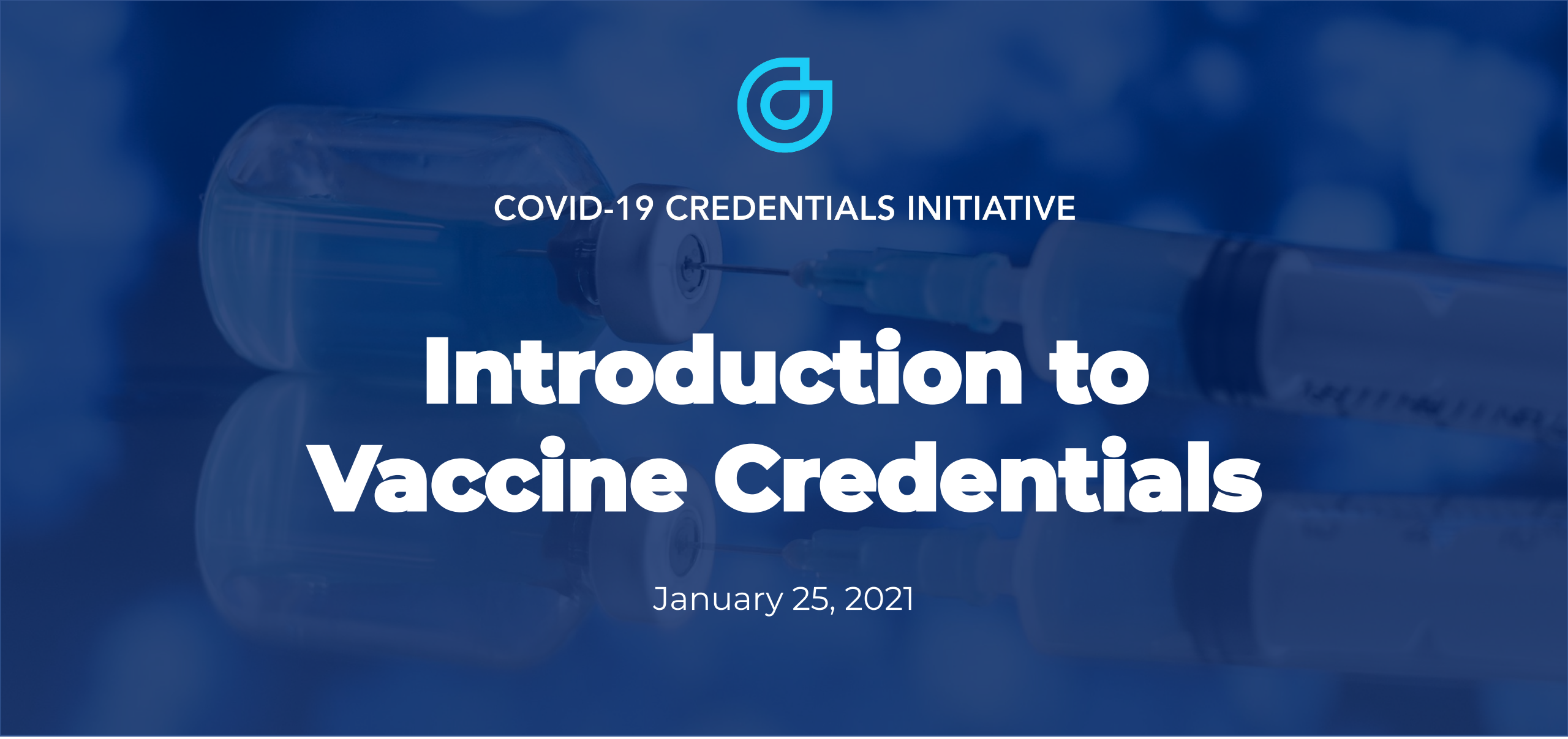

COVID-19 CREDENTIALS INITIATIVE

Introduction to Vaccine Credentials

January 25, 2021

LF PUBLIC HEALTH

COVID-19 CREDENTIALS INITIATIVE

The COVID-19 Credentials Initiative (CCI) is an open global community looking to deploy and help deploy privacy-preserving verifiable credential projects in order to mitigate the spread of COVID-19 and strengthen our societies and economies.

