OHA Accessibility Conformance Report

WCAG Edition

(Based on VPAT® Version 2.4)

Name of Product/Version:

Oregon Electronic Vaccine Card / myelectronicvaccinecard.oregon.gov

Report Date:

April 22, 2022

Product Description:

From the FDD v3.0: "The Oregon Health Authority (OHA) intends to launch Digital Vaccine Record (DVR) Portal [title later changed to Oregon Electronic Vaccine Card] for COVID-19 vaccination, implementing the SMART Health Card framework. A Digital Vaccine Record will be an electronic vaccination record drawn from the data stored in the Oregon's immunization registry (Alert IIS). The digital record will show the same information as a User's paper Centers for Disease Control and Prevention (CDC) vaccination card: name, date of birth, vaccination dates, and type of vaccine received. The digital record will also include a Quick Response (QR) code that, when scanned by a SMART Health Card reader, will display to the reader the name, date of birth, vaccine dates, and vaccine type of the User. The QR code also confirms the vaccine record as an official record of the State of Oregon."

The Oregon Electronic Vaccine Card site comprises the following elements:

1. Header (SS_S00)
2. Footer (SS-S01)

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3. Maintenance Page (SS_S10)
4. Home Page & Vaccine Form (SS_S02 & SS_S03)
5. Received Page (SS_S04)
6. PIN Page (SS_S09)
7. QR Page (SS_S05)
8. Request Processing Page (SS_S06)
9. Email Thank You Page (SS_S07)
10. Link SMS (M01)
11. No Match SMS (M02)
12. Link Email (E01)
13. No Match Email (E02)
14. QR Code Email (E03) [This can also be reached via "Download Accessible PDF" button].
15. QR Code Template for DL Paper (E04)
16. FAQ Page (SS-S0x [sic]): https://www.oregon.gov/oha/covid19/Pages/Electronic-Vaccine-Card-FAQ.aspx
17. How To Video [on YouTube]: https://www.youtube.com/watch?v=T5t-fzjH3ug
18. Customer Voice Record Request Form: https://gcv.microsoft.us/purq67eH4l

Contact Information:

Prepared by Adam McBride-Smith (Independent Accessibility Consultant)

adam.mcbride-smith@dhsoha.state.or.us

503-812-5123

Notes:

The Oregon Electronic Vaccine Card site was found to be in conformance with WCAG 2.1 level AA at the time of launch.

Evaluation Methods Used:

Accessibility testing started before development with an initial testing phase conducted on the waverify app, https://waverify.doh.wa.gov/, which served as the model for Oregon's Digital Vaccine Record. This testing helped to identify some areas of concern and led to the inclusion of 114 accessibility user stories to Oregon's FDD (Functional Design Document).

Testing on Oregon's Digital Vaccine Record included automated testing. Initially, this testing was conducted with WAVE and Axe DevTools. Later in the SDLC, Site Improve was integrated into testing. Manual testing was also conducted continuously throughout development. Manual testing was conducted by Adam McBride-Smith (CPACC) and by two native assistive technology users: Flori Tello (JAWS and VoiceOver screen readers), and Katelyn Truax (Switch Control with Auto-Scan).

Testing for this report followed the Deque WCAG Conformance Testing, Detailed Methodology (Deque Way 3.2.2). Testing was conducted on the following Assistive Technologies:

- NVDA (Screen Reader)
- JAWS (Screen Reader)
- VoiceOver (Screen Reader)
- Apple Switch Control with Auto-Scan
- Able Net Blue 2 (Universal Switch)
- Keyboard Access
- Dragon Naturally Speaking (Text-to-Speech Software)
- ZoomText (Magnification Software)

The following browser/OS combinations were used during testing:

- Chrome on Windows 10
- Chrome on Windows 11
- Firefox on Windows 11
- Edge on Windows 11
- Chrome on macOS 10.13.6
- Safari on macOS 10.13.6
- Chrome on iPad OS 15.3.1

- Safari on iPad OS 15.3.1
- Chrome on Android 9
- Chrome on iPhone OS 15.2 (later updated to 15.4)

The following devices/screen specs were used during testing:

- Dell XPS 15 9510: 15.6 inches, 16:10 aspect ratio
- Lenovo ThinkPad T480: 14 inches, 16:9 aspect ratio
- MacBook Air 1.4: 13.3 inches, 16:10 aspect ratio
- iPad Pro (2nd Gen): 12.9 inches
- Samsung Galaxy S8: 5.8 inches
- iPhone SE: 4.7 inches

In addition, the following tools were used during testing:

