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MMI Proprietary API Terms of Use

By using or accessing any API services or materials, you agree to be bound by the API Terms of Use available at: https://www.modmed.com/api-terms-of-use/.

Getting Started

Overview
This document is intended for any entity looking to create an application or to retrieve data for various purposes from an MMI EMA or MMPM practice using the MMI Proprietary API. Note that currently this is ***not supported*** for MMGI practices.

It is encouraged that you read through the documentation carefully to ensure that your application can be powered by the Proprietary API. It is possible that you may be looking for details regarding the Certified FHIR API. If you are looking for the Certified FHIR API, you can find that documentation here: https://www.modmed.com/synapsys/fhir-api/

For Vendors or Partners who believe they can power their application using the Proprietary API, you can apply for a sandbox here: https://www.modmed.com/become-a-partner/

Sandboxes can take up to two weeks to provision from the time that they are requested. We typically provide 2 sandbox environments so that you can get comfortable with the concept of being able to work with multiple practices. Sandboxes are generic databases with sample Patients, Practitioners, Locations, and Encounters. If you need to do anything more sophisticated, you can reach out to whoever provided you with the sandbox access to set up different scenarios specific to your application. Additionally, each of our practices have a sandbox environment as well. Those sandboxes are typically used for training purposes as they allow our practices to test different configurations as well as have advanced access to features before turning them on in a Live/Production environment. If you are working with a practice who uses their sandbox, this can sometimes be a better place to work with more real-world data and configurations than the generic sandboxes we provide. If this seems like a better path for you, you will need to work with the practice to ensure they will allow you to do your development against their sandbox. Please mention if you intend on doing that when you submit your vendor application through the URL provided above.

Either way, at the end of your development you will need to prove to MMI that you have gained proficiency with the API by way of a demonstration where you'll be expected to show that you can GET the desired data from the API, as well as PUT or POST any data you intend on writing into EMA through the API. You can read more about that below.

Basic Concepts

This API behaves like a user at a practice - and once you are an approved Application, each practice that you want to work with or who wants to work with you will have to give you access to their practice by way of 'Granting' your application access to their Practice. They will do this by generating a set of credentials that are specific to your application. And they will then give you these credentials for you to Authenticate your application with that Practice. Therefore it is recommended that your application have the ability to store unique credentials for each Practice you work with.

Each MMI practice that you work with has their own unique URL by way of a unique URL prefix. The rest of the URL is the same for all practices. Each MMI practice has a URL structure as follows:

https://**{firm_url_prefix}**.ema.md

So, for example, a practice 'Dermatology Associates' may choose a URL like: https://dermassoc.ema.md where the 'dermassoc' part of the URL is the unique URL prefix. Another practice, for example, 'Urological Associates', may choose a URL like: https://uroassoc.ema.md where 'uroassoc' is the unique URL prefix. Your application will need to be able to support this different URL prefix concept as the way to differentiate between MMI practices.

EMA vs MMPM

It is important to understand a few things about working with Modernizing Medicine. The first thing you'll want to consider is if your application will depend on Practice Management data, Clinical data, or both. Modernizing Medicine practices may use our Electronic Medical Assistant (EMA), or they may use Modernizing Medicine Practice Management (MMPM). It is important to make sure that the practice you are working with has the necessary product in order to power your application.

The big differences include (but are not limited to):

- EMA only practices will not have any appointment or schedule information - you would need to get that from their Practice Management system
- EMA only practices will not have Patient account balances
- EMA only practices will not have the ability to consume an inbound charge
- EMA only practices will only have charges available once the visit has been finalized

Identifiers

Identifiers can be another source of confusion or complication. It is important to ensure that you are aware of which identifiers are required for which transactions.

Patients

All patients will have a unique MMI Identifier which may be referred to as an EMAID informally but these are the IDs you'll use in conjunction with the API for most purposes. However, there are practices who either still interface with another Practice Management System or did at one time and so you may see another identifier on a Patient for PMSID. You will also see an identifier for MRN - a medical record number for that patient. Because of the number of systems at play, and that data is coming from systems with different capabilities, MMI cannot guarantee that any of the non-MMI identifiers are unique.

Practitioners (Providers)

Like Patients, all Providers will have their unique identifier as well. You will also find a Provider's NPI. And, similar to Patients who came from another Practice Management System, you may find a PMSID as well. And depending on the integration, you may need a different identifier for certain types of transactions.
For instance if your application requires charges, many times you'll need to make sure you have the Provider's NPI in order to POST the charges. This is because of a configuration in MMPM which requires an NPI for any charges to map to a Billing Provider's Business Unit. This holds true for many other integration types where another system is using different identifiers - you'll just want to make sure that the identifiers you need to power your application can be obtained from the API.

Locations/Business Units

Locations and Business Units also have their own unique identifiers - an MMI unique id, as well as potentially both a PMSID and/or NPI.

Development Basics

Once your generic sandbox has been provisioned, you will receive an email with all of the information you need to use the information contained in this document and you can begin development. Development Vendor Credentials which will consist of a Username, Password, and Key. With those credentials you'll be able to generate the Access and Refresh tokens using the "Password Grant" endpoint for OAuth2 (*see "Authentication" section below*).

Which "key" you use will depend on which environment you want to access. There are different keys for a "staging/development" environment vs a production environment. You will not be given a production key until you have completed each of the steps below.

The "key" referenced above will need to be added to your header for all calls as specified below.

x-api-key={key} (for the updated endpoints listed below)

- https://stage.ema-api.com/ema-dev/firm/
- https://stage.ema-api.com/ema-training/firm/
- https://mmapi.ema-api.com/ema-prod/

By default, generic sandboxes are given access to ALL Resources so that you can best determine all of the capabilities of the API and how you might use them to power your application.

Once development is complete, or getting close, you'll want to reach out and let us know which Resources you'll need to power your application. PLEASE NOTE: Resources can take up to ***2 weeks*** from the time that they are submitted, until they are provisioned. So once you know which resources you'll need to power your application, it is recommended that you submit them so that they will be there in time for when you want to go live with this functionality.

In order to register your application with Modernizing Medicine, you will need to submit the following to your contact at MMI:

- Vendor Name
- Application Name
- Application Description
- Desired Resources - The list of resources from the API which you will need to access in order to power your application (ie. Patient READ and SEARCH, ChargeItem CREATE, READ, SEARCH, Practitioner READ and SEARCH, etc).

When you believe the app is ready, we need to schedule a call to do a demo and technical understanding. Typically, we'll want to see:

- End to end demo of the system.
- Proof of Concept against the MMI sandbox - you should be able to show complete functionality of any data transmissions in the sandbox you've been provisioned.
- Technical Discussion - we'll want to understand which resources are at play and how frequently you'll be calling them.

Once you have completed the demo and technical discussion successfully and the desired resources for your application have been provisioned, you will be granted a 'Production' key as well as receive instructions for how to take practices live with your application.

Endpoints

Base URLs - *these will be referred to throughout the documentation as {base_url}*

Generic Sandboxes

https://stage.ema-api.com/ema-dev/firm/

Practice Sandboxes

https://stage.ema-api.com/ema-training/firm/

Production

https://mmapi.ema-api.com/ema-prod/firm

Authentication

Generic Sandboxes

https://stage.ema-api.com/ema-dev/firm/**{firm_url_prefix}**/ema/ws/oauth2/grant

Practice Sandboxes

https://stage.ema-api.com/ema-training/firm/**{firm_url_prefix}**/ema/ws/oauth2/grant

Production

https://mmapi.ema-api.com/ema-prod/firm/**{firm_url_prefix}**/ema/ws/oauth2/grant

Resources

Generic Sandboxes

https://stage.ema-api.com/ema-dev/firm/**{firm_url_prefix}**/ema/fhir/v2/{Resource}

Practice Sandboxes

https://stage.ema-api.com/ema-training/firm/**{firm_url_prefix}**/ema/fhir/v2/{Resource}

Production

https://mmapi.ema-api.com/ema-prod/firm/**{firm_url_prefix}**/ema/fhir/v2/{Resource}

Variables

{firm_url_prefix} - this is the unique identifier for the specific firm (practice) you'll be working with.