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COVID-19 CREDENTIALS INITIATIVE

CCI joined Linux Foundation Public Health (LFPH) in December 2020 to work together on advancing 1) the use of Verifiable Credentials, and 2) data and technical interoperability of Verifiable Credentials in the public health realm, starting with vaccine records for COVID-19.

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COVID-19 CREDENTIALS INITIATIVE

Lucy Yang
Community Director

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Community Architect

Kaliya Young
Ecosystems Director

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What are Vaccine Credentials?

In CCI/LFPH context, we mean using of an emerging open standard, **Verifiable Credentials**, to present **proof of COVID-19 vaccination**, which can be verified digitally, as an alternative to vaccination record cards.

Why Verifiable Credentials: VCs vs. Paper Credentials

Verifiable Credentials (VCs) have the potential to provide the closest experience to paper credentials while offering additional benefits.

"This is your only legitimate proof of vaccination, so please keep it safe."

"I need to see your photo ID as well"

Why Verifiable Credentials: VCs vs. Paper Credentials

Verifiable Credentials (VCs) have the potential to provide the closest experience to paper credentials while offering additional benefits.

- What if Sarah lost her only card?
- What if Sarah fabricated her card? How was the verifier supposed to know?
- What if Sarah accidentally dropped the card in the water and the text went blurry?
- Did Sarah want the verifier to see all her information on the driver's license and vaccination record card?

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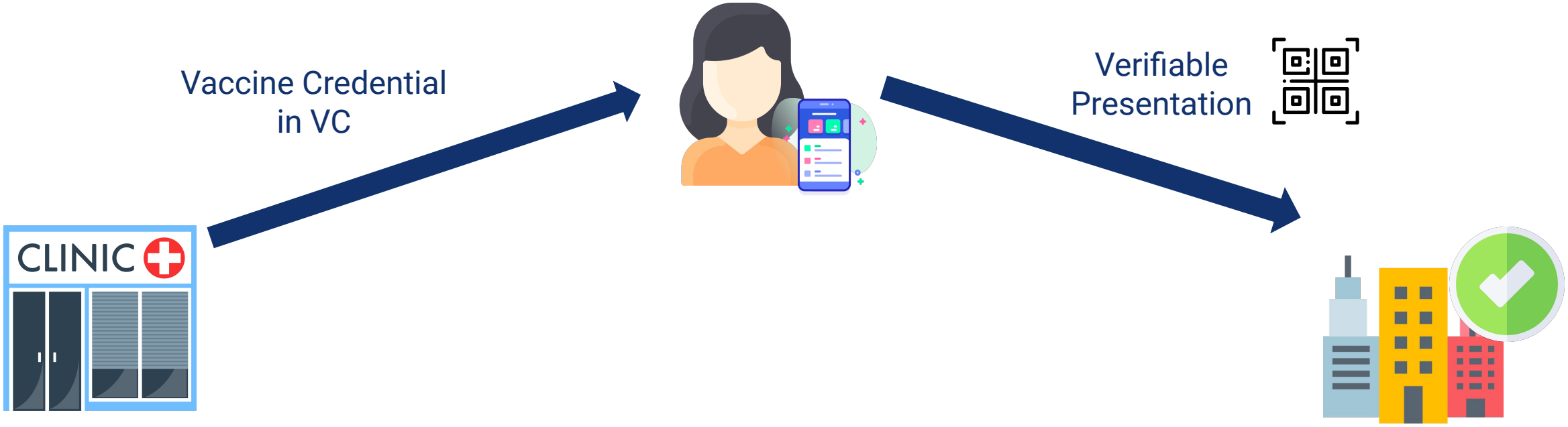

Why Verifiable Credentials: VCs vs. Paper Credentials

Verifiable Credentials (VCs) have the potential to provide the closest experience to paper credentials while offering additional benefits.

