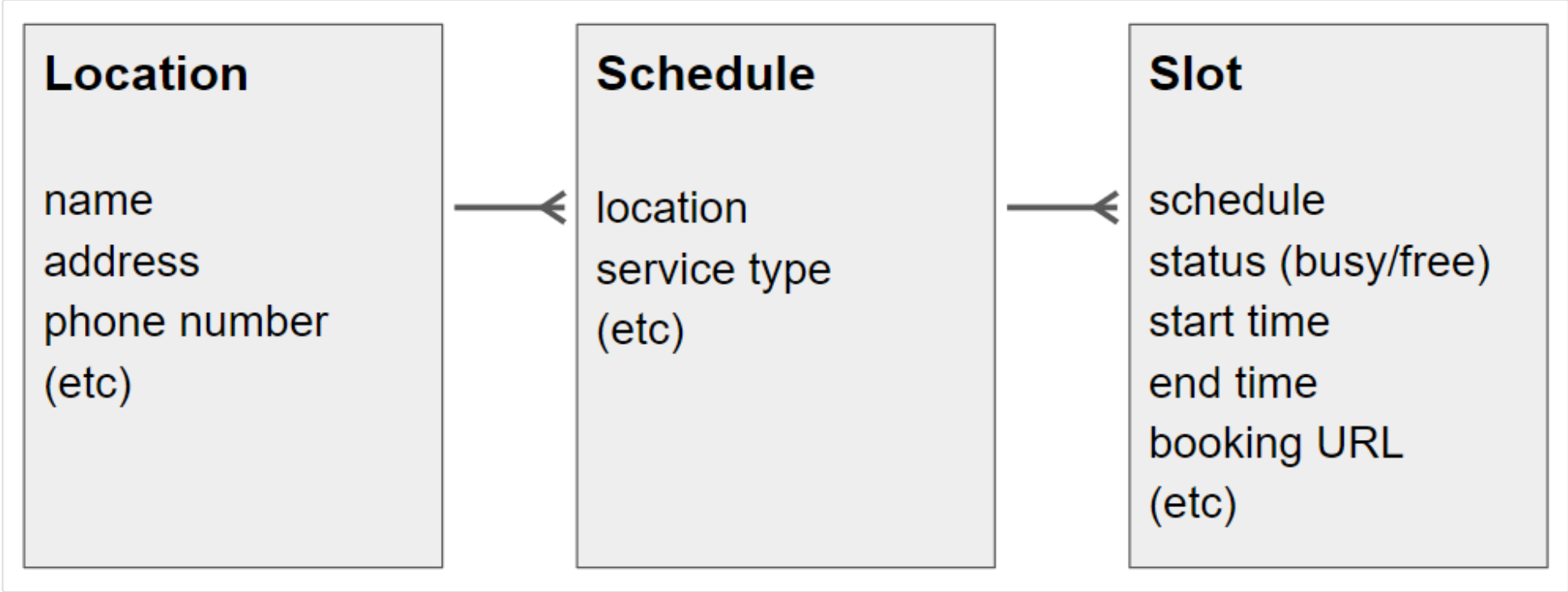


CVSHealth is building a standard way to display information on where you can get a Covid19 vaccine at a CVS location near you. By downloading the file, you are accepting the [Terms and Conditions](#) of the CVS developer portal

The CVS file can be found here: [https://www.cvs.com/immunizations/inventory/data/\\$bulk-publish](https://www.cvs.com/immunizations/inventory/data/$bulk-publish)

Quick Start Guide

A Slot Publisher hosts not only appointment slots, but also Locations and Schedules associated with these slots:



Concretely, there are four kinds of files:

- **Bulk Publication Manifest.** The manifest is a JSON file serving as the entry point for slot discovery. It provides links that clients can follow to retrieve all the other files. The manifest is always hosted at a URL that ends with `$bulk-publish` (a convention used when publishing data sets using FHIR; this convention applies any time a potentially large data set needs to be statically published).
- **Location Files.** Each line contains a minified JSON object representing a physical location where appointments are available.
- **Schedule Files.** Each line contains a minified JSON object representing the calendar for a healthcare service offered at a specific location.
- **Slot Files.** Each line contains a minified JSON object representing an appointment slot (busy or free) for a healthcare service at a specific location.

Feedback

A client queries the manifest on a regular basis, e.g. once every 15 minutes. The client iterates through the links in the manifest file to retrieve any Location, Schedule, or Slot files it is interested in. (Clients SHOULD ignore any output items with types other than Location, Schedule, or Slot.)

Manifest File

The manifest file is the entry point for a client to retrieve scheduling data. The manifest JSON file includes:

field name	type	description
transactionTime	ISO8601 timestamp as string	the time when this data set was published
request	url as string	the full URL of the manifest
output	array of JSON objects	each object contains a type, url, and extension field

field name	type	description
→ type	string	whether this output item represents a "Location", "Schedule", or "Slot" file
→ url	url as string	the full URL of an NDJSON file for the specified type of data
→ extension	JSON object	contains tags to help a client decide which output files to download
→ → state	JSON array of strings	state or jurisdiction abbreviations (e.g., ["MA"] for a file with data pertaining solely to Massachusetts)

(For more information about this manifest file, see the [FHIR bulk data spec.](#))

Location File

Each line of the Location File is a minified JSON object that conveys a physical location where appointments are available.