Examples - Authentication

Generic Sandbox Authentication

https://stage.ema-api.com/ema-dev/firm/**dermpmsandbox1**/ema/ws/oauth2/grant

Practice Sandbox Authentication
G5rWTGwOgB461tVmqUlDc3JUHCzoyURh6q25Td65
https://stage.ema-api.com/ema-training/firm/**dermassoc**/ema/ws/oauth2/grant

Production Authentication

https://mmapi.ema-api.com/ema-prod/firm/**dermassoc**/ema/ws/oauth2/grant

Examples - Resources

Generic Sandboxes - Patient

https://stage.ema-api.com/ema-dev/firm/**dermpmsandbox1**/ema/fhir/v2/Patient

Practice Sandboxes - Patient

https://stage.ema-api.com/ema-training/firm/**dermassoc**/ema/fhir/v2/Patient

Production - Patient

https://mmapi.ema-api.com/ema-prod/firm/**dermassoc**/ema/fhir/v2/Patient

Authentication

Modernizing Medicine uses the OAuth2 Standard to authorize API calls. An access token must be included on every API request. The access token serves to identify your application and determines which resources (e.g Appointments, Patients, etc…) you can work with. You can interact with the MMI FHIR API on behalf of multiple practices, as long as your application has been granted explicit authorization by each practice.

Obtaining Authorization

The OAuth 2.0 spec describes a number of grants ("methods") your application can implement to acquire an access token. Currently, the "password" grant flow is supported and it is supported as a POST to the authentication endpoint.

Authentication

Generic Sandboxes

https://stage.ema-api.com/ema-dev/firm/**{firm_url_prefix}**/ema/ws/oauth2/grant

Practice Sandboxes

https://stage.ema-api.com/ema-training/firm/**{firm_url_prefix}**/ema/ws/oauth2/grant

Production

https://mmapi.ema-api.com/ema-prod/firm/**{firm_url_prefix}**/ema/ws/oauth2/grant

grant_type: password
username: {the username you were provided}
password: {the password you were provided}

Example:

```
curl -X POST \
 https://stage.ema-api.com/ema-dev/firm/emapmsandbox01/ema/ws/oauth2/grant \
 -H 'Content-Type: application/x-www-form-urlencoded' \
 -H 'Postman-Token: ae6d78a9-2cfd-40b0-8256-7a64b7db808a' \
 -H 'cache-control: no-cache' \
 -H 'x-api-key: 5ca254dcc3ee6372d25187h1g76cr6434e8556bd93bd36ea30' \
 -d 'grant_type=password&username={username}&password={password}'
```

Once you make the POST, you should get both the Access token and the Refresh tokens returned to you similar to the example here (the values are intentionally obfuscated):

Sample Return:


```
{
   "scope": "emapmsandbox01",
   "token_type": "Bearer",
   "access_token":
"eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJmaGlyX2lEdm1aliwidXJsUHJlZml4IjoiZGVybXBtc2FuZGJveDQ5IiwidmVuZG9yIjoiZmhpcl9p…..",
   "refresh_token":
"eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJmaGlyX2lEdm1aliwidXJsUHJlZml4IjoiZGVybXBtc2FuZGJveDQ5IiwiaXNzIjoibW9kbWVkIiwidG9rZW5……..."
}
```


Once you have the Access Token, you will use that in each of the calls to the API. You can use the Refresh Token to obtain additional Access Tokens:

Example:

```
curl -X POST \
  https://stage.ema-api.com/ema-dev/firm/emapmsandbox01/ema/ws/oauth2/grant \
  -H 'Content-Type: application/x-www-form-urlencoded' \
  -H 'Postman-Token: 7c553cdc-78bd-4548-b221-f2b32dd50c82' \
  -H 'cache-control: no-cache' \
  -H 'x-api-key: 5ca254dcc3hhftsy65sgsgsg6shhhh78njjjjjjdshdshhsh' \
  -d
'grant_type=refresh_token&refresh_token=eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJmaGlyX2lEdm1aliwidXJsUHJlZml4IjoiZGVybXBtc2FuZGJveDQ5IiwiaXNzIjoibW9kbWVk……OSC9NtWqqwAMzSII'
```

At which point, you will get back something like:


```
{
   "scope": "emapmsandbox01",
   "token_type": "Bearer",
   "access_token":
"eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJmaGlyX2lEdm1aliwidXJsUHJlZml4IjoiZGVybXBtc2FuZGJveDQ5IiwidmVuZG9yIjoiZmhpcl9pRHZtWkBkZXJtcG1zYW5kYm94NDkiLCJpc3MiOiJtb2RtZWQiLCJ0b2tlblR5cGUiOiJhY2Nlc3MiLCJwb2wiOiJjaGFuZ2VtZSIsImp0aSI6ImQ5NDc4ND……",
   "refresh_token":
"eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJmaGlyX2lEdm1aliwidXJsUHJlZml4IjoiZGVybXBtc2FuZGJveDQ5IiwiaXNzIjoibW9kbWVkIiwidG9rZW5UeXBlIjoicmV……...MzSII"
}
```


Note: The refresh token will remain the same as what you sent in your POST.

Once you have the Access Token, you will use that in each of the calls to the API. For example, if you were making a GET call for a Patient, it would look something like this:

```
curl -X GET \
  https://stage.ema-api.com/ema-dev/firm/emapmsandbox01/ema/fhir/v2/Patient \
  -H 'Authorization: Bearer
eyJ0eXAiOiJKV1QiLCJh……..GQ1Nzk2NTRjNGViOWJhYTdkZjY2NjBkNjdiIn0.WcuidhExBqQu7zlX1cQhD12JicoVpDHouU_bvV_qWvA' \
  -H 'Postman-Token: ce2d75cb-48f2-431f-b70e-007ceff4ad1e' \
  -H 'cache-control: no-cache' \
  -H 'x-api-key: 5ca254dcc3ee6372d2519htsg56hst7788hhstsfaghhdggg5'
```

Rate Limiting

By default, each api key is limited to 1000 calls per minute. If your application requires more frequent calls, please reach out to the person who provisioned your credentials and set up a call to understand your needs.

Response Codes

Code	Description
200	OK - Successful Response
201	CREATED - Resource was created successfully
400	BAD REQUEST - The request was bad, often due to a missing required parameter
401	NOT AUTHORIZED- Authentication error, this token is not allowed access to the API.
403	FORBIDDEN
404	NOT FOUND
422	UNPROCESSABLE ENTITY- Request could not be processed, typically indicates a validation error.
429	TOO MANY REQUESTS- Request was rate limited, please retry
500	SERVER ERROR- Internal Server Error

Count and Pagination

For performance reasons, some endpoints have paginated responses. We have implemented 2 parameters to use while searching: **_count** This you can optionally pass to change the page size. If you do not pass this, then the maximum page size for the Resource will be used. For the Patient Resource, the current maximum page size is 50.

page This you can optionally pass to get to the requested page.

We currently support two different implementations for Count and Pagination.

Beginning with release 7.7, by default, ‘total’ will show the total for that page. The ‘next’ will be the link for the next group of results. You will know when you have reached the end when no more results are returned (ie. ‘total’ = 0).


```
"resourceType": "Bundle",
"id": "3fdfc58b-214c-45c4-94f5-c1fe0dd5b3cb",
"meta": {
   "lastUpdated": "2024-05-24T13:43:18.566+00:00"
},
"type": "searchset",
"total": 50,
"link": [
```

```
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix/ema/fhir/v2/Patient"
    },
    {
      "relation": "next",
      "url": "{base url}/{firm_url_prefix/ema/fhir/v2/Patient?page=2"
    }
  ],
```

There is another implementation that will allow you to get the total number of records and also calculates the # of pages ahead of time for you. However this implementation is heavier from a performance standpoint - the calls will take much longer to return. It is recommended that you only use this when you need to.

If you add a header of 'Content-flag' with a value of ' Pagination_optimization_disabled', When the list of entries is returned, there will be paginated links included in the bundle. There will be links for the next and previous pages. Not all of these links will be returned depending on the situation. For example, if there is only 1 page of records, you will not see any paged links. The links will look like this in the payload:

```
{
  "resourceType": "Bundle",
  "id": "3fdfc58b-214c-45c4-94f5-c1fe0dd5b3cb",
  "meta": {
    "lastUpdated": "2024-05-24T13:43:18.566+00:00"
  },
  "type": "searchset",
  "total": 22437,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix/ema/fhir/v2/Patient"
    },
    {
      "relation": "next",
      "url": "{base url}/{firm_url_prefix/ema/fhir/v2/Patient?page=2"
    },
    {
      "relation": "last",
      "url": "{base url}/{firm_url_prefixr/ema/fhir/v2/Patient?page=449"
    }
  ],
```

Note that the "self" link is always returned. The self link is the url that was requested by the user.

Note: The 'Slot' resource does **not** have any pagination.

Capability Statement

A Capability Statement documents a set of capabilities (behaviors) of a FHIR Server for a particular version of FHIR that may be used as a statement of actual server functionality or a statement of required or desired server implementation.

The MMI Capability Statement can be found here:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/metadata

Value Sets

There are many instances where certain values are specific to a firm (ie. customizable settings). For instance, a practice's Appointment Types are typically specific to them.

In many of those instances, we've created ValueSets for this information. You can always query a firm's ValueSets by using the following structure:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet

Where applicable, the ValueSet will also be included with the documentation for a specific resource which may or may not require those values.