- The vaccine credential comes from a place which has the authority to issue it.
- The vaccination actually happened
- The vaccination happened to the person who presents this piece of credential
- The credential hasn’t expired if there is an expiry date

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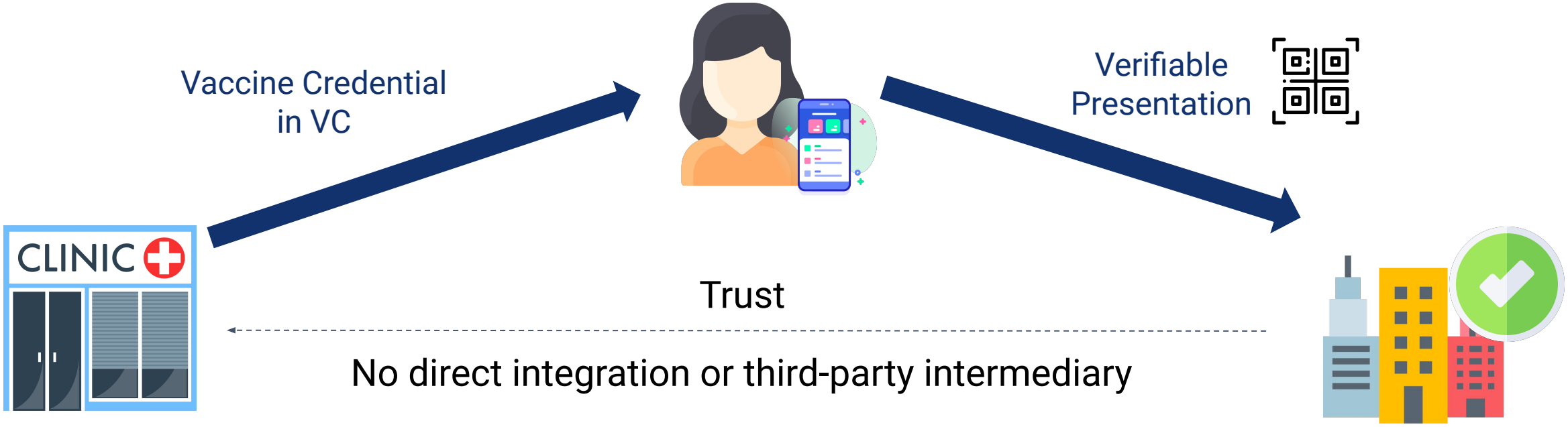

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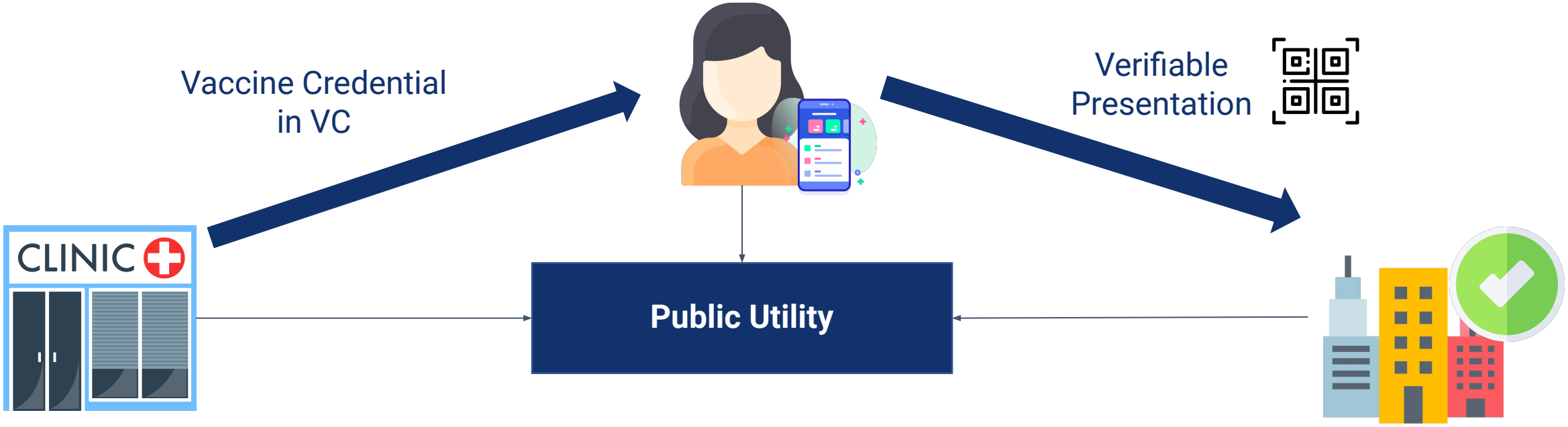


Why Verifiable Credentials: VCs vs. Paper Credentials

Verifiable Credentials (VCs) have the potential to provide the closest experience to paper credentials while offering additional benefits.

