

## Vaccine Provider Agreement System (VPAS)

### About VPAS

- The Vaccine Provider Agreement System (VPAS) is a system that was developed for the New York City Citywide Immunization Registry (CIR) by HLN Consulting, LLC. The CIR is permitting VPAS to be utilized by other jurisdictions and though it is open source, there is no immediate plan to package, distribute, or support the application deployed elsewhere.
- The VPAS requirements are being generated and implemented rapidly. Both VPAS and this description of its capabilities are evolving rapidly.
- Key features of VPAS include the following:
  - Flexibly supports participation by multiple members of a provider organization team to complete various sections of the same vaccine provider agreement forms.
  - Use of Magic Links (i.e., Passwordless Authentication) to authorize users without the need to create named accounts.
  - Exports the CDC-required extract of provider organization information.
  - Support for integration with Immunization Information Systems (IIS).

### Accessing VPAS

- All access to VPAS is controlled via the use of Magic Links which are customized URLs with embedded tokens that are tied to a specific email address. This is also referred to as Passwordless Authentication.
  - This makes it very easy to invite one or more additional users to collaborate on populating a form *without* having to provision named accounts and then convey the corresponding password to the user.
  - Because of Magic Links, it is only necessary to know the authorized user's email address. However, it still ensures that only the invited people who own the authorized email addresses are able to access the forms.
  - Future versions of this document may provide additional details regarding the motivation for this architectural decision and how it operates. In the meantime, the following are some related resources:
    - <https://firebase.google.com/docs/auth/web/email-link-auth>
    - <https://auth0.com/blog/is-passwordless-authentication-more-secure-than-passwords/>
- The process begins when VPAS sends an email invitation to a facility staff member containing a unique link that permits that user, and only that user, to login to VPAS.
  - There are a couple of ways that IIS staff and/or IIS systems can interact with VPAS to trigger the sending of those emails. Those details will be described in a later version of this document.
- The facility staff member clicks on the unique link in their email invitation which takes them to VPAS. They must enter their email address to validate themselves, which then logs them into VPAS.

## Features for Provider/Facility Users

- The logged in user **may** do any of the following:
  - Initiate a new form
    - Section A and/or Section B
  - Contribute to a form by populating it with some data.
    - Validation rules ensure that data is entered in the correct format and that business rules are preserved.
  - Trigger email invitations to colleagues inviting them to help populate the Section A and/or Section B.
    - VPAS will send an email to the specified email address(es) containing a custom URL and token.
    - Colleagues can be invited to help populate all sections of Section A and Section B or specific sub-sections of each.
  - Save a form that is in progress
    - Forms may be re-visited and further populated at a later time by either the same user or by different users.
  - See a list of forms that the user has been invited to contribute to
    - Including those forms that they have already contributed to and those forms that they have not yet contributed to.
  - Open a form that appears in the aforementioned list.
  - Read/Review a previously initiated form.
  - Edit a previously initiated form.
  - Sign a form
    - Checkbox must be checked by the user.
    - Date must be key entered by the user.
  - Submit a form for approval and lock the form to prevent any future changes
    - This is permitted only after all of the signatures and required fields on the form have been completed.
  - Adjust a previously Approved form with proposed changes (usually information about a new storage unit container or changes to shipping hours).
    - Adjustments must then go through a review and approval process by Awardee staff. During that time period, the original Approved form continues to be included in any exports of the CDC-required extract.

## Features for Awardee Users

- Authorized Awardee staff may login to VPAS and do any of the following:
  - Trigger VPAS to send email invitations (with custom generated URLs and tokens) to additional providers, inviting them to be Provider Administrators in order to initiate new forms for their facility in VPAS.
  - View a dashboard showing the total number of forms, broken down by Section type (A or B) and by Status (e.g. In Progress, In Review, Approved, Rejected).
  - Open and read any form initiated by any provider organization.

- Review and then either Approve or Reject any forms that have been formally Submitted by any provider organization.
- Populate the “For Official Use Only” fields.
- Generate and download an extract of the Approved forms in the CDC-specified file format.
- Export the entire VPAS database for subsequent importing into other Awardee systems - - e.g. so that the IIS may know which facilities should be permitted to order Covid-19 vaccine, etc.

### **Partial List of Future Enhancements**

- Support for Multiple Awardees using a centrally hosted instance of VPAS
  - Provider/Facility Users will be segmented in the database.
  - Awardee Users will be segmented in the database.
  - Form data will be segmented in the database.
- VPAS will log each time that a user accesses a form and will display the date/time of the most recent edit made by each user who contributed to the form.
  - Facility users who are signing the form may want to know the last time the form data changed.
- Awardee may import facility information into VPAS to pre-populate some portions of Section A and Section B with data already in the IIS.
- Progress indicator will clearly summarize the state of the form data, and will clearly indicate which portions of the form have been completed, and which portions are incomplete.
- Support for automatically re-engaging facility users to re-visit the forms and supply additional data if/when the CDC changes the forms.