Header Flags

In an effort to ensure that changes made to the API are non-breaking for our vendors, we will occasionally use header flags to control the content coming back in certain payloads.

In order to access this content, you will want to set a header with:

- 'Content-flag'

We offer the following values

- Referral (adds Referral Contact and Referral Source information to Patient and Appointment payloads
- Pagination_optimization_disabled (will provide the total count for all resources, not just the current page)
- Universal_Id (adds a GUID to the patient payloads)

Resources

Modernizing Medicine leverages the FHIR R4 API specification. We have tried to remain true to the FHIR specification as much as possible. If the documentation here does not provide the answer you are looking for, we recommend referencing the FHIR specification as an alternative source of information.

At the present time, only the resources defined below are supported. We will be continuously adding to our supported list of resources, so this document will continue to expand as we build out the API.

- Patient
- Practitioner
- Location
- DocumentReference
- Appointment
- Slot
- Coverage
- MedicationStatement
- AllergyIntolerance
- Condition
- FamilyMemberHistory
- Encounter
- ChargeItem
- Account
- RelatedPerson
- ServiceRequest
- DiagnosticReport
- Task
- Composition
- PaymentReconciliation
- Organization
- InsurancePlan

Patient

- FHIR Specification: https://hl7.org/fhir/R4/patient.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Patient

Common use cases include:

- Find all patients for a practice
- Search for a specific patient
- Discover changes in the last __x___ amount of time
- Get the demographic information for a patient
- Create a new patient
- Update a patient's demographics

Important Notes:

- If your application uses the Patient CREATE resource, the API will allow you to create a new patient at will. So it is important to ensure that your application is not creating duplicates of patients already in the system.
- At a minimum, it is recommended that your application match on a patient's first name, last name, DOB, and Gender. Other good matching criteria include email address, phone number, zip code, SSN (if used).

Note: All data is returned as JSON by default. If you would like XML instead, add the following parameter to any search: _format=application/fhir+xml

The following attributes are supported:

Field Name	Notes
id	The MMI-specific unique identifier for the patient
identifier	Lists the various identifiers of a patient. A patient may have one, many, or all of the following identifiers: • **PMS** (Practice Management System ID) - Note: For practices using Modernizing Medicine's Practice Management System, this will be the MMI PMS ID. For practices using another Practice Management System, this will be the ID from that system. • **MRN** - https://hl7.org/fhir/R4/v2/0203/index.html#v2-0203-MR • **SSN** - http://hl7.org/fhir/sid/us-ssn
	Note: If you pass a header of 'Content-Flag' with a value of 'Referral' you can view this information (if it exists) for the Patient. • **Referral Source -** /fhir/v2/ValueSet/referral-source (populates only when Content-Flag: Referral is sent)
active	true|false

name	• family • given
telecom	The various contact methods for the patient. “rank” is used to determine the Patient’s preferred contact method.
gender	The Patient’s birth gender
birthDate	The Patient’s birth date
deceasedBoolean	true/false
address	The Patient’s address(es)
maritalStatus	The Patient’s Marital Status - http://www.hl7.org/fhir/v2/0002/
contact	Emergency Contact - http://www.hl7.org/fhir/v2/0131/
communication	Language - http://www.loc.gov/standards/iso639-2/php/code_list.php
extension - Race	http://hl7.org/fhir/us/core/STU3.1/StructureDefinition-us-core-race.html
extension - Ethnicity	http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity
generalPractitioner	http://hl7.org/fhir/valueset-encounter-participant-type.html MMI will support: - REF Referrer - This is typically a referring physician and will reference an NPI if there is one in the system - PPRF Primary Performer - This is typically the patient’s Primary Practitioner at the practice and will be a reference to the /Practitioner ***Note:*** These are the values at the Patient level - meaning that these values are general. You may find different Primary and Referring practitioners at the Encounter level as many times those are specific to an individual encounter.
	Note: When Content-Flag: Referral is sent in the FHIR request, if the Patient has a ‘Referring Provider’, there will be a reference to a Practitioner within this field.
generalPractitioner extension - date last seen	The last visit date of the patient with the referenced provider. Added as an extension to the generalPractitioner field using a url of “date-last-seen”.
referral-source	***Note:*** When Content-Flag: Referral is sent in the FHIR request, if the Patient has a ‘Referral Source’, there will be a reference to a Practitioner within this field. If the Patient has been assigned a Referral Source in MMPM, this will be a reference to that ID. Referral Sources can be found by querying the following Value Set: {base

	url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/referral-source

Note: The Patient resource also supports the following extensions:

- Patient Race: http://hl7.org/fhir/us/core/STU3/StructureDefinition-us-core-race.html
- Patient Ethnicity: http://hl7.org/fhir/us/core/STU3/StructureDefinition-us-core-ethnicity.html

The Following Operations are supported:

- Patient READ
- Patient SEARCH
- Patient CREATE
- Patient UPDATE

Patient READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Patient	GET	Retrieve List of all Patients for a Firm
{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/{id}	GET	Retrieve Patient by ID

Examples:

