

CCI Summit Summary Report

# From Closed Loop Systems to Open World COVID Credentials Exchange

April 2021

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A year into the pandemic, we are seeing a proliferation of COVID-19 health status apps being discussed, tested, and implemented at various levels to reopen society and the economies. Most of these systems are closed-loop systems creating silos that will ultimately hinder reopening because of a lack of interoperability.

At the COVID Credentials Initiative (CCI), we believe a best-practice technology for COVID-19 health status apps is W3C Verifiable Credentials (VCs), an open, global standard for privacy-protecting credentials. This standard has been adopted by many countries to build their digital infrastructures.

However, certain portions of the W3C VC standard are still evolving, creating challenges to achieving a goal of full interoperability, even among W3C-VC-based solutions. There is also no shortage of apps and systems using non-standard implementations of encryption and data formats for health credentials, posing greater interoperability and privacy concerns as they keep scaling within their own silos.

**This summit, convened by CCI, was designed to begin articulating a roadmap to get from closed loop systems to an open system where it doesn't matter if issuers, holders and verifiers are using the tool provided by the same solution provider as long as all solution providers are building on a certain common ground. The discussion focused on domestic reopening use cases using the US as the context.**

## **Event Designers & Facilitators:**

**Kaliya Young** - Ecosystems Director, COVID-19 Credentials Initiative (CCI). Kaliya, also known as the Identity Woman, co-founded the [Internet Identity Workshop](#) in 2005 and still produces it twice a year. She is a subject matter expert on VCs and a designer and facilitator of interactive events for high performance collaborative technical communities. Kaliya joined CCI since day one and has been leveraging her hyper-connectedness across the identity ecosystem to nurture collaboration for CCI and facilitate interoperability of VCs.

The [COVID-19 Credentials Initiative \(CCI\)](#) is an open global community hosted by [Linux Foundation Public Health \(LFPH\)](#), a Linux Foundation initiative to build, secure, and sustain open-source software to help public health authorities (PHAs) combat COVID-19 and future epidemics.

**Lucy Yang** - Community Director, COVID-19 Credentials Initiative (CCI). Lucy facilitates the formation of strategic directions and leads operations and communications at CCI. She is an entrepreneur and business leader, experienced in taking ventures off the ground and leading operational growth. Lucy launched the mainland China office for her first company and expanded the reach of its entrepreneurship program to four major cities within a year. After that,

Lucy led the operations of a tech startup, ensuring the readiness of necessary infrastructure for a client growth from 30 to 1000 within less than a year. Lucy's journey in the identity space started after she joined a blockchain venture firm where she oversaw business operations. Lucy holds an MBA from University of Toronto and a master's degree in anthropology from China.

## **Participants:**

**Presenting Companies:** We invited eight companies (Bindle, SAFE Health, IBM, Healthvana, RANDA Solutions, Lumedic, ProofMarket and IdRamp) to present. They all have or have done live implementations of COVID credentials or health status closed-loop or semi-open systems in the U.S. for (or intended for) domestic reopening. You can find a summary of their projects and presentations in the [Presented Projects Summary](#) section.

**Exhibiting Companies:** We also invited companies with live implementations outside of the US or about to launch in the U.S. to showcase their work. For their information, you can go to the [Exhibiting Companies](#) section of this report.

**Participating Companies:** The summit was open to all organizations to participate and was attended by around 40 participants on April 15.

## **Format:**

### **Meeting Pre-Work: Before April 15, 2021**

We have asked all presenting companies to prepare and share 10 min materials articulating important aspects of their solution ahead of time so that we can dive right into the questions and discussions with each project at the Virtual Face-to-Face.

### **Virtual Face-to-Face: April 15, 2021**

- Part 1: Opening and Project Presentations. Each project presented by answering the pre-set questions from the organizer and additional questions from the participants. The

project presentations and discussions are summarized in the [Presented Projects Summary](#) section of this report together with the pre-shared materials from each project.

- Part 2: Deeper Dive into Common Themes. Common themes arose during the Project Presentations as we heard the eight companies talk about their implementations and challenges, and have discussions with the participants. We noted down these themes and had an intimate session where we dived deeper into some of them. The themes and relevant discussions are summarized in the [Common Themes](#) section of this report.