User Control	**Tamper-Evident**	**Durability**	**Binding**
Interoperability	**Privacy-Preserving**	**Portability**	**No Single Point of Failure**

Why Verifiable Credentials: VCs vs. Other Digital Alternatives

PDF Document

PDF is easier to store and has more durability, but the key drawback is it is not tamper-evident and not privacy-preserving.

Proprietary Software

Proprietary software that is **not built on open standards** will create silos and monopolies. And it won't meet the interoperability vaccine credential needs.

Network/Platform

Network/Platforms that are **not built on open standards** will create similar silos and won't meet the interoperability need either.

Implementation Challenges

Emerging Standards & Technology

Existing Infrastructure and Workflows

Communications to the Public & Public Trust

Ecosystem Building and Governance

Implementation Challenges

Emerging Standards & Technology

- Vaccine Credential Related Standards
- W3C Verifiable Credentials Data Model
- VC-Related Technical Specifications

Implementation Challenges

Emerging Standards & Technology

Existing Infrastructure and Workflows

- Issuer/Sourcing Information Flow
- Vaccine Record Registries
- Compatibility with Healthcare Systems

Implementation Challenges

The WHAT

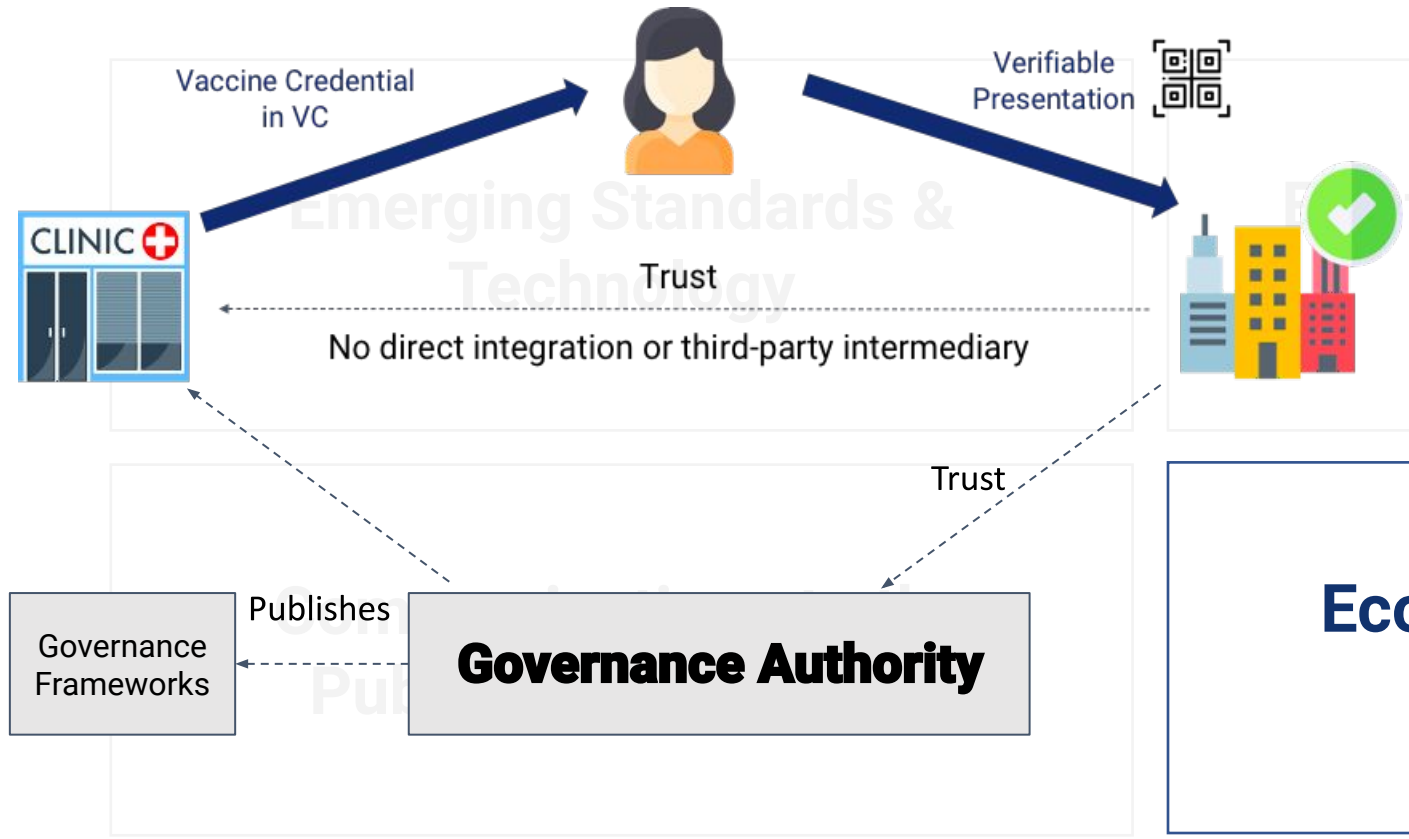
The WHY

The HOW

Communications to the Public & Public Trust

Ecosystem Building and Governance

Implementation & Challenges



- Who define which issuers have the authority to issue vaccine credentials?
- How is Sarah supposed to know if the verifier has the authority to check her credential?
- What if Sarah doesn't have a smartphone?

Ecosystem Building and Governance

CCI/LPFH's Goals and Activities

Communications

Public Health Authorities: Helping them understand the underlying tech, where the standards are going, and what's the minimum-viable way to get something implemented that doesn't create interoperability headaches later.
Commercial Entities: Working with LFPH members and CCI participants towards a list of potential vendors as a start
General Public: Mainstream media (e.g. NBC, CNN Business, CNBC etc.)

Open Standards

Understand existing landscape, align interoperability efforts, and facilitate the development of a common, open stazndard for vaccine credentials.

Open-Source Development