- Web Developer Extension for Chrome
- Web Developer Extension for Firefox
- Dylan Barrell's Bookmarklets
- Paul Adam Bookmarklets
- ANDI Bookmarklet
- WCAG 2.1 parsing error bookmarklet
- Colour Contrast Analyser
- PEAT
- W3C Markup Validation Service
- Nu Html Checker
- 44 x 44 Pixel Bookmarklet
- Bookmarklet to make the text between 45 and 75 characters turn red
- Fount Bookmarklet

Applicable Standards/Guidelines

This report covers the degree of conformance for the following accessibility standard/guidelines:

Standard/Guideline	Included In Report
Web Content Accessibility Guidelines 2.0	Level A (Yes)
	Level AA (Yes)
	Level AAA (Yes)
Web Content Accessibility Guidelines 2.1	Level A (Yes)
	Level AA (Yes)
	Level AAA (Yes)

Terms

The terms used in the Conformance Level information are defined as follows:

- **Supports**: The functionality of the product has at least one method that meets the criterion without known defects or meets with equivalent facilitation.
- **Partially Supports**: Some functionality of the product does not meet the criterion.
- **Does Not Support**: The majority of product functionality does not meet the criterion.
- **Not Applicable**: The criterion is not relevant to the product.
- **Not Evaluated**: The product has not been evaluated against the criterion. This can be used only in WCAG 2.0 Level AAA.

WCAG 2.1 Report

Note: When reporting on conformance with the WCAG 2.1 Success Criteria, they are scoped for full pages, complete processes, and accessibility-supported ways of using technology as documented in the WCAG 2.0 Conformance Requirements.

Table 1: Success Criteria, Level A

Notes:

Criteria	Conformance Level	Remarks and Explanations
1.1.1 Non-text Content (Level A)	Supports	PDFs for direct download and email options are auto-tagged and remediated to meet the w3c's [PDF Techniques for WCAG 2.0](#) criteria using pdfHTML by iText. The same method was applied to PDFs in English and in all translated languages except Arabic. The team determined there was a great deal of complexity involved in implementing Arabic script in addition to the RTL vs. LTR reading order in a tagged PDF. Estimated time to completion was 47 hours and there were concerns that the solution would not work and would negatively impact the production of remediated PDFs in other languages. The decision was made to offer an accommodation model (manual remediation) to Arabic-speakers who are screen reader users and a screen-reader-only text note was added to **SS_S05** for these users, informing them of the process.
1.2.1 Audio-only and Video-only (Prerecorded) (Level A)	Not Applicable	There is no audio-only or video-only content.
1.2.2 Captions (Prerecorded) (Level A)	Supports	Captions are provided in YouTube for the "how to" video.
1.2.3 Audio Description or Media Alternative (Prerecorded) (Level A)	Supports	A transcript is provided in YouTube for the "how to" video.

Criteria	Conformance Level	Remarks and Explanations
1.3.1 Info and Relationships (Level A)	Supports	Information, structure, and relationships conveyed through presentation can be programmatically determined.
1.3.2 Meaningful Sequence (Level A)	Supports	The reading and navigation order is logical and intuitive.
1.3.3 Sensory Characteristics (Level A)	Supports	Instructions do not rely on shape, size, visual location, or sound.
1.4.1 Use of Color (Level A)	Supports	Color is not used as the sole method of conveying content or distinguishing visual elements. Color alone is not used to distinguish links from surrounding text (all links have underlines).
1.4.2 Audio Control (Level A)	Supports	The "how to" video on YouTube automatically plays and is over 3 seconds in length, but it has mechanisms to stop, mute, and adjust the volume.
2.1.1 Keyboard (Level A)	Supports	All page functionality is available using the keyboard.
2.1.2 No Keyboard Trap (Level A)	Supports	Keyboard focus is never locked or trapped at one particular page element.
2.1.4 Character Key Shortcuts (Level A 2.1 only)	Not Applicable	There are no character key shortcuts.
2.2.1 Timing Adjustable (Level A)	Supports	There are no maximum time limits for any of the processes on the site or associated pages.
2.2.2 Pause, Stop, Hide (Level A)	Not Applicable	There is no automatically moving, blinking, scrolling, or updating content.
2.3.1 Three Flashes or Below Threshold (Level A)	Supports	There is no flashing content.