### **Follow up: May and June, 2021**

- A Summit Summary Report: To summarize sessions, projects and discussion points.
- Follow-up Sessions: To continue discussions around the common themes and explore potential action steps to address some of them. We will keep the participants and the LFPH:CCI community posted about any follow-up events or discussions.

## **Common Themes:**

This section is a summary of the topics that were touched upon repeatedly or highlighted by implementers for further discussions. Under each theme, we have summarized relevant thoughts and views from the participants. The summary is a mere collection of key discussion points and doesn't represent the views of CCI or Linux Foundation Public Health.

### **Self Attested Credentials**

- Self attested credentials, which are clearly marked unverified, can give those who are not able to get credentials from official sources the capability to prove their COVID health status and participate in activities that require those credentials. The verifiers can decide if they are going to accept self attested credentials or not.
- Self attestation as it relates to home tests. If there is no telemedicine proctor set up, self attestation may be needed.
- Should we expect standards to emerge around self attestation?
- The market interest in self testing is only going to get higher and there is expectation that organizations will accept it. To what extent do we need to standardize self attestation?
- Self attestation already happens at the vaccination sites where people just claim who they are without being checked against their personal ID.

### **Proxy Issuers**

- As smaller players get access to the EHR systems (such as Epic, Cerner), there are the options to pull credentials issued by the big EHR systems or pull data from these systems and issue credentials themselves, which is the preferred model?
- There are the potential opportunities between companies who are already integrated with covid test or vaccination related data to work with verifiable credential solutions who

can provide individuals a way to receive credentialed COVID information and share it in a way that doesn't have to ping a centralized database.

- Labs don't care about signing and issuing the credentials (as long as the results are communicated to their customers) so they want to outsource that.
- There need to be proxy issuers but what would be the criteria for re-issuance/proxy issuers? It is important to define the provenance requirements.
- Data quality is consistently poor. Even if we have proxy issuers who can make corrections of data before issuing, how to reconcile with the original data source will be a challenge.
- There are many use cases outside of COVID that need proxy issuers. Figuring this out for COVID will be valuable for broader use cases.
- Proxy issuers can turn non verifiable credentials into verifiable credentials.

### **Universal Verifiers**

- The credentials or passes should work like credit cards - it doesn't really matter what you are using, Mastercard or Visa, the verifier should be able to read it. The standards need to move towards a unified and ubiquitous solution like the credit card systems which everyone is using.
- There is a universal verifier project that addresses the ability of wallets to understand requests from verifiers. The idea is when the verifier wants a credential, you can determine what type of wallet it is and you give that wallet the language and policy it wants so it understands what the request is. The wallet will return a verifiable presentation in its own language, then the verifier will pass on this to the universal verifier which will return the verified attributes of the holder to the verifier.

### **Demand for Verification Systems or Verifier Apps**

- Many businesses (including some large venue operators) don't want to do the verifications or to become a verifier.
- The use of verification systems are turning into a political issue.
- There will be different ways of doing verifications. The use of verifier apps/systems is probably not as necessary as it has been recently described by the media.
- There are also over-engineered solutions.
- The vendors are hoping that things are coalescing into one or at least only a few systems so that there won't be too many integrations needed.
- Standardized QR codes can be a key to interoperability among these systems.
- The conversations need to shift to why we need this in the first place. Many organizations are fine with self attestation.

### **Private Trust Networks**

- How can private sector companies come/work together to make things work while running a sustainable business when there is no coordinated approach at the federal level in the U.S.?
- Do we need to form a trust network/infrastructure of trusted (proxy) issuers which will allow verifiers to route back transactions to, similar to credit card systems?
- It won't be one trust network but many. The verifiers can choose which ones they will trust.
- It will take a while for COVID use cases to coalesce into one root of trust across the whole world.
- Who can play a role to facilitate the formation of a consortia/network in the US context?
- How to operationalize the standard work at different organizations such as VCI?
- If we don't want to have certain types of credentials which are not privacy-preserving in our ecosystems, what do we need to give to verifiers that they can trust and have been vetted by a rules engine that is compatible with the policies of their jurisdictions? Doesn't seem that there is work going on in this space. The only practical way now seems turning those credentials into the type of credentials that are used by the network.