Retrieve List of all Patients for a Firm

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Patient

Sample Response (intentionally truncated for space):


```
{
  "entry": [
    {
      "fullUrl": "{base_url}/ema/fhir/v2/Patient/9576653",
      "resource": {
        "active": true,
        "address": [
          {
            "city": "Allentown",
            "line": [
              "1 Main Street"
            ],
            "postalCode": "18104",
            "state": "PA",
            "type": "both",
            "use": "home"
          }
        ],
        "birthDate": "2013-09-13",
        "deceasedBoolean": false,
        "extension": [
          {
```

```
            "extension": [
               {
                  "url": "text",
                  "valueString": "Unspecified"
               }
            ],
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity"
         }
      ],
      "gender": "male",
      "generalPractitioner": [
         {
            "display": "Doctor John, MD",
            "extension": [
               {
                  "url": "date-last-seen",
                  "valueDate": "2024-05-12"
               }
            ],
            "identifier": {
               "type": {
                  "coding": [
                     {
                        "code": "PPRF",
                        "display": "primary performer",
                        "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type"
                     }
                  ],
                  "text": "primary performer"
               }
            },
            "reference": "{base_url}/ema/fhir/v2/Practitioner/103007"
         }
      ],
      "id": "9576653",
      "identifier": [
         {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
            "value": "MM0000000003"
         },
         {
            "system": "UNIVERSAL_ID",
            "value": "TEST1uitI4jKbVP6mKz68O0DWr72IMzQ"
         }

      ],
      "maritalStatus": {
         "coding": [
            {
               "code": "T",
               "display": "Unreported",
               "system": "http://www.hl7.org/fhir/v2/0002"
            }
         ],
         "text": "Unreported"
      },
      "meta": {
         "lastUpdated": "2020-11-04T01:26:50.000+00:00"
      },
      "name": [
```

```
            {
               "family": "Test",
               "given": [
                  "Child"
               ]
            }
         ],
         "resourceType": "Patient",
         "telecom": [
            {
               "system": "email",
               "value": "test.child@gmail.com"
            }
         ]
      }
   },
   {
      "fullUrl": "{base_url}/ema/fhir/v2/Patient/9578312",
      "resource": {
         "active": true,
         "address": [
            {
               "city": "Boca Raton",
               "country": "United States of America",
               "line": [
                  "2 Main St"
               ],
               "postalCode": "33494",
               "state": "FL",
               "type": "both",
               "use": "home"
            }
         ],
         "birthDate": "1995-09-09",
         "deceasedBoolean": false,
         "extension": [
            {
               "extension": [
                  {
                     "url": "ombCategory",
                     "valueCoding": {
                        "code": "UNK",
                        "display": "Unknown",
                        "system": "http://terminology.hl7.org/CodeSystem/v3-NullFlavor"
                     }
                  },
                  {
                     "url": "text",
                     "valueString": "Unknown"
                  }
               ],
               "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race"
            },
            {
               "extension": [
                  {
                     "url": "text",
                     "valueString": "Unspecified"
                  }
               ],
```

```
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity"
         }
      ],
      "gender": "male",
      "generalPractitioner": [
         {
            "display": "Doctor Frankenstein, MD",
            "identifier": {
               "type": {
                  "coding": [
                     {
                        "code": "PPRF",
                        "display": "primary performer",
                        "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type"
                     }
                  ],
                  "text": "primary performer"
               }
            },
            "reference": "{base_url}/ema/fhir/v2/Practitioner/103007"
         }
      ],
      "id": "9578312",
      "identifier": [
         {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
            "value": "MM0000000004"
         }
      ],
      "maritalStatus": {
         "coding": [
            {
               "code": "T",
               "display": "Unreported",
               "system": "http://www.hl7.org/fhir/v2/0002"
            }
         ],
         "text": "Unreported"
      },
      "meta": {
         "lastUpdated": "2020-10-28T21:04:24.000+00:00"
      },
      "name": [
         {
            "family": "Test",
            "given": [
               "Male"
            ]
         }
      ],
      "resourceType": "Patient",
      "telecom": [
         {
            "rank": 1,
            "system": "phone",
            "use": "mobile",
            "value": "1234567890"
         }
      ]
   }
```

```
    },
    {
      "fullUrl": "{base_url}/ema/fhir/v2/Patient/9587310",
      "resource": {
        "active": true,
        "address": [
          {
            "city": "Washington",
            "country": "United States of America",
            "line": [
              "1600 Pennsylvania Ave"
            ],
            "postalCode": "20500",
            "state": "DC",
            "type": "both",
            "use": "home"
          }
        ],
        "birthDate": "1995-09-09",
        "deceasedBoolean": false,
        "extension": [
          {
            "extension": [
              {
                "url": "ombCategory",
                "valueCoding": {
                  "code": "1002-5",
                  "display": "American Indian or Alaska Native",
                  "system":
"http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html"
                }
              },
              {
                "url": "text",
                "valueString": "American Indian or Alaska Native"
              }
            ],
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race"
          },
          {
            "extension": [
              {
                "url": "text",
                "valueString": "Unspecified"
              }
            ],
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity"
          }
        ],
        "gender": "female",
        "generalPractitioner": [
          {
            "display": "Doctor Zhivago, MD",
            "identifier": {
              "type": {
                "coding": [
                  {
                    "code": "PPRF",
                    "display": "primary performer",
                    "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type"
```

```
                        }
                     ],
                     "text": "primary performer"
                  }
               },
               "reference": "{base_url}/ema/fhir/v2/Practitioner/102625"
            }
         ],
         "id": "9587310",
         "identifier": [
            {
               "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
               "value": "MM0000000002"
            }
         ],
         "maritalStatus": {
            "coding": [
               {
                  "code": "C",
                  "display": "Common law",
                  "system": "http://www.hl7.org/fhir/v2/0002"
               }
            ],
            "text": "Common law"
         },
         "meta": {
            "lastUpdated": "2020-11-04T13:02:56.000+00:00"
         },
         "name": [
            {
               "family": "Test",
               "given": [
                  "Female"
               ]
            }
         ],
         "resourceType": "Patient",
         "telecom": [
            {
               "rank": 1,
               "system": "phone",
               "use": "home",
               "value": "2155551212"
            },
            {
               "system": "email",
               "value": "female.test@aol.com"
            }
         ]
      }
   },
   {
      "fullUrl": "{base_url}/ema/fhir/v2/Patient/125253",
      "resource": {
         "active": true,
         "address": [
            {
               "city": "Burbank",
               "country": "United States of America",
               "line": [
```

```
                "275 East Olive Avenue"
            ],
            "postalCode": "91502",
            "state": "CA",
            "type": "both",
            "use": "home"
        }
    ],
    "birthDate": "1930-11-23",
    "communication": [
        {
            "language": {
                "coding": [
                    {
                        "code": "eng",
                        "display": "English",
                        "system": "http://www.loc.gov/standards/iso639-2/php/code_list.php"
                    }
                ],
                "text": "English"
            }
        }
    ],
    "contact": [
        {
            "name": {
                "given": [
                    "Claire Blake"
                ]
            },
            "relationship": [
                {
                    "coding": [
                        {
                            "code": "C",
                            "display": "Emergency Contact",
                            "system": "http://www.hl7.org/fhir/v2/0131"
                        }
                    ],
                    "text": "Emergency Contact"
                }
            ],
            "telecom": [
                {
                    "system": "phone",
                    "value": "999-888-7777"
                }
            ]
        }
    ],
    "deceasedBoolean": false,
    "extension": [
        {
            "extension": [
                {
                    "url": "ombCategory",
                    "valueCoding": {
                        "code": "UNK",
                        "display": "Unknown",
                        "system": "http://terminology.hl7.org/CodeSystem/v3-NullFlavor"
```

```
                    }
                 },
                 {
                    "url": "text",
                    "valueString": "Unknown"
                 }
              ],
              "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race"
           },
           {
              "extension": [
                 {
                    "url": "text",
                    "valueString": "Unspecified"
                 }
              ],
              "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity"
           }
        ],
        "gender": "female",
        "generalPractitioner": [
           {
              "display": "Marcus Welby, MD",
              "identifier": {
                 "type": {
                    "coding": [
                       {
                          "code": "PPRF",
                          "display": "primary performer",
                          "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type"
                       }
                    ],
                    "text": "primary performer"
                 }
              },
              "reference": "{base_url}/ema/fhir/v2/Practitioner/10306301"
           },
           {
              "display": "Michael Mancini, MD",
              "identifier": {
                 "system": "NPI",
                 "type": {
                    "coding": [
                       {
                          "code": "REF",
                          "display": "referrer",
                          "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type"
                       }
                    ],
                    "text": "referrer"
                 },
                 "value": "1649430349"
              }
           }
        ],
        "id": "125253",
        "identifier": [
           {
              "system": "PMS",
              "value": "954305561"
```

```
            },
            {
               "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
               "value": "MM0000027179"
            }
         ],
         "maritalStatus": {
            "coding": [
               {
                  "code": "S",
                  "display": "Single",
                  "system": "http://www.hl7.org/fhir/v2/0002"
               }
            ],
            "text": "Single"
         },
         "meta": {
            "lastUpdated": "2020-09-11T19:57:53.000+00:00"
         },
         "name": [
            {
               "family": "BLANE",
               "given": [
                  "TORCHY"
               ]
            }
         ],
         "resourceType": "Patient",
         "telecom": [
            {
               "rank": 1,
               "system": "phone",
               "use": "mobile",
               "value": "222333444"
            },
            {
               "system": "email",
               "value": "torchyb@COMCAST.NET"
            }
         ]
      }
   }
],
"id": "67a3dd85-f8c4-4578-a51f-c9a00b20841d",
"link": [
   {
      "relation": "self",
      "url": "{base_url}/ema/fhir/v2/Patient"
   },
   {
      "relation": "next",
      "url": "{base_url}/ema/fhir/v2/Patient?page=2"
   },
   {
      "relation": "last",
      "url": "{base_url}/ema/fhir/v2/Patient?page=1409"
   }
],
"meta": {
   "lastUpdated": "2020-11-12T13:25:31.977+00:00"
```

```
  },
  "resourceType": "Bundle",
  "total": 70480,
  "type": "searchset"
}
```


Retrieve Patient by ID

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Patient/55764352

Sample Response


```
{
  "fullUrl": "{base_url}/ema/fhir/v2/Patient/55764352",
  "resource": {
    "resourceType": "Patient",
    "id": "55764352",
    "meta": {
      "lastUpdated": "2020-11-05T17:27:55.000+00:00"
    },
    "extension": [
      {
        "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
        "extension": [
          {
            "url": "ombCategory",
            "valueCoding": {
              "system": "http://terminology.hl7.org/CodeSystem/v3-NullFlavor",
              "code": "UNK",
              "display": "Unknown"
            }
          },
          {
            "url": "text",
            "valueString": "Unknown"
          }
        ]
      },
      {
        "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
        "extension": [
          {
            "url": "text",
            "valueString": "Unspecified"
          }
        ]
      }
    ],
    "identifier": [
      {
        "system": "PMS",
        "value": "561954305"
      },
      {
        "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
        "value": "MM000001974"
      },
      {
        "system": "UNIVERSAL_ID",
        "value": "TEST1uitI4jKbVP6mKz68O0DWr72IMzQ"
      }
```

```
  ],
  "active": true,
  "name": [
    {
      "family": "BERNHARDT",
      "given": [
        "JIM"
      ]
    }
  ],
  "telecom": [
    {
      "system": "phone",
      "value": "8885552222",
      "use": "mobile",
      "rank": 1
    }
  ],
  "gender": "male",
  "birthDate": "1961-09-30",
  "deceasedBoolean": false,
  "address": [
    {
      "use": "home",
      "type": "both",
      "line": [
        "4140  Gateway Road"
      ],
      "city": "Tigard",
      "state": "OR",
      "postalCode": "97223",
      "country": "United States of America"
    }
  ],
  "maritalStatus": {
    "coding": [
      {
        "system": "http://www.hl7.org/fhir/v2/0002",
        "code": "T",
        "display": "Unreported"
      }
    ],
    "text": "Unreported"
  },
  "contact": [
    {
      "relationship": [
        {
          "coding": [
            {
              "system": "http://www.hl7.org/fhir/v2/0131",
              "code": "C",
              "display": "Emergency Contact"
            }
          ],
          "text": "Emergency Contact"
        }
      ],
      "name": {
        "given": [
          "Avery Jessup"
        ]
      },
      "telecom": [
        {
```

```
                "system": "phone",
                "value": "503-270-0238"
            }
          ]
       }
    ],
    "communication": [
       {
          "language": {
             "coding": [
                {
                   "system": "http://www.loc.gov/standards/iso639-2/php/code_list.php",
                   "code": "eng",
                   "display": "English"
                }
             ],
             "text": "English"
          }
       }
    ],
    "generalPractitioner": [
       {
          "identifier": {
             "type": {
                "coding": [
                   {
                      "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                      "code": "REF",
                      "display": "referrer"
                   }
                ],
                "text": "referrer"
             },
             "system": "NPI",
             "value": "1288976543"
          },
          "display": "Horace Couchman, MD"
       }
    ]
  }
}
```