Criteria	Conformance Level	Remarks and Explanations
2.4.1 Bypass Blocks (Level A)	Supports	A skip navigation link is provided in **SS_S01**. In addition, a proper heading structure is used on all pages, and all pages on the main site also have a proper landmark structure.
2.4.2 Page Titled (Level A)	Partially Supports	Both the Form page and the Thank you page of the Record Research Request Form have the same title: <title>My Electronic Vaccine Card Record Research Request Form</title> See WCAG 2.1 - Failure of Success Criterion 2.4.2 due to the title of a Web page not identifying the contents / "Example 2: A site generated using templates includes the same title for each page on the site. So the title cannot be used to distinguish among the pages." The team determined that it was not possible in Customer Voice to add unique titles to pages and has referred the problem to Microsoft. This issue is tracked in User Story 123273.
2.4.3 Focus Order (Level A)	Supports	The navigation order of focusable elements is logical and intuitive.
2.4.4 Link Purpose (In Context) (Level A)	Supports	Link purpose is determinable from the link title itself.
2.5.1 Pointer Gestures (Level A 2.1 only)	Not Applicable	There are no multi-point or path-based gestures.
2.5.2 Pointer Cancellation (Level A 2.1 only)	Supports	Selector boxes open on down-event. This is true of the Month, Day, and Year boxes on **SS_S03**, the Choose Here selector box on **SS_S05,** and the State

Criteria	Conformance Level	Remarks and Explanations
		selector box ("Don't have access to a printer" path) on **SS_S05.** However, this behavior described here is native combo box behavior. In addition, WCAG SC 2.5.2 notes: "In other interactions, the down-event may trigger a behaviour which can be reversed when the up-event concludes." The behavior in question, the expansion of the combo box, can be reversed after the up-event concludes. Therefore, it was decided that the behavior described here supports this success criterion.
2.5.3 Label in Name (Level A 2.1 only)	Supports	All interface components that present text have accessible names that include the visible text.
2.5.4 Motion Actuation (Level A 2.1 only)	Not applicable	There is no functionality triggered by moving the device or by user movement.
3.1.1 Language of Page (Level A)	Supports	The lang attribute is contained in the <html> element. It defaults to en on the English version of the page, and resets appropriately when the page language is changed.
3.2.1 On Focus (Level A)	Supports	As components receive focus, they do not initiate a change of context or any other change that could disorient the user.
3.2.2 On Input (Level A)	Supports	On **SS_S05**, a small shift in focus occurs when an option is chosen from the "Choose Here" combo box. When the selection is made, focus shifts to a line of text inserted just below the selector box. This design decision was made to provide a better

Criteria	Conformance Level	Remarks and Explanations
		user experience for screen reader users. Testing demonstrated that these users might easily be unaware that new content was being inserted below the combo box – or that there were often multiple options to choose from. The complexity of the injected content, and doubts from the development team that an aria-alert region would function well in this environment, led us to implement this solution.
		According to the w3c, "Opening a new window, **moving focus to a different component**, going to a new page (including anything that would look to a user as if they had moved to a new page) or significantly re-arranging the content of a page are examples of changes of context." Understanding SC 3.2.2 [emphasis added].
		The shift in focus that occurs on this page is *not* to a different component ("a part of the content that is perceived by users as a single control for a distinct function" per the w3c). In addition, even at high levels of magnification (400%+) the two elements retain enough proximity (1rem/16px) for the shift in focus to be easy for a user to track visually.
3.3.1 Error Identification (Level A)	Supports	Form validation errors are efficient, intuitive, and accessible. Required fields are indicated both visually (with an asterisk) and using aria-required. When errors are detected, the form is re-displayed with an error summary and focus is forced to the

Criteria	Conformance Level	Remarks and Explanations
		error summary. The error summary is provided as a semantic list, in plain language, with links that allow users to jump to the relevant field. The errors are flagged inline through the use of color (red) and aria-invalid.
3.3.2 Labels or Instructions (Level A)	Supports	Text labels are provided for all inputs, and labels are linked programmatically to the appropriate inputs.
4.1.1 Parsing (Level A)	Supports	Significant validation/parsing errors are avoided.
4.1.2 Name, Role, Value (Level A)	Supports	Markup is used according to HTML specifications and ARIA is used to enhance accessibility when HTML is not sufficient.

Table 2: Success Criteria, Level AA

Criteria	Conformance Level	Remarks and Explanations
1.2.4 Captions (Live) (Level AA)	Not applicable	There is no live multimedia content.
1.2.5 Audio Description (Prerecorded) (Level AA)	Supports	There is no visual content presented in the video that is not also presented in the audio.
1.3.4 Orientation (Level AA 2.1 only)	Supports	Orientation of web content is not restricted to only portrait or landscape.
1.3.5 Identify Input Purpose (Level AA 2.1 only)	Not applicable	The form fields on **SS_S03** and on **SS_S05** (both the Email option and the Send me a Paper Copy option) do not have autocomplete values. Personas and user stories related to the site have always included pathways for users who are