Each Location includes at least:

field name	type	required	description
resourceType	string	Y	fixed value of "Location"
id	string	Y	unique identifier for this location (up to 64 alphanumeric characters and may include _ and .)
name	string	Y	the human-readable name of the location. Name SHOULD include consumer-relevant branding (e.g., the brand name of a pharmacy chain that a consumer would be familiar with)
telecom	array of JSON objects	Y	each object conveys a contact point for this location. The array should include a phone number and a URL. (Note: this field conveys "general information" contact points such as a front desk for the location, not necessarily for booking appointments; see Slot details for booking URLs and booking phone numbers)
→ system	string	Y	"phone" or "url"
→ value	string	Y	phone number or URL for this location
address	JSON object	Y	each object conveys a USPS complete address
→ line	array of strings	Y	each string is line in the address
→ city	string	Y	
→ state	string	Y	

Feedback

field name	type	required	description
→ postalCode	string	Y	
→ district	string	N	optional county
description	string	N	additional information about this location (e.g., where to find it)
position	JSON object	N	geocoordinates of the location
→ latitude	number	N	must be populated if position is included
→ longitude	number	N	must be populatd if position is included
identifier	array of JSON objects	Y	Identifiers for this location (e.g., Store Number or VTrckS PIN). See below.

Each identifier object includes a system and a value.

- If a Location is associated with one or more "VTRckS PIN"s (see <https://cdc.gov/vaccines/programs/vtrcks> for VTrckS program details), publishers SHOULD include these:

field name	type	description
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system	string	fixed value of "https://cdc.gov/vaccines/programs/vtrcks"
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value	string	VTrckS PIN for this location
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- If a Location is associated with a "Store Number" or other organization-specific Identifiers, publishers SHOULD include these. The system should be a page on the publisher's web site (e.g. {"system": "https://pharmacy.example.com/store-locator", "value": "123"})
- Additional identifiers: Any number of additional identifiers MAY be included. Each should populate system and value as appropriate.

Schedule File

Each line of the Schedule File is a minified JSON object that conveys a information about a Schedule to which slots are attached. The Schedule represents a particular service (e.g., COVID-19 immunizations) offered at a specific location.

Each Schedule includes at least:

field name	type	description
resourceType	string	fixed value of "Schedule"
id	string	a unique identifier for this schedule (up to 64 alphanumeric characters and may include _ and .)
actor	array with one JSON object	

→ reference

string

the location where appointments are available formed as `Location + / + the id value of an entry in a Location File (e.g., "Location/123")`

Each object is a standardized concept indicating what services are offered. For COVID-19 immunization Schedules, two standardized codings must be included:

serviceType

array of JSON objects

```
[{
  "system": "http://terminology.hl7.org/CodeSystem/service-type",
  "code": "57",
  "display": "Immunization"
}, {
  "system": "http://fhir-registry.smarthealthit.org/CodeSystem/service-type",
  "code": "covid19-immunization"
  "display": "COVID-19 Immunization Appointment"
}]
```

Additional `serviceTypes` may be included if this schedule offers services beyond COVID-19 immunizations; or additional `codings` may be included to convey more nuanced information about the COVID-19 immunizations offered. The example resource below shows a `serviceType` that can be used verbatim to advertise a COVID-19 immunization schedule. (Why two Codings? One expresses the fact that the slot is for an immunization service, and the other is specific to COVID-19. This structure follows a convention in FHIR for expressing "codeable concepts" -- see [here](#) for details.)

extension

array of JSON objects

see details below

Each Schedule object may optionally include the following extension JSON objects in the Schedule's `extension` array.

- "Vaccine Product" extension: used to convey a product code for a vaccine available at appointments on this Schedule. This extension SHOULD NOT repeat; providers SHOULD represent each available vaccine product on a separate schedule to facilitate directed booking.

field name	type	description
url	string	fixed value of "http://fhir-registry.smarthealthit.org/StructureDefinition/vaccine-product"

valueCodingJSON objectCoded representation of a vaccine product (CVX code)

→ system	string	Fixed value of "http://hl7.org/fhir/sid/cvx"
→ code	string	Any valid CVX code (e.g., "207", "208", "210", "212")
→ display	string	Display name for the code

- "Dose Number" extension: used to convey a dose sequence number (e.g., "first dose" or "second dose") offered at appointments on this Schdule. This extension MAY repeat, if this Schedule offers both "first dose" and "second dose" appointments.

field name	type	description
url	string	fixed value of "http://fhir-registry.smarthealthit.org/StructureDefinition/vaccine-dose"

Feedback

field name	type	description
value	Integer	number indicates sequence number (should be be 1 or 2 for current vaccines)