### **Policy and Rules Engine Layer**

- Trust between jurisdictions enables acceptance of credentials from a different jurisdiction and policy interoperability which is different from technical interoperability but very important as well.
- Policy alignment needs to happen for credentials to be used and accepted across jurisdictions, but the policy discussion is often overlooked.
- There are efforts underway to let the IIS's share data between instances.
- If we don't agree on what a good pass is, even if the data is coming from trusted sources, we are putting the burdens on the verifiers, some of which are small businesses such as caterers. Policy alignment will help shield these verifiers from any underlying medical information.
- There may be room for discussions around having a standardization layer where an entity can play a rules engine layer, which can still shield verifiers from the medical information.
- If there are conversations regarding one attaching themselves to a rules engine.

### **Paths to Interoperability and Test Harness**

- Ideally there is only one technical standard, but if no more than one, we need to keep the number manageable.
- It is important to develop tools that can allow implementers to test and showcase interoperability.
- The end of use of verification systems would be at the point of verification, there will only be a green check and red cross.

- What interoperability means today vs. tomorrow? Need to articulate what we can test today, in a month - needs to be realistic of what is possible now as opposed to what is the ideal state for interoperability.
- Need to narrow down the credential formats used for either verifiable credentials and non verifiable credentials and build testing tools to test interoperability among them.
- What is the method to interoperability? For issuers, there can be a marketplace, like what NY State is doing, to allow multiple players to access data and issue credentials. Consumers have portability among wallets. For verifiers, they can verify any credentials that a consumer is using.
- There are going to be situations that standards won't apply. How are we going to tackle that?
- In addition to a test harness, there will be a need for implementers to collaborate on joint pilot testing.

## Presented Projects Summary:

This section covers information of each presented project with materials provided by themselves and summarized presentation notes and discussion points. Projects marked green validated and confirmed the information before the release of the report.

### **Project 1: Bindle** ([Demo](#), [Company Overview Slides](#), [90 Second Intro Video](#))

Presenter(s): Stew Whitman

Introduction: Bindle is focused on helping small businesses and venues reopen, by allowing patrons to share their health status and moving from a capacity-based to proof-of-health-based public health management model.

<b>Presentation Summary</b>		The company pivoted to COVID credentials in March 2020. The application was built over the summer and released in the app stores in September.
<b>Use Case(s)</b>		Back to work. Early market adoption came from the media and entertainment industry but recently expanded to the catering industry in New York State (NYS).
<b>System Composition</b>	Issuer App/API	Yes, issuer API for some testing labs.
	Holder App	Yes
	Verifier App/API	Yes

<b>COVID Credentials in Use</b>	Types	Test results and vaccination records
	Data Model	W3C Verifiable Credentials with a PDF version attached
	Data Format	JSON-JWT
<b>Main Stakeholders</b>	Data Source(s)	Testing labs and immunization information system (IIS), working with the NYS Excelsior Pass Program to access data
	Issuer(s)	Bindle, as the proxy issuer (for VCs) who signs the credentials that contain data from testing labs and IIS. Also looking at holders issuing unverified self-attested vaccination records for those from outside of NYS and those who have issues.
	Holder(s)	Individuals
	Verifiers(s)	Businesses in the media, entertainment and catering industry.
<b>Implementation Challenges</b>		Coverage of data
<b>If Working With Other Systems</b>		No other than integrations with some testing labs.
<b>Additional Information</b>		<p>Match individual to the data:</p> <ul style="list-style-type: none"> <li>• Bindle does basic demographic match when onboarding individuals: name, address, and date of birth</li> <li>• Mainly depend on the NYS, which has a knowledge-based quiz for each individual.</li> <li>• Low level identity binding</li> </ul>

## Project 2: **SAFE Health** ([Capabilities Deck](#))

Presenter(s): Ken Mayer, Dave Cassel

Introduction: SAFE is a digital health and connected diagnostics platform operated in partnership with Mayo Clinic. The SafePass system brings together vaccination verification and interoperable rapid test credentials credentials to provide a universal COVID-19 status verification solution