Example of a Patient with Referral data(Referral Source and Referring Provider/Institution) populated

Retrieve Patient by ID

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Patient/55764352


```
                    {
 "resourceType": "Patient",
 "id": "142496",
 "meta": {
    "lastUpdated": "2023-03-02T08:02:01.000+00:00"
 },
 "extension": [
    {
       "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
       "extension": [
          {
             "url": "ombCategory",
             "valueCoding": {
```

```
                    "system": "http://terminology.hl7.org/CodeSystem/v3-NullFlavor",
                    "code": "UNK",
                    "display": "Unknown"
                }
            },
            {
                "url": "text",
                "valueString": "Unknown"
            }
        ]
    },
    {
        "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
        "extension": [
            {
                "url": "text",
                "valueString": "Unspecified"
            }
        ]
    }
  ],
  "identifier": [
    {
        "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
        "value": "12345678900120000000"
    },
    {
        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2//ValueSet/referral-source",
        "value": "381"
    }
  ],
  "active": true,
  "name": [
    {
        "family": "Test",
        "given": [
            "Patient"
        ]
    }
  ],
  "gender": "female",
  "birthDate": "2023-03-02",
  "deceasedBoolean": false,
  "maritalStatus": {
     "coding": [
        {
            "system": "http://www.hl7.org/fhir/v2/0002",
            "code": "T",
            "display": "Unreported"
        }
     ],
     "text": "Unreported"
  }
}
"generalPractitioner": [
    {
        "reference": "Practitioner/ref|5098",
        "identifier": {
            "type": {
                "coding": [
                    {
                        "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                        "code": "REF",
                        "display": "referrer"
                    }
```

```
            ],
            "text": "referrer"
         }
      },
      "display": "test, ref"
   },
   {
      "reference": "Practitioner/ref|5099",
      "identifier": {
         "type": {
            "coding": [
               {
                  "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                  "code": "REF",
                  "display": "referrer"
               }
            ],
            "text": "referrer"
         }
      },
      "display": "Doctor, Referring"
   },
```


It is also possible to 'Merge' Patients in ModMedPM system. When a patient has been merged with another record, you will see a link in the payload to indicate that:


```
"link": [
            {
               "other": {
                  "reference": "Patient/39481",
                  "display": "{base_url}/Patient/39481"
               },
               "type": "replaced-by"
            },

            {
   "other": {  "reference": "Patient/177997",
    "display": "{base_url}/Patient/177997"},
     "type": "replaces"
}
```


Patient SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Patient?{Parameter=Value}	GET	Retrieve Patient resources meeting the specified search criteria

The Patient resource is searchable by the following parameters - Please note that unless specified, the /Patient search will return 'Active' patients in the practice. If you need to find inactive patients for any reason, you would use the ?active=false query parameter below:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 50
_lastUpdated	date	This is an Optional Date in the format _lastUpdated=gtDATE, _lastUpdated=eqDATE and _lastUpdated=leDATE in the format yyyy-mm-dd • _lastUpdated=2016-01-01T00:00:00.000Z (EXACT match) • _lastUpdated=ge2016-01-01T00:00:00.000Z (valid operators: eq, gt, ge, lt, le) • _lastUpdated=ge2016-01-01T00:00:00.000Z&_lastUpdated=le2016-06-01T00:00:00.000Z (if more than 2 are sent in you will get error) • ::it will also check to make sure the upperbound date is > then lowerbound date
address-postalcode	string	A postalCode specified in an address
active	true|false	
birthdate	date	This is the patient's Date of birth - Valid format yyyy-MM-dd
email	string	A value in an email contact
family	string	This is the patient's last name - Supports exact matches
gender	string	This is the patient's gender - male, female, or unknown
general-practitioner	reference	Patient's referring provider example: Practitioner/ref|1234
given	string	A portion of the given name of the patient
identifier	token	MMI stores several identifiers for Patients.

		MRN: To search for MRN, you'd add '?identifier=http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR|MM0000000178' **PMS ID:** '/ema/fhir/v2/Patient?identifier=PMS|10049100000047' https://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR **SSN:** '?identifier=http://hl7.org/fhir/sid/us-ssn|123456789'
language	string	Language code (irrespective of use value) Please note that with the Patient Resource, we use a custom system for our language values: http://www.loc.gov/standards/iso639-2/php/code_list.php This is something that we have deviated from the HL7 default Language ValueSet
page	string	Page to be used for paginated search
phone	string	A value in a phone contact
ethnicity (extension): us-core-ethnicity	token	Returns patients with an ethnicity extension matching the specified code. Detailed Extension specification can be found at: http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity. us-core-ethnicity=http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-ethnicity.html|code us-core-ethnicity=http://hl7.org/fhir/us/core/STU3/ValueSet-omb-ethnicity-category.html|code
race (extension): us-core-race	code	Returns patients with a race extension matching the specified code. Detailed Extension specification can be found at: http://hl7.org/fhir/us/core/StructureDefinition/us-core-race.

		us-core-race=http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html|code us-core-race=http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html|code
referral-source	string	If the Patient has been assigned a Referral Source in MMPM, this will be a reference to that ID. Referral Sources can be found by querying the following Value Set: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/referral-source

Examples:

Find a patient with a specific first name and last name

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Patient?given=Clayton&family=Abernathy

Sample Response:


```
{
  "resourceType": "Bundle",
  "id": "4ee04683-b876-4acd-a227-ec911d06da54",
  "meta": {
    "lastUpdated": "2019-08-30T15:58:25.929+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient?family=Abernathy&given=Clayton"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291",
      "resource": {
        "resourceType": "Patient",
        "id": "39291",
        "extension": [
          {
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
            "extension": [
              {
                "url": "ombCategory",
                "valueCoding": {
                  "system": "http://terminology.hl7.org/CodeSystem/v3-NullFlavor",
                  "code": "UNK",
                  "display": "Unknown"
                }
              },
              {
                "url": "text",
```

```
                "valueString": "Unknown"
              }
            ]
          },
          {
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
            "extension": [
              {
                "url": "text",
                "valueString": "Declined to Specify"
              }
            ]
          }
        ],
        "identifier": [
          {
            "system": "PMS",
            "value": "100491000002171"
          },
          {
            "system": "http://hl7.org/fhir/sid/us-ssn",
            "value": "561552222"
          },
          {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
            "value": "MM0000000822"
          }
        ],
        "name": [
          {
            "family": "Abernathy",
            "given": [
              "Clayton",
              "M"
            ]
          }
        ],
        "telecom": [
          {
            "system": "email",
            "value": "a@a.com"
          },
          {
            "system": "phone",
            "value": "555-555-5555",
            "use": "home",
            "rank": 1
          },
          {
            "system": "phone",
            "value": "5619231111",
            "use": "work"
          },
          {
            "system": "phone",
            "value": "5617582222",
            "use": "mobile"
          }
        ],
        "gender": "male",
        "birthDate": "1982-06-02",
        "address": [
          {
            "use": "home",
            "type": "both",
```

```
                "line": [
                    "3600 FAU BLVD"
                ],
                "city": "Boca Raton",
                "state": "FL",
                "postalCode": "33432",
                "country": "United States of America"
            }
        ],
        "maritalStatus": {
            "coding": [
                {
                    "system": "http://www.hl7.org/fhir/v2/0002",
                    "code": "D",
                    "display": "Divorced"
                }
            ],
            "text": "Divorced"
        }
    }
  }
 ]
}
```


Find a Patient with a specific MRN

GET
{base_url}/{firm_url_prefix}/ema/fhir/v2/Patient?identifier=http%3A%2F%2Fwww.hl7.org%2Ffhir%2Fv2%2F0203%2Findex.html%23v2-0203-MR|113940