Criteria	Conformance Level	Remarks and Explanations
		filling out the form for another person. According to the w3c's documentation on autocomplete techniques, "For the autocomplete attribute: This technique should only be used when asking for data about the user who is filling the form in, not for other people." (https://www.w3.org/WAI/WCAG21/Techniques/html/H98) Therefore, it was decided not to include autocomplete attributes for these fields.
1.4.3 Contrast (Minimum) (Level AA)	Supports	Text and images of text have a contrast ratio of at least 4.5:1. Large text (18pt / 24px or 14pt / 18.66px and bold) has a contrast ratio of at least 3:1.
1.4.4 Resize text (Level AA)	Supports	The page is readable and functional when the page is zoomed to 200%.
1.4.5 Images of Text (Level AA)	Supports	The only example of an image used as text is the Oregon Health Authority logo, which is covered as an exception to this criterion.
1.4.10 Reflow (Level AA 2.1 only)	Supports	No loss of content or functionality occurs, and horizontal scrolling is avoided when content is presented at a width of 320 pixels / 400% zoom.
1.4.11 Non-text Contrast (Level AA 2.1 only)	Supports	A contrast ratio of at least 3:1 is present for differentiating interface components (such as buttons, form controls, and focus indicators/outlines) in all their various states (focus, hover, active, etc.)
1.4.12 Text Spacing (Level AA 2.1 only)	Supports	No loss of content or functionality occurs when the user adapts paragraph spacing to 2 times the font size, text line height/spacing to 1.5 times the font size, word spacing to

Criteria	Conformance Level	Remarks and Explanations
		.16 times the font size, and letter spacing to .12 times the font size.
1.4.13 Content on Hover or Focus (Level AA 2.1 only)	Not Applicable	No additional content is presented on hover or keyboard focus.
2.4.5 Multiple Ways (Level AA)	Not Applicable	The main site represents a process and is not subject to this success criterion. The same is true of the request form. The FAQ page is a single page and therefore is also not subject to this criterion (other pages linked to the FAQ page are out-of-scope).
2.4.6 Headings and Labels (Level AA)	Supports	Page headings and labels for form and interactive controls are informative and unique.
2.4.7 Focus Visible (Level AA)	Supports	Keyboard focus is visually apparent.
3.1.2 Language of Parts (Level AA)	Supports	The language of page content that is in a different language from the main content is identified using the lang attribute. This applies only to the language options available in the nav bar on **SS_S01** and in the dropdown options under the "More" combo box.
3.2.3 Consistent Navigation (Level AA)	Supports	Navigation links that are repeated on web pages do not change order when navigating through the site.
3.2.4 Consistent Identification (Level AA)	Supports	Elements that have the same functionality across multiple web pages are consistently identified.
3.3.3 Error Suggestion (Level AA)	Supports	If an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user.

Criteria	Conformance Level	Remarks and Explanations
3.3.4 Error Prevention (Legal, Financial, Data) (Level AA)	Not Applicable	Changes to legal, financial, or personal data are not a part of the site's user flow. (The site allows a user to request and receive data but not to change it).
4.1.3 Status Messages (Level AA 2.1 only)	Supports	When important status messages are presented, either focus is set to the message, or the message is otherwise read to screen reader users.

Table 3: Success Criteria, Level AAA

Notes: Level AAA criteria can be understood as best practice recommendations. **None of these criteria are required for Section 508 compliance.** When following a AAA criterion would negatively affect user experience in a significant way, it is advisable to overlook that criterion. According to the w3c: "It is not recommended that Level AAA conformance be required as a general policy for entire sites because it is not possible to satisfy all Level AAA Success Criteria for some content." (https://www.w3.org/TR/WCAG21/#conformance)

Criteria	Conformance Level	Remarks and Explanations
1.2.6 Sign Language (Prerecorded) (Level AAA)	Does Not Support	No sign language interpretation is present in how-to video. Like all level AAA criteria this is a best practice recommendation – however, it is not required for Section 508 compliance.
1.2.7 Extended Audio Description (Prerecorded) (Level AAA)	Not Applicable	There is no relevant visual content in the "how to" video that is not also described in the audio narration.
1.2.8 Media Alternative (Prerecorded) (Level AAA)	Supports	A transcript is provided.
1.2.9 Audio-only (Live) (Level AAA)	Not Applicable	There is no audio-only content.