<b>Presentation Summary</b>		The main focus of the company is to reduce the cost of low acuity, routine care at population scale, by finding efficiencies and creating ways to apply automation and engage consumers directly in their own care through connected diagnostics.
<b>Use Case(s)</b>		Provide verified test results and vaccination records to individuals and a privacy-protected health status verification
<b>System Composition</b>	Issuer App/API	Yes, integration with labs (such as Quest, LabCorp, Mayo Labs), EHRs, HIEs, Health Kit, and state IIS.
	Holder App	Yes, multi-credential wallet that can read and write different types of credentials
	Verifier App/API	Yes, scanner app with integration plug-ins for access and ticketing systems
<b>COVID Credentials in Use</b>	Types	Test results and vaccination records
	Data Model	W3C Verifiable Credential and others
	Data Format	JSON-JWT for W3C VC
<b>Main Stakeholders</b>	Data Source(s)	Rapid test kits, EHRs, other credential issuers
	Issuer(s)	SAFE, as the proxy issuer (for VCs) who signs the credentials that contain data from the sources
	Holder(s)	Individuals
	Verifiers(s)	Venues, events, etc.
<b>Implementation Challenges</b>		
<b>If Working With Other Systems</b>		Multi-credential wallet that can read and write different types of credentials
<b>Additional Information</b>		Commercial model needs to be sustainable

### Project 3: [IBM Digital Health Pass](#) ([Demo](#), [Tutorial](#))

Presenter(s): Mark Treshock



Introduction: [New York State's Excelsior Pass](#) is built on IBM Digital Health Pass. We have invited Mark who leads the implementation team to present Excelsior Pass and answer questions.

<b>Presentation Summary</b>		NY Excelsior Pass was launched in March 2020 in the app stores available for all New Yorkers and has issued close to 400K credentials (at the time of the Summit). Excelsior Pass is an option but never required.
<b>Use Case(s)</b>		Enable the New York State (NYS) constituents to have access to the data that the state is already collecting on them and could be useful for them. Use it as a part of NYS reopening policy.
<b>System Composition</b>	Issuer App/API	Yes, issuer API that is connected to the NYS databases
	Holder App	Yes
	Verifier App/API	Yes, in both IOS and Android free for anyone. Can only verify Excelsior Pass. The verifier app will show the first name, last name and date of birth of the individual being verified and the verifier needs to check a secondary form of a person's photo ID.
<b>COVID Credentials in Use</b>	Types	Test results (PCR and rapid antigen tests) and vaccination records
	Data Model	W3C Verifiable Credentials
	Data Format	JSON-LD
<b>Main Stakeholders</b>	Data Source(s)	NYS databases/gateway (e.g. vaccination data comes from IIS)
	Issuer(s)	NYS, the only issuer
	Holder(s)	For vaccination records: people vaccinated in NYS and individuals vaccinated elsewhere whose providers manually register the vaccination event in the NYS IIS.
	Verifiers(s)	Businesses in NYS that are using the verifier app
<b>Implementation Challenges</b>		
<b>If Working With Other Systems</b>		There are discussions regarding meaningfully interopating with non-IBM systems.

<b>Additional Information</b>	<p>Already started implementation with another state. The two states will trust each other to issue and verify credentials from each other using the same underlying IBM system.</p> <p>Over 30K verifiers apps were downloaded.</p> <p>Doesn't integrate directly with the state IIS for this performance reason. The data relevant to COVID vaccinations is extracted and put into a staging database which is designed to be transactional in nature.</p>
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**Project 4: Healthvana** ([Demo](#), [Digital Vaccination Records](#))

Presenter(s): Ramin Bastani, Sam Warmuth

Introduction: Healthvana is a leading patient communication platform for Covid-19 in the United States - having delivered over 10m test results and digital vaccination records on behalf of local governments, employers, schools, labs, etc. Our HIPAA-compliant platform delivers information to mobile phones and reduces the workload for our partners.

<b>Presentation Summary</b>		<p>Since 2015, Healthvana has been delivering the most protected information (by way of HIPAA) in the U.S. - HIV information. We've done so with more than 20m HIV-related records with healthcare providers across the U.S. That experience helped us expand into helping with Covid-19 when called up on in April of 2020.</p>
<b>Use Case(s)</b>		<p>Deliver millions of test results (multiple U.S. locations) and digital vaccination records (started with LA county and will likely be expanding to 10 states in the upcoming month) to people for back to work, school, travel, etc. Approximately, over 100,000 ppl on a weekly basis use Healthvana for these purposes.</p>
<b>System Composition</b>	Issuer App/API	Yes
	Holder App	No app to download. For vaccination records, individuals will get a text or email to let them know that they can access their digital record through a web link.
	Verifier App/API	No
<b>COVID Credentials</b>	Types	Test results, vaccination records

