Engaging Community: My Electronic Vaccine Card

Award Category:

Cross-Boundary Collaboration and Partnerships

State:

Oregon

Agency:

Oregon Heath Authority (OHA) with the Office of Information Services

Partnering State Agencies:

Cross-Boundary Collaboration and Partnerships with California and Washington

Project Dates & Costs:

Initiation Date: *August 2021*

Approval Date: *October 2021*

Completion Date: *April 2022*

Cost: *$2.25 million*

Project Leadership:

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Learn more at: Voluntary COVID-19 Vaccine Record; Electronic Vaccine Card FAQ; and COVID-19 Vaccine Video

Executive Summary

Digital Electronic Vaccination Record Solution

Oregon Gov. Kate Brown tasked the Oregon Health Authority (OHA) to research the feasibility of creating a voluntary, secure electronic vaccination record solution for individuals who live in Oregon. The solution would provide employers and businesses a way to validate vaccination status to protect their employees and customers.

Under the direction of the Governor's Office, the Oregon Health Authority's Public Health Division partnered with the Office of Information Services and investigated possible solutions with several high-level overarching guidelines:

- Create a Widely Accepted Digital Electronic Vaccine Record
- Ensure Accessibilty – ADA Section 508 and Web Content Standards Compliant Solution
- Support Oregon's Primary Languages
- Address OHA's Strategic Goal to Help Eliminate Health Inequities in Oregon by 2030

Problem

Due to the expanding nature of the pandemic, Oregon businesses needed to protect patrons and employees. Businesses across the state wanted to stay open and were asking for proof of vaccination for entry into their establishments. Most individuals who were vaccinated received a paper CDC COVID-19 vaccination card, which introduced several challenges, such as card deterioration, loss, no replacement options, and fraud.

To keep individuals safe, Oregon businesses did not want to rely on documents that could be easily manipulated (e.g., paper copies, pictures of vaccination cards on mobile devices, or negative COVID-19 tests for verification).

For businesses to remain open, accommodate travel, and provide statewide public health access to vaccination records, Oregon needed an electronic solution.

Equity and Community Engagement

Oregon has an electronic immunization record system that stores vaccination information for individuals who live in Oregon. Federal agencies encouraged states and private corporations to develop policies and timelines, driving the market toward digital electronic vaccination record solutions.

As we evaluated the options in the marketplace, it become clear that many organizations and other states were implementing a solution based on a standard that was beginning to be adopted in the United States and internationally. This solution was also being adopted by large-scale health insurance organizations through their electronic health record systems.

While this news was promising, we knew some people in Oregon did not have health insurance and that many people received their vaccinations at mass-vaccination sites. This presented a unique opportunity to serve those who would otherwise not have access to their vaccination records.

We saw successful implementations occuring in other states. This drove us to collaborate with California who had already implemented an open-source code solution.

The majority of Oregon's population can acquire electronic records of their COVID-19 vaccinations using exsisting health record systems. However, we know that here in Oregon, we have a historically underserved population that did not have access to electronic health record systems.

To successful integrate equity for electronic vaccine records for individuals living in Oregon, OHA started community engagement and accessability testing before developing the solution. Through commitment to cross-boundary collaboration and partnerships, OHA worked closely with neighboring states and community stakeholders to create an acccessible solution.

Focusing on inclusion, the team engaged Oregon businesses and community members through listening sessions, demonstrations, and community testing. This high-level of engagement ensured the electronic vaccine record had the necessary languages, accessibility, and input from our immediate community.

Equity was a primary element throughout the project, community outreach, and engagement.

Community Outreach and Engagement Overview

Phase I — **Initial Outreach**
- Meet with community groups
- Develop recommendations for moving forward

Phase II — **Feedback**
- Demo and Listening Session
- Community Testing and Feedback

Phase III — **DVR Launch Support**
- Individual meetings with Business Groups
- Partner with community groups
- Culturally appropriate and accessible communications

Phase IV — **Post Launch**
- Close out session with all Community Testers
- Continued partnerships with community groups
- Monitor and response to feedback through COVID19 feedback app

Centering Community Voices
- Community Action Log
- Listening Sessions
- Changes to website, FAQs, and video
- Revisited with 3 Community Testers
- 10 Community Testers

"We are more powerful when we empower each other."