Sample Response


```
{
  "resourceType": "Bundle",
  "id": "f0f56e05-91db-438b-b9d9-d031aaff9f64",
  "meta": {
    "lastUpdated": "2020-12-05T21:21:56.896+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "{base
url}/{firm_url_prefix}/ema/fhir/v2/Patient?identifier=http%3A%2F%2Fwww.hl7.org%2Ffhir%2Fv2%2F0203%2Findex.html%23v2-0203-MR%7C113940"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3089391",
      "resource": {
        "resourceType": "Patient",
        "id": "3089391",
        "meta": {
          "lastUpdated": "2017-11-16T19:26:41.000+00:00"
        },
        "extension": [
          {
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
            "extension": [
              {
```

```
                "url": "ombCategory",
                "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html",
                  "code": "2106-3",
                  "display": "White"
                }
              },
              {
                "url": "text",
                "valueString": "White"
              }
            ]
          },
          {
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
            "extension": [
              {
                "url": "ombCategory",
                "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-ethnicity-category.html",
                  "code": "2186-5",
                  "display": "Not Hispanic or Latino"
                }
              },
              {
                "url": "text",
                "valueString": "Not Hispanic or Latino"
              }
            ]
          }
        ],
        "identifier": [
          {
            "system": "http://hl7.org/fhir/sid/us-ssn",
            "value": "333456678"
          },
          {
            "system": "PMS",
            "value": "113940"
          },
          {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
            "value": "113940"
          }
        ],
        "active": true,
        "name": [
          {
            "family": "PATIENT",
            "given": [
              "TEST"
            ]
          }
        ],
        "gender": "male",
        "birthDate": "1958-10-31",
        "deceasedBoolean": false,
        "maritalStatus": {
          "coding": [
            {
              "system": "http://www.hl7.org/fhir/v2/0002",
              "code": "M",
              "display": "Married"
            }
          ],
```

```
            "text": "Married"
          },
          "communication": [
            {
              "language": {
                "coding": [
                  {
                    "system": "http://www.loc.gov/standards/iso639-2/php/code_list.php",
                    "code": "eng",
                    "display": "English"
                  }
                ],
                "text": "English"
              }
            }
          ]
        }
      }
    ]
}
```


Find a Patient with a specific Race
GET {base url}/{firm_url_prefix}/ema/fhir/v2/Patient?us-core-race=http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html|2056-0

Sample Response:


```
{
  "resourceType": "Bundle",
  "id": "4bd30ebc-123f-4606-8f5e-425e9b307d63",
  "meta": {
    "lastUpdated": "2019-08-30T16:04:35.643+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient?us-core-race=http%3A%2F%2Fhl7.org%2Ffhir%2Fus%2Fcore%2FSTU3%2FValueSet-omb-race-category.html%7C2056-0"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/19173",
      "resource": {
        "resourceType": "Patient",
        "id": "19173",
        "extension": [
          {
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
            "extension": [
              {
                "url": "ombCategory",
                "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html",
                  "code": "2056-0",
                  "display": "Black"
                }
```

```
                },
                {
                    "url": "detailed",
                    "valueCoding": {
                        "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
                        "code": "2126-1",
                        "display": "Afghanistani"
                    }
                },
                {
                    "url": "detailed",
                    "valueCoding": {
                        "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
                        "code": "1124-7",
                        "display": "Bad River"
                    }
                },
                {
                    "url": "text",
                    "valueString": "Black, Afghanistani, Bad River"
                }
            ]
        },
        {
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
            "extension": [
                {
                    "url": "text",
                    "valueString": "Declined to Specify"
                }
            ]
        }
    ],
    "identifier": [
        {
            "system": "PMS",
            "value": "100491000000073"
        },
        {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
            "value": "MM0000000012"
        }
    ],
    "name": [
        {
            "family": "Sieksnis",
            "given": [
                "Jonas"
            ]
        }
    ],
    "telecom": [
        {
            "system": "email",
            "value": "qaz@qa.com"
        },
        {
            "system": "phone",
            "value": "1111119998",
            "use": "mobile",
            "rank": 1
        },
        {
            "system": "phone",
            "value": "2222222222",
```

```
                    "use": "home"
                },
                {
                    "system": "phone",
                    "value": "888888888888",
                    "use": "work"
                }
            ],
            "gender": "male",
            "birthDate": "1929-06-24",
            "address": [
                {
                    "use": "home",
                    "type": "both",
                    "line": [
                        "3600 West 96th Street",
                        "Unit 101"
                    ],
                    "city": "Boca Raton",
                    "state": "FL",
                    "postalCode": "334343434",
                    "country": "United States of America"
                },
                {
                    "use": "temp",
                    "type": "both",
                    "line": [
                        "7711 Main Street",
                        "Unit 202"
                    ],
                    "city": "Omaha",
                    "state": "NE",
                    "postalCode": "77700",
                    "country": "United States of America"
                }
            ],
            "maritalStatus": {
                "coding": [
                    {
                        "system": "http://www.hl7.org/fhir/v2/0002",
                        "code": "T",
                        "display": "Unreported"
                    }
                ],
                "text": "Unreported"
            }
        }
    }
  ]
}
```


Find Patients who have a specific Referring Provider
GET {base url}/{firm_url_prefix}/ema/fhir/v2/Patient?general-practitioner=Practitioner%2Fref%7C55588

Find Patients who have a specific Referral Source
GET {base url}/{firm_url_prefix}/ema/fhir/v2/Patient?referral-source=385


```
{
  "resourceType": "Bundle",
  "id": "61d5dd7a-abb0-472b-9c6a-98c0f7f7ddaa",
  "meta": {
```

```
    "lastUpdated": "2023-03-24T05:19:56.488+00:00"
  },
  "type": "searchset",
  "total": 19,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient?general-practitioner=Practitioner%2Fref%7C29178"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/45125",
      "resource": {
        "resourceType": "Patient",
        "id": "45125",
        "meta": {
          "lastUpdated": "2023-01-11T12:40:55.000+00:00"
        },
        "extension": [
          {
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
            "extension": [
              {
                "url": "detailed",
                "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
                  "code": "1068-6",
                  "display": "Canadian and Latin American Indian"
                }
              },
              {
                "url": "detailed",
                "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
                  "code": "1737-6",
                  "display": "Alaska Indian"
                }
              },
              {
                "url": "detailed",
                "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
                  "code": "1004-1",
                  "display": "American Indian"
                }
              },
              {
                "url": "detailed",
                "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
                  "code": "2029-7",
                  "display": "Asian Indian"
                }
              },
              {
                "url": "detailed",
                "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
                  "code": "1006-6",
                  "display": "Abenaki"
                }
              },
              {
                "url": "detailed",
```

```
                        "valueCoding": {
                           "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
                           "code": "2060-2",
                           "display": "African"
                        }
                     },
                     {
                        "url": "text",
                        "valueString": "Canadian and Latin American Indian, Alaska Indian, American Indian, Asian Indian,
Abenaki, African"
                     }
                  ]
               },
               {
                  "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
                  "extension": [
                     {
                        "url": "ombCategory",
                        "valueCoding": {
                           "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-ethnicity-category.html",
                           "code": "2135-2",
                           "display": "Hispanic or Latino"
                        }
                     },
                     {
                        "url": "text",
                        "valueString": "Hispanic or Latino"
                     }
                  ]
               }
            ],
            "identifier": [
               {
                  "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
                  "value": "MM0000000931"
               },
               {
                  "system": "http://hl7.org/fhir/sid/us-ssn",
                  "value": "904868866"
               },
               {
                  "system": "PMS",
                  "value": "100491000002392"
               },
               {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/referral-source",
                  "value": "489"
               }
            ],
            "active": true,
            "name": [
               {
                  "family": "River",
                  "given": [
                     "King",
                     "Kumar"
                  ]
               }
            ],
            "telecom": [
               {
                  "system": "phone",
                  "value": "9876543210",
                  "use": "mobile",
                  "rank": 1
```

```
      },
      {
         "system": "phone",
         "value": "57575757555544",
         "use": "work"
      },
      {
         "system": "phone",
         "value": "45546465464645",
         "use": "home"
      },
      {
         "system": "email",
         "value": "test1@modmed.com"
      }
   ],
   "gender": "male",
   "birthDate": "1951-12-07",
   "deceasedBoolean": false,
   "address": [
      {
         "use": "home",
         "type": "both",
         "line": [
            "1234 main st",
            "apt1234"
         ],
         "city": "jacksonville",
         "state": "FL",
         "postalCode": "33431",
         "country": "United States of America"
      },
      {
         "use": "temp",
         "type": "both",
         "line": [
            "3600 FAU BLVD SUITE 202",
            "Suite 333"
         ],
         "city": "BOCA RATON",
         "state": "FL",
         "postalCode": "33431",
         "country": "United States of America"
      }
   ],
   "maritalStatus": {
      "coding": [
         {
            "system": "http://www.hl7.org/fhir/v2/0002",
            "code": "G",
            "display": "Living together"
         }
      ],
      "text": "Living together"
   },
   "communication": [
      {
         "language": {
            "coding": [
               {
                  "system": "http://www.loc.gov/standards/iso639-2/php/code_list.php",
                  "code": "spa",
                  "display": "Spanish"
               }
            ],
```

```
            "text": "Spanish"
          }
        }
      ],
      "generalPractitioner": [
        {
          "reference": "Practitioner/7518",
          "identifier": {
            "type": {
              "coding": [
                {
                  "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                  "code": "PPRF",
                  "display": "primary performer"
                }
              ],
              "text": "primary performer"
            }
          },
          "display": "Dr. Jane Doe, MD"
        },
        {
          "reference": "Practitioner/ref|29178",
          "identifier": {
            "type": {
              "coding": [
                {
                  "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                  "code": "REF",
                  "display": "referrer"
                }
              ],
              "text": "referrer"
            }
          },
          "display": "Who, Doctor"
        },
        {
          "reference": "Practitioner/ref|19134",
          "identifier": {
            "type": {
              "coding": [
                {
                  "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                  "code": "REF",
                  "display": "referrer"
                }
              ],
              "text": "referrer"
            }
          },
          "display": "Elliot, James 2 (elli)"
        },
        {
          "reference": "Practitioner/ref|23470",
          "identifier": {
            "type": {
              "coding": [
                {
                  "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                  "code": "REF",
                  "display": "referrer"
                }
              ],
              "text": "referrer"
```

```
                    }
                },
                "display": "Smith, John"
            },
            {
                "reference": "Practitioner/ref|23472",
                "identifier": {
                    "type": {
                        "coding": [
                            {
                                "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                                "code": "REF",
                                "display": "referrer"
                            }
                        ],
                        "text": "referrer"
                    }
                },
                "display": "Homer, Joseph"
            }
        ]
    }
},
```