Criteria	Conformance Level	Remarks and Explanations
1.3.6 Identify Purpose (Level AAA 2.1 only)	Not Evaluated	This product has not been tested for conformance to this criterion.
1.4.6 Contrast (Enhanced) (Level AAA)	Does Not Support	Some areas do not meet the standard of 7:1 color contrast. Meeting this standard would require more significant design changes than are practical at this time. Like all level AAA criteria this is a best practice recommendation – however, it is not required for Section 508 compliance.
1.4.7 Low or No Background Audio (Level AAA)	Not Evaluated	Background music in the "how-to" video is significantly quieter than the narration. We will test post-launch to ensure that music is at least four times (20 decibels) quieter than the narration. Like all level AAA criteria this is a best practice recommendation – however, it is not required for Section 508 compliance.
1.4.8 Visual Presentation (Level AAA)	Partially Supports	Blocks of text are more than 80 characters wide. Adopting this criterion on **SS_S02** would have a negative impact on UX because it would push form elements on **SS_S03** "below the fold." Furthermore, it is not required for Section 508 compliance, like all level AAA criteria.
1.4.9 Images of Text (No Exception) (Level AAA)	Supports	The only example of an image used as text is the Oregon Health Authority logo, which is covered as an exception to this criterion.
2.1.3 Keyboard (No Exception) (Level AAA)	Supports	All page functionality is available using the keyboard.

Criteria	Conformance Level	Remarks and Explanations
2.2.3 No Timing (Level AAA)	Supports	There are no maximum time limits for any of the processes on the site.
2.2.4 Interruptions (Level AAA)	Not Applicable	The site pages do not support author/server generated updates.
2.2.5 Re-authenticating (Level AAA)	Not Applicable	There is no inactivity time limit on any page.
2.2.6 Timeouts (Level AAA 2.1 only)	Not Applicable	There is no inactivity time limit on any page.
2.3.2 Three Flashes (Level AAA)	Not Applicable	There is no flashing content on any page.
2.3.3 Animation from Interactions (Level AAA 2.1 only)	Not Applicable	There is no animation or moving content triggered by user actions.
2.4.8 Location (Level AAA)	Does Not Support	No breadcrumb trail, site map, or other extra navigation aid is present. Like all level AAA criteria this is a best practice recommendation – however, it is not required for Section 508 compliance.
2.4.9 Link Purpose (Link Only) (Level AAA)	Supports	Link purpose is determinable from the link title itself.
2.4.10 Section Headings (Level AAA)	Not Evaluated	This product has not been tested for conformance to this criterion.
2.5.5 Target Size (Level AAA 2.1 only)	Partially Supports	All target areas are a minimum of 44px by 44px, except the options in the combo boxes on pages **SS_S03** and **SS_S05** which are approximately 38px by 38px. The size of combo box options was increased by zooming the text for the options. As this also created incongruity with surrounding font sizes, 38px by 38px was determined to be sufficient for these items following native switch user testing.

Criteria	Conformance Level	Remarks and Explanations
2.5.6 Concurrent Input Mechanisms (Level AAA 2.1 only)	Supports	Content does not restrict input to a specific modality, such as touch-only or keyboard-only.
3.1.3 Unusual Words (Level AAA)	Does Not Support	No dictionary, glossary, or footnote definitions are provided for any vocabulary items. Like all level AAA criteria this is a best practice recommendation – however, it is not required for Section 508 compliance.
3.1.4 Abbreviations (Level AAA)	Supports	The expanded form of abbreviations is provided at first use.
3.1.5 Reading Level (Level AAA)	Supports	This criterion was tested using the main text on the **SS_S02** with proper nouns and titles removed. The text was fed into readabilityformulas.com. The consensus of the site's seven readability formulas was that this text is at an 8th grade reading level. This meets the success criterion for reading level.
3.1.6 Pronunciation (Level AAA)	Does Not Support	Pronunciation guidance is not provided for words with common homonyms, like the word "record." Like all level AAA criteria this is a best practice recommendation – however, it is not required for Section 508 compliance.
3.2.5 Change on Request (Level AAA)	Not Evaluated	This product has not been tested for conformance to this criterion.
3.3.5 Help (Level AAA)	Partially Supports	More context-sensitive help could be provided, such as a clear statement of the input restraints for PIN number creation. Like all level AAA criteria this is a best practice recommendation – however, it is not required for Section 508 compliance.

Criteria	Conformance Level	Remarks and Explanations
3.3.6 Error Prevention (All) (Level AAA)	Does Not Support	There is no mechanism that allows users to review and confirm inputs before submission. Like all level AAA criteria this is a best practice recommendation – however, it is not required for Section 508 compliance.

Legal Disclaimer

This document was prepared by an independent accessibility consultant at the request of Oregon Health Authority. The independent consultant is an SME in accessibility and not a lawyer. Therefore, this report should be construed as representing legal advice.