<b>in Use</b>	Data Model	Non W3C Verifiable Credential
	Data Format	Bespoke
<b>Main Stakeholders</b>	Data Source(s)	Testing labs and LA county IIS
	Issuer(s)	Testing labs, healthcare providers and LA county IIS
	Holder(s)	Patients/Individuals
	Verifiers(s)	NA
<b>Implementation Challenges</b>		Data is really bad, e.g. wrong date, wrong name.
<b>If Working With Other Systems</b>		Can download digital vaccination records to Apple Wallet. Google Wallet/Pay coming soon. Open to working with other systems.
<b>Additional Information</b>		<p>Many businesses (including some large venue operators) don't want to do the verifications or become a verifier.</p> <p>Not looking into international travel, will focus on the patients/individuals domestically first.</p> <p>97% of people will be able to view their information within a day.</p> <p>Will decide who to integrate with (for interop) and if to develop a verification app based on customer demand.</p> <p>Has a QR code that can be used for verification (although not using it in that way) and direct verifiers to a webpage that has patient/individual information.</p>

**Project 5: [RANDA Solutions](#)** ([Demo](#), [Demo results portal](#))

Presenter(s): Kimberly Linson, Damon Tindall

Introduction: RANDA Solutions Integrated Communications Portal allows health clinics, diagnostic labs and EHRs to install a simple communication tool that alerts patients to their COVID-19 test results and provides it as a verifiable credential.

<b>Presentation Summary</b>	The Integrated Communications Portal was created for a commercial entity and is now being marketed and
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		implemented across the US and exploring international implementations.
<b>Use Case(s)</b>		For diagnostic clinics and labs who don't have enough staff to communicate test results in a timely manner.
<b>System Composition</b>	Issuer App/API	Yes
	Holder App	The results are communicated through text messages, which opens on a mobile device, holder then has the ability to create VC through Open Credential Publisher and send to Sovrin compatible wallets including Evernym and IDRamp.
	Verifier App/API	Yes - has made a multiple credential reader, but not in use yet by any verifiers
<b>COVID Credentials in Use</b>	Types	Test results and vaccination records
	Data Model	W3C Verifiable Credential and PDF (for self attestation)
	Data Format	JSON-LD for W3C VC
<b>Main Stakeholders</b>	Data Source(s)	Diagnostic clinics and labs
	Issuer(s)	RANDA Solutions, as the proxy issuer (for VCs) who signs the credentials that contain data from diagnostic clinics and labs
	Holder(s)	Patients/Individuals
	Verifiers(s)	No verifiers yet, targeting at helping schools to reopen
<b>Implementation Challenges</b>		Data quality
<b>If Working With Other Systems</b>		Sovrin compatible wallets including IDRamp Passport and Evernym Connect.me.
<b>Additional Information</b>		Vaccination as VCs doesn't solve a problem for the labs the same way communicating test results does. Hard to show a value proposition.  Patients are more inclined to use self-attested PDF than VCs.

## Project 6: **Lumedic** ([Demo](#), [Lumedic Exchange](#))

Presenter(s): Jim St.Clair

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Introduction: Lumedic Connect is the patient-centric identity platform being deployed for Providence Health System, the 9th largest health system in the US encompassing seven states and 85M patients. Lumedic is deploying a vaccination credential based on vaccination records through the Epic EHR.

<b>Presentation Summary</b>		Lumedic is a healthtech company owned by Providence Health System in Seattle, the ninth largest healthcare system in the US, operating in seven states along the west coast. Lumedic Connect's first use cases are delivering vaccination records, but it has been in development for two years with the aim to support other healthcare use cases for Providence and other health systems.
<b>Use Case(s)</b>		First use case will be in return to travel to Hawaii (70% of domestic air travel to Hawaii originate from the seven states where Providence operates)
<b>System Composition</b>	Issuer App/API	Yes
	Holder App	Yes
	Verifier App/API	Yes, a verification portal for the Providence system
<b>COVID Credentials in Use</b>	Types	Vaccination records
	Data Model	W3C Verifiable Credential
	Data Format	ZKP-CL
<b>Main Stakeholders</b>	Data Source(s)	Providence EPIC system and IIS (through Providence)
	Issuer(s)	Lumedic/Providence Health System
	Holder(s)	Providence patients and others who get vaccinated in the seven states.
	Verifiers(s)	In the air travel business
<b>Implementation Challenges</b>		Integration with systems outside Providence for verification. This will be next, especially for air travel.
<b>If Working With Other Systems</b>		Not yet. Focusing on Providence's 85 million patients first.