Patient CREATE

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Patient	POST	Creates Patient Resource

The minimum attributes for creating a patient are:

Name	Type	Description
birthdate	date	This is the patient's Date of birth - Valid format yyyy-MM-dd
email	string	A value in an email contact
family	string	This is the patient's last name - Supports exact matches
given	string	A portion of the given name of the patient
phone	string	10 digit phone number - with or without hyphens
Universal Id	string	Optional. This value should uniquely identify the patient within the

		managing organization and should not be re-used for other patients. The same value should always be used when updating the same patient.

Note: If you would like to see a FHIR representation of the created Patient, add a Header with a key of: Prefer and a value of return=representation

If you would like to see just an Operation Outcome with the details of the created Patient, add a Header with a key of: Prefer and a value of return=OperationOutcome

If no return preference header is set, then you will only get back an HTTP 201 Response code for a successfully created Patient, and in the Header of the Response, you will find the info needed to look up the newly created patient:

Content-Location →{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/5199
Location →{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/5199

If anything fails validation with the Create, you will get back an Operation Outcome, and a relevant HTTP Response code.

Example

POST {base url}/{firm_url_prefix}/ema/fhir/v2/Patient

In the body of the post, you can send in a valid FHIR Patient as a JSON document:


```
{
  "resourceType": "Patient",
  "address": [
    {
      "city": "Miami",
      "country": "United States of America",
      "line": [
        "1 Main St"
      ],
      "postalCode": "33132",
      "state": "FL",
      "text": "1 Main St",
      "type": "both",
      "use": "home"
    },
    {
      "city": "Los Angeles",
      "country": "United States of America",
      "line": [
        "2 Main St"
      ],
      "postalCode": "90014",
      "state": "CA",
      "text": "2 Main St",
      "type": "both",
      "use": "temp"
    }
  ],
  "birthDate": "1974-12-25",
  "communication": [
    {
      "language": {
        "coding": [
```

```
            {
               "code": "eng",
               "display": "English",
               "system": "http://www.loc.gov/standards/iso639-2/php/code_list.php"
            }
         ],
         "text": "English"
      }
   }
],
"gender": "male",
"identifier": [
   {
      "system": "PMS",
      "value": "98765432100"
   },
   {
      "system": "http://hl7.org/fhir/sid/us-ssn",
      "value": "777-88-9999"
   },
   {
      "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-MR",
      "value": "625859371344556"
   },
   {
      "system": "UNIVERSAL_ID",
      "value": "TEST1uitI4jKbVP6mKz68O0DWr72IMzQ"
   }
],
"maritalStatus": {
   "coding": [
      {
         "code": "M",
         "display": "Married",
         "system": "http://www.hl7.org/fhir/v2/0002"
      }
   ],
   "text": "Married"
},
"name": [
   {
      "family": "DemoTestLast2",
      "given": [
         "DemoTestFirst2",
         "DemoTestMiddle2"
      ],
      "use": "official"
   }
],
"telecom": [
   {
      "rank": 1,
      "system": "phone",
      "use": "home",
      "value": "212-555-9999"
   },
   {
      "system": "phone",
      "use": "mobile",
      "value": "212-666-9999"
   },
   {
      "system": "email",
      "value": "demotest1@nowhere.com"
   }
```

```
  ]
}
```

Or here is an example where additional attributes (general practitioner, race and ethnicity) are passed in as well

```
{
  "resourceType": "Patient",
  "extension": [
    {
      "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
      "extension": [
        {
          "url": "ombCategory",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html",
            "code": "2056-0",
            "display": "Black"
          }
        },
        {
          "url": "ombCategory",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html",
            "code": "2028-9",
            "display": "Asian"
          }
        },
        {
          "url": "ombCategory",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html",
            "code": "2106-3",
            "display": "White"
          }
        },
        {
          "url": "detailed",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
            "code": "2120-4",
            "display": "Egyptian"
          }
        },
        {
          "url": "detailed",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
            "code": "2126-1",
            "display": "Afghanistani"
          }
        },
        {
          "url": "text",
          "valueString": "Black, Egyptian, Afghanistani, Asian, White"
        }
      ]
    },
    {
      "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
      "extension": [
```

```
            {
               "url": "ombCategory",
               "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-ethnicity-category.html",
                  "code": "2135-2",
                  "display": "Hispanic or Latino"
               }
            },
            {
               "url": "detailed",
               "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-ethnicity.html",
                  "code": "2148-5",
                  "display": "Mexican"
               }
            },
            {
               "url": "detailed",
               "valueCoding": {
                  "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-ethnicity.html",
                  "code": "2160-0",
                  "display": "Panamanian"
               }
            },
            {
               "url": "text",
               "valueString": "Hispanic or Latino, Mexican, Panamanian"
            }
         ]
      }
   ],
   "name": [
      {
         "family": "Demo1",
         "given": [
            "Demo1",
            "Test"
         ]
      }
   ],
   "telecom": [
      {
         "system": "email",
         "value": "Demo1@nowhere.com"
      },
      {
         "system": "phone",
         "value": "5558037909",
         "use": "work"
      },
      {
         "system": "phone",
         "value": "5551347272",
         "use": "home",
         "rank": 1
      },
      {
         "system": "phone",
         "value": "5558719580",
         "use": "mobile"
      }
   ],
   "gender": "male",
   "birthDate": "1982-06-02",
   "address": [
```

```
    {
      "use": "home",
      "type": "both",
      "line": [
        "39066 Main Lane"
      ],
      "city": "Hudson",
      "state": "NY",
      "postalCode": "12534",
      "country": "United States of America"
    }
  ],
  "maritalStatus": {
    "coding": [
      {
        "system": "http://www.hl7.org/fhir/v2/0002",
        "code": "T",
        "display": "Unreported"
      }
    ],
    "text": "Unreported"
  },
  "communication": [
    {
      "language": {
        "coding": [
          {
            "system": "http://www.loc.gov/standards/iso639-2/php/code_list.php",
            "code": "afa",
            "display": "Afro-Asiatic (Other)"
          }
        ],
        "text": "Afro-Asiatic (Other)"
      }
    }
  ],
  "generalPractitioner": [
    {
      "display": "Doctor John, MD",
      "extension": [
        {
          "url": "date-last-seen",
          "valueDate": "2024-05-12"
        }
      ],
      "identifier": {
        "type": {
          "coding": [
            {
              "code": "PPRF",
              "display": "primary performer",
              "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type"
            }
          ],
          "text": "primary performer"
        }
      },
      "reference": "{base_url}/ema/fhir/v2/Practitioner/103007"
    }
  ]
}
```

Patient UPDATE

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/{id}	PUT	Updates Patient Resource

Examples:

PUT {base url}/{firm_url_prefix}/ema/fhir/v2/Patient/5199

In the body of HTTP PUT, you can send in valid FHIR Patient information to update as JSON (be sure to include the "ID" element for the Patient):


```
{
  "resourceType": "Patient",
  "id": "5199",
  "telecom": [
    {
      "system": "email",
      "value": "demotest1@nowhere.com",
      "rank": "1"
    },
    {
      "system": "phone",
      "value": "2125559999",
      "use": "home"
    },
    {
      "system": "phone",
      "value": "2126669999",
      "use": "mobile",
      "rank": "2"
    }
  ]
}
```