Universal Framework

The chosen solution was based on an open-source Smart Health Card Framework that would allow others to share the software code base. The Vaccine Credentialing Initiative (VCI) co-founded by MITRE Corporation and others including Cerner, Change Healthcare, Epic, Mayo Clinic, Microsoft, and others played an immense role in helping Oregon choose it as our foundation.

Because of this foundation, the Oregon electronic vaccine record focuses on equity and inclusion, which makes it even more universal by providing the following critical features:

- ► A secure online web portal for users to easily access their vaccine records.
- ► An online vaccine credentialing platform that provides QR codes for individuals living in Oregon. The QR codes are encrypted information that is part of the Smart Health Card Framework.
- ► Ability for a printable QR code to be returned to requestor.
- ► Live Helpdesk support for records that do not match.
- ► Ability to download to Apple and Google Wallets.
- ► Ability to send QR code by postal service mail or email.
- ► Matching algorithm with Oregon's immunization record information system to provide an electronic vaccine record.
- ► 13 language options – Spanish, Vietnamese, Russian, Somali, Korean, Arabic, Chinese (Simplified), Chinese (Traditional), Marshallese, Hmong, Chuukese, Portuguese, and English.
- ► Accessibility conformance with WCAG 2.1 AA.

To ensure the electronic vaccine project implementation was effective, efficient, and equitable, OHA focused on accessibility standards.

The project complied with the Web Content Accessibility Guidelines (WCAG), which is a set of industry guidelines for information found on websites that allow access to individuals with vision and mobility impairments.

The project also met Section 508 of the Rehabilitation Act of 1973. To meet these requirements, Oregon used a WCAG expert and testers that used native assisted technology. These resources performed testing on the application for compliance during the testing phase, identifying over 150 findings that were remediated and provided a report summarizing the findings.

Project Narrative

Implemenation

OHA investigated multiple solutions as potential candidates to meet the needs of our stakeholders. Those included private companies offering customized solutions and an open-source solution from California that uses the VCI™ and Common Pass standard.

After demonstrations from these companies, OHA created the following features comparison chart:

Feature Comparison Chart				
Feature	**Vendor #1**	**Vendor #2**	**Vendor #3**	**CA Dept. of Health**
Meets Equity Requirements		✓	✓	✓
8+ Languages			✓	✓
Ease of Use	✓		✓	✓
QR Code is Printable		✓	✓	✓
Interoperability		✓		✓
Security		✓		✓
Service and Support				✓
Oregon Owns Solution				✓
Estimated Annual Cost	$1M	$3M - $4M	$3M	$1.5M - $2M
Time to Implement	N/A	6 Months	4 Months	6 Months
CONCLUSION	Rejected	Acceptable	Acceptable	Best Option

The analysis phase determined that California's open-source solution was the best choice for Oregon. This solution would generate QR codes that could be printed out, mailed, or sent via email or text to a user's device (once a user was authenticated). Individuals could then share the QR code with whomever they chose.

This solution also permitted use of the free SMART Card Health Verifier app, which allows businesses to quickly and securely verify an individual's vaccination status on a mobile device by scanning the QR code for compliance and if it had been generated by a trusted issuer.

There were additional considerations and drivers that affected the selection of the open-source solution from California, which included:

► Use of the credentialing leader VCI™ SMART Health Card framework, which allows international interoperability and state-by-state verification.
► Flexibility to meet the equity requirements of our community stakeholders and tribes. The equity considerations included language availability, access to technology, digital literacy, and historical trauma around documentation used as a means of exclusion.
► A call center to provide support or adding capacity to an existing call center or partnering with another state to handle calls.
► Applications that could be named and marketed for each individual state. Oregon could pick its own name, marketing look, and implementation plan.

Roadmap

When Oregon moved forward with the code base from the California Department of Health, California indicated that Washington was also in discussions with California to use its code base.

Initially, the Washington Department of Health copied/forked the California-developed code base for its development efforts. Using automated translations functions, Washington increased the number of languages from 8 to 42. Both Washnigton and California deployed their solutions quickly, due to foundations by VCI™.