<b>Additional Information</b>	Providence is EPIC's largest client and is speaking to EPIC.
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**Project 7: [ProofMarket MedCreds](#)** ([Demo](#), [Medium](#), [Blog Posts](#))

Presenter(s): Tony Rose

Introduction: MedCreds has been used as a reference for introducing legislation in California (AB 2004) for helping to re-open and keep the economy open during a pandemic and used in the film industry to facilitate COVID-19 test result credentialing allowing film productions to stay open.

<b>Presentation Summary</b>		Proofmarket was started before COVID focusing on user experiences for self-sovereign identity and pivoted to COVID after the breakout.
<b>Use Case(s)</b>		Help workers (e.g. film crew, construction workers, substitute teachers) who work at different sites to easily and safely move among workplaces.
<b>System Composition</b>	Issuer App/API	Yes, MedCreds platform supports Trust Registries Management by registering decentralized identifiers on behalf of issuers so that testing labs and physicians can sign and issue credentials directly themselves using their own public keys.
	Holder App	Yes, anyone can create a MedCreds Wallet.
	Verifier App/API	Yes, any organization that is authorized as a verifier may access the verification portal or API's on behalf of their organizations and request verifications from holders.
<b>COVID Credentials in Use</b>	Types	Test results
	Data Model	W3C Verifiable Credential
	Data Format	ZKP-CL
<b>Main Stakeholders</b>	Data Source(s)	Testing Labs, physicians and clinics
	Issuer(s)	Testing Labs, physicians and clinics
	Holder(s)	Individuals (e.g. film casts and crew)
	Verifiers(s)	Venues and workplaces (e.g. film sites)

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<b>Implementation Challenges</b>	
<b>If Working With Other Systems</b>	
<b>Additional Information</b>	<p>Introduced into the California legislature AB2004, which intended to authorize W3C verifiable credentials for COVID credentials and other medical test results.</p> <p>Started to focus on paper credentials in January 2021 to promote equity and advance existing paper cards through technology to include similar functionalities a digital credential has.</p> <p>Co-creator of the MIT PathCheck paper credentials specification. On the drafting committee creating the Interoperability Blueprint for the Good Health Pass Collaboration.</p>

### Project 8: **IdRamp** ([Demo](#), [Bak2.life](#))

Presenter(s): Mike Vesey, Karl Kneis, Eric Vinton

Introduction: IdRamp is a platform that helps businesses develop zero trust ecosystems with verifiable credentials. Using IdRamp APIs we have created a new application called bak2.life that supports domestic reopening use cases. With [bak2.life](#), businesses and organizations can easily provide zero trust verification of health records for safe access to events and venues.

<b>Presentation Summary</b>		IdRamp has built an open verifier app for any organization to use, turn-key and self-service.
<b>Use Case(s)</b>		For venue operators to set up their own criteria for verification.
<b>System Composition</b>	Issuer App/API	Yes, the IdRamp platform provides a code-free way to connect to existing data sources and issue verifiable credentials through authentication.
	Holder App	Yes
	Verifier App/API	Yes, an open app that anyone can use
<b>COVID Credentials</b>	Types	Self attested vaccination records

<b>in Use</b>	Data Model	Verifiable Credential with an attached PDF of the image of the vaccination card
	Data Format	ZKP-CL
<b>Main Stakeholders</b>	Data Source(s)	Individual's vaccination cards
	Issuer(s)	Individuals
	Holder(s)	Individuals
	Verifiers(s)	Venue operators (e.g. universities)
<b>Implementation Challenges</b>		How to reduce the dependency on massive data silos and gradually switch to the edge and more self-sovereign way. All the universities (as well as many venues) already had processes prior to using IdRamp that collected and stored a lot of personal information.
<b>If Working With Other Systems</b>		IdRamp wallets can interoperate with multiple Indy/Aries wallets.
<b>Additional Information</b>		Working with some clinics and health providers in Iowa but the political situation makes it really hard. IdRamp is best positioned to become a conduit between existing health systems and individuals and provide a zero-knowledge way for verification that exposes minimal personal information.