Understand existing landscape, define minimal viable components for open-source development, and develop/repurpose codebases.

Use Case Implementation Workstream

Rules & Governance Workstream

Vaccine Credentials Focus Group (Forming)

CCI/LPFH's Goals and Activities: Open Standards

WHO assembled a panel of experts to work on Smart Vaccination Certificate.

Kaliya Young, our Ecosystems Director, is on two of the three workstreams.

A Unified Verifiable Credentials Data Format

Standardized VC Exchange Protocols

CCI/LPFH's Goals and Activities: Open-Source Development

Basic Issuer App

Universal Wallet

Basic Verifier App

Minimal Viable User Experience for individuals and businesses to start fast, secure and at little to no cost.

Minimal Viable Components for PHAs and business to work with their solution providers to contextualize easily, cost-effectively without interoperability headaches.

CCI/LPFH's Goals and Activities

Use Case Implementation Workstream

This workstream identifies verifiable credentials (VCs) that are most useful to the COVID-19 response and provides a forum and platform for those who are implementing COVID-19 VCs to present their projects/solutions and get community input.

Rules & Governance Workstream

This workstream defines rules and guidelines for general or particular COVID-19 verifiable credential use cases and develops MVP governance frameworks to enable solutions to be deployed at speed.

Vaccine Credentials Focus Group (Forming)

The goal is to start with forming geography-focused subgroups under this group to bring together key stakeholders, especially public health authorities, to identify trusted and scalable ways of rolling out vaccine credentials.

Getting involved

Join CCI Main Group - To receive regular CCI-wide announcements and news

Join a CCI Sub-Group - To receive regular activity notifications and start/join group discussions

- Use Case Implementation Workstream
- Rules & Governance Workstream

Subscribe to Bi-weekly Community Newsletter - To receive high-level CCI updates and related news (Automatic subscription if you join the above groups)

Follow us on Social: Twitter, Linkedin, Medium

Join LFPH Slack: Relevant channels #cci #vaccines #cci-vaccinecredentialsfg-us

COVID-19 CREDENTIALS INITIATIVE

Thank you! Questions?

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