In addition to functional and technical development, Oregon started our process with listening sessions and community outreach. Once community input and concerns were addressed and integrated into requirements, Oregon began technical development using the improved California code base using a forked version of Washington's production. Primarily focusing on accessibility, Oregon expanded the existing functionality using a culture-centric and language context validated approach. Due to time constraints in California and Washington, such an effort was not possible.
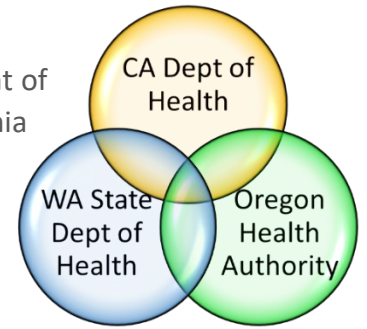
Significance of Project

Impact and Results

Community Engagement:
Local communities were both engaged and had direct influence on the deployed application. During final pre-production testing, community input identified a serious potential cultural impact. The team quickly pivoted to modify elements and embody a more inclusive approach. Test teams from within the community provided invaluable feedback throughout the design and development process. If we don't listen to community engagement, address concerns, and find valuable solutions, the real question becomes who are we serving? This approach creates a new, inclusive paradigm for the state. The model of community first, technology second is important as we work toward engaging and serving our diverse community.

"Primarily focusing on accessibility, Oregon expanded existing functionality using a culture-centric and language context validated approach."

Accessibility:
Because of the engagement of an expert in accessibility testing, the project produced a solution that met the guidelines to be fully WCAG 2.1 AA compliant. Under the direct supervision of our WCAG leader, other native assisted technology testers were involved in helping to determine the modifications needed by our community. We didn't simply meet standard guidelines in a manual. Instead, we identified needs and implemented accessibility features that people who truly use the necessary modifications would use. Furthermore, we knew our language translations needed to be understood and verified by native speaking residents. The words had to be right, but the interpretation had to be correct too. Context matters. Nuances or subtle differences in meaning between words,

phrases, and ideas can affect how someone understands what is being communicated. Cross-cultural communication can lead to misinterpretation. For example, some languages may not have a word for the word "digital." Cultural sensitivity and awareness helped strengthen and honor our ties to our community. Using an equity lens enabled us to ensure we continue to identify and serve our diverse populations in Oregon.

Cross-Boundary Collaboration:
The ability to meet every other week with California and Washington enabled Oregon to understand lessons learned, challenges encountered, and realized successes.

Positive Feedback

*"The **My Electronic Vaccine Card** provides an equitable, accessible, and convenient way to help support public health and safety in Oregon."*

When we launched our solution in Oregon, we leaned on an application that was already providing valuable feedback to our public health divison. Our COVID-19 Response and Recovery Unit captured invaluable feedback from our partners, community members, and the public regarding OHA's response to the pandemic.

The application provides multiple mechanisms to provide feedback. One way we used the application was to provide a link to those mechanisms from our voluntary electronic vaccination record solution. Below are a few examples of positive feedback received during the first week of production:

► This electronic Covid Immunization Record is fast, simple, and convenient - even for the computer inefficient user such as myself.
► The electronic vaccine card process - to have it saved on my phone was extremely simple. Thank you for providing easy ways to have my records in hand and usable whenever I may need it.

Seeking community feedback, positive and negative, is important. Our goal is to make a valuable contribution to the lives of all Oregonians.

Next Steps

Our next steps involve continuing to support the solution and answer questions that other states may have about our implementation. We plan to continue to engage our community and listen to feedback.

Conclusions

The results are clear. Working together, sharing information, and authetically listening, we discovered how quickly we can make a positive difference in the lives of the people we serve. Cross-boundary collaboration with California and Washington allowed Oregon and our partners to leverage the technology used on this project. Oregon benefited from the work of California and Washington.

Successful project management and governance helped ensure Oregonians had easy access to the voluntary digital electronic vaccine record solution, which encompassed high-level security and equity. Now, because of the important equity, inclusion, and community engagement work that Oregon did, people in other states can also benefit from the equity framework that encompasses compliance with accessibility guidelines.

"Alone we can do so little; together we can do so much."
-Helen Keller