## Exhibiting Companies

<p><b>Project 1: <a href="#">AOKPass</a></b>  <b>Introduction:</b> A secure privacy-preserving digital health pass solution for a safer and more efficient return to work, travel and play.  <b>Demo Video</b> <a href="#">How to set up your profile</a> <a href="#">How to create vaccination pass</a> <a href="#">How to create COVID-19 test pass</a>  Media Coverage: <a href="#">News and Media Wall Street Journal</a> <a href="#">CNBC's "The Edge"</a>  Other Materials: <a href="#">AOKpass Deck</a> <a href="#">AOKpass Introduction Video</a></p>	<p><b>Project 2: <a href="#">Affinidi</a></b>  <b>Introduction:</b> For the safe travel use case Affinidi built a universal verifier that securely and easily authenticates digital and paper-based credentials from any digital health passport, issuance provider or healthcare institution, regardless of credential format. We do not have a front-end user app and instead focus on working with issuance partners to provide a simple way for airlines and immigration to verify credentials from any digital health pass using a single product.</p> <p><b>Demo Video:</b>  <a href="https://drive.google.com/file/d/1kmjiT5MPQaAIJJ-LcLwqjs28RTYsJPGh/view">https://drive.google.com/file/d/1kmjiT5MPQaAIJJ-LcLwqjs28RTYsJPGh/view</a>  <a href="https://drive.google.com/file/d/168gbc9lomulHI2JT67mcA9I4jyh7IGA8/view?usp=sharing">https://drive.google.com/file/d/168gbc9lomulHI2JT67mcA9I4jyh7IGA8/view?usp=sharing</a></p>
<p><b>Project 3: <a href="#">Spring ML</a></b>  <b>Hawaii Safe Travels App</b>  Solution Details - <a href="https://springml.com/customers/state-of-hawaii-safe-traveller-app/">https://springml.com/customers/state-of-hawaii-safe-traveller-app/</a>  Video Demo - <a href="https://youtu.be/UbRnfB1k-LE">https://youtu.be/UbRnfB1k-LE</a>  Live product - <a href="http://travel.hawaii.gov">http://travel.hawaii.gov</a></p> <p><b>Digital immunization pass</b>  Video Demo - <a href="https://youtu.be/Rv7yZ6BP3M">https://youtu.be/Rv7yZ6BP3M</a>  Solution summary <a href="https://drive.google.com/file/d/1O9rFAM3MkT-H6y93MN3zShOrXPuDVzFC/view?usp=sharing">https://drive.google.com/file/d/1O9rFAM3MkT-H6y93MN3zShOrXPuDVzFC/view?usp=sharing</a>  Solution details - <a href="https://drive.google.com/file/d/1Hd9ERxbIZRUP9eO3grF9Rdd6Lc4VBOUH/view?usp=sharing">https://drive.google.com/file/d/1Hd9ERxbIZRUP9eO3grF9Rdd6Lc4VBOUH/view?usp=sharing</a></p>	

## About the COVID-19 Credentials Initiative

The [COVID-19 Credentials Initiative \(CCI\)](#), hosted by Linux Foundation Public Health, is an open global community collaborating to enable the use of W3C Verifiable Credentials and other related privacy-preserving technologies for public health purposes.

We adopt an open-standard-based open-source development approach to public health, which has been proven very effective and efficient with LFPH's work in exposure notification apps.

[Slack \(#cci\)](#) | [Email](#) | [Groups.io](#) | [Newsletter](#) | [Twitter](#) | [Linkedin](#) | [Medium](#)

## About Linux Foundation Public Health

[Linux Foundation Public Health \(LFPH\)](#) works with public health authorities and their key stakeholders to ensure that investments into public health technology meet common needs and have maximum impact.

LFPH has been helping PHAs deploy an app implementing the Google Apple Exposure Notification (GAEN) system. LFPH brought in CCI to take lead on creating interoperable standards for sharing pandemic-related health data. As the organization grows, LFPH will be moving into other areas of public health that can take advantage of open source innovation.

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