Or, here is an example where a patient's race and ethnicity are being updated:

PUT {base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3084

Sample Response:


```
{
  "resourceType": "Patient",
  "id": "3084",
  "extension": [
    {
      "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
      "extension": [
        {
          "url": "ombCategory",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html",
            "code": "2106-3",
```

```
            "display": "White"
          }
        },
        {
          "url": "ombCategory",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html",
            "code": "2056-0",
            "display": "Black"
          }
        },
        {
          "url": "ombCategory",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-race-category.html",
            "code": "2028-9",
            "display": "Asian"
          }
        },
        {
          "url": "detailed",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
            "code": "2120-4",
            "display": "Egyptian"
          }
        },
        {
          "url": "detailed",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-race.html",
            "code": "2126-1",
            "display": "Afghanistani"
          }
        },
        {
          "url": "text",
          "valueString": "White, Black, Egyptian, Afghanistani, Asian"
        }
      ]
    },
    {
      "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
      "extension": [
        {
          "url": "ombCategory",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-omb-ethnicity-category.html",
            "code": "2135-2",
            "display": "Hispanic or Latino"
          }
        },
        {
          "url": "detailed",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-ethnicity.html",
            "code": "2148-5",
            "display": "Mexican"
          }
        },
        {
          "url": "detailed",
          "valueCoding": {
            "system": "http://hl7.org/fhir/us/core/STU3/ValueSet-detailed-ethnicity.html",
            "code": "2160-0",
```

```
                "display": "Panamanian"
              }
            },
            {
              "url": "text",
              "valueString": "Hispanic or Latino, Mexican, Panamanian"
            }
          ]
        }
    ]
}
```

You will only send the values that you want to update. So you do not need to send a full FHIR Patient object like you did for the Create.

Also, you can use the same return preference header functionality as you did for the Patient Create.

Providers and Referring Providers

EMA currently has two “types” of Practitioners - the practitioners that are part of a firm or practice AND Referring Providers. The general /Practitioner endpoint will return ALL of the users at the practice. You can usually tell the providers by who has an NPI number. A vendor may not CREATE or UPDATE any of the actual providers in the practice.

Referring Providers can be found by querying /Practitioner?type=ref

That will give you all of the Referring Providers entered into that practice. You can CREATE new Referring Providers and those instructions are included below.

Practitioner

- FHIR Specification: https://www.hl7.org/fhir/practitioner.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner

Note: EMA supports two type of Practitioners. A standard practitioner includes any staff member in the practice. You can typically tell the difference between a provider and a staff user by the fact that the provider will have an NPI. We also support Referring Providers. Those cqn be found by querying /Practitioner?type=ref. This will show you all of the Referring Providers in the practice.

Common use cases include:
- Find all staff for a Practice
- Find a specific staff member or Provider
- Find the NPI for a Provider
- Find a Referring Provider
- Find all Referring Providers

The following attributes are supported on ALL Practioner calls:

Field Name	Notes
id	The MMI-specific unique identifier for the practitioner
identifier	NPI: http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-NPI
active	true|false
name	• family • given
telecom	The various contact methods for the Practitioner.

The following attributes are supported on Referring Practioner calls:

Field Name	Notes
qualification	The speciality of the provider.

address	The address of the Referring Provider

The Following Operations are supported:

- Practitioner READ
- Practitioner SEARCH
- Practitioner CREATE

Practitioner READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner	GET	Retrieve List of Practitioners for a Firm
{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/{id}	GET	Retrieve Provider by ID

Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/7518

Sample Response:


```
{
 "resourceType": "Practitioner",
 "id": "7518",
 "meta": {
    "lastUpdated": "2023-04-18T14:53:11.000+00:00"
 },
 "identifier": [
    {
       "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-NPI",
       "value": "2079584746"
    }
 ],
 "active": true,
 "name": [
    {
```

```
            "family": "Doe",
            "given": [
               "Jane"
            ]
         }
      ],
      "telecom": [
         {
            "system": "phone",
            "value": "2342424225",
            "use": "mobile"
         },
         {
            "system": "email",
            "value": "janedoe@yahoo.com"
         }
      ]
   }
```


Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/ref|21974

Sample Response:


```
   {   "resourceType": "Practitioner",
      "id": "ref|21974",
      "meta": {
         "lastUpdated": "2023-03-13T14:53:11.000+00:00"
      },
      "identifier": [
         {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-NPI",
            "value": "6356817612"
         }
      ],
      "active": true,
```

```
"name": [
    {
        "family": "Who",
        "given": [
            "Doctor"
        ]
    }
],
"telecom": [
    {
        "system": "other",
        "value": "dwho.modmedqa_derm@direct.updoxqa.com",
        "use": "work",
        "rank": 1
    },
    {
        "system": "fax",
        "value": "(095) 867-7565",
        "use": "work"
    },
    {
        "system": "phone",
        "value": "(658) 454-3555",
        "use": "work"
    }
],
"address": [
    {
        "use": "home",
        "type": "both",
        "line": [
            "Test Line11",
            "line2"
        ],
        "city": "Bangalore",
        "state": "AR",
        "postalCode": "768946466",
```

```
        "country": "Algeria"
      }
    ],
    "qualification": [
      {
        "code": {
          "coding": [
            {
              "system": "http://nucc.org/provider-taxonomy",
              "code": "207RI0011X",
              "display": "Cardiology"
            },


            {
              "system": "http://nucc.org/provider-taxonomy",
              "code": "101YM0800X",
              "display": "Mental Health"
            },
            {
              "system": "http://nucc.org/provider-taxonomy",
              "code": "207Q00000X",
              "display": "Family Medicine"
            },
            {
              "system": "http://nucc.org/provider-taxonomy",
              "code": "207L00000X",
              "display": "Pain Management"
            },

            {
              "system": "http://nucc.org/provider-taxonomy",
              "code": "207W00000X",
              "display": "Ophthalmology"
            },

            {
```

```
        "system": "http://nucc.org/provider-taxonomy",
        "code": "2085R0001X",
        "display": "Radiation Oncology (for XRT)"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207ND0101X",
        "display": "Dermatologic Surgeon"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207N00000X",
        "display": "General Dermatology"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "208200000X",
        "display": "Plastics"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "208800000X",
        "display": "Urology"
      },

      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207NP0225X",
        "display": "Pediatric Dermatology"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207RX0202X",
        "display": "Medical Oncology [Internal Medicine]"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
```

```
        "code": "207Y00000X",
        "display": "Otolaryngology"
      },

      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207RX0202X",
        "display": "Oncology"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207V00000X",
        "display": "Gynecology"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207RG0100X",
        "display": "Gastroenterology"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207ND0101X",
        "display": "Cutaneous Oncology"
      },

      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "208200000X",
        "display": "Plastic Surgeon"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207KA0200X",
        "display": "Patch Testing"
      },

      {
```

```
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207X00000X",
        "display": "Orthopedics"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207NS0135X",
        "display": "Laser Dermatology"
      },

      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207RI0008X",
        "display": "Hepatology"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207RR0500X",
        "display": "Rheumatology"
      },

      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207NS0135X",
        "display": "Cosmetic Dermatology"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "2084P0800X",
        "display": "Psychiatry"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "208200000X",
        "display": "Oculoplastics"
      },
      {
```

```
        "system": "http://nucc.org/provider-taxonomy",
        "code": "175F00000X",
        "display": "Phototherapy"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207ND0101X",
        "display": "Mohs Surgeon"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207R00000X",
        "display": "Internal Medicine"
      },

      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207R00000X",
        "display": "Primary Care"
      },
      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207RA0201X",
        "display": "Allergy Immunology"
      },

      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "207V00000X",
        "display": "Obstetrics"
      },

      {
        "system": "http://nucc.org/provider-taxonomy",
        "code": "152W00000X",
        "display": "Optometrist"
      },
```

```
                {
                    "system": "http://nucc.org/provider-taxonomy",
                    "code": "207PS0010X",
                    "display": "Sports Medicine"
                },


                {
                    "system": "http://nucc.org/provider-taxonomy",
                    "code": "208000000X",
                    "display": "Pediatrics"
                }
            ]
        }
    }
  ]
}
```


Practitioner SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner?{Parameter=Value}	GET	Retrieve Practitioner resources meeting the specified search criteria

The Practitioner resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 100
_lastUpdated	date	
active	string	Whether the practitioner record is active

		• true/false
email	string	A value in an email contact
family	string	This is the practitioner's last name - Supports exact matches
given	string	A portion of the given name of the practitioner
identifier	token	A practitioner's Identifier NPI: http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-NPI
page	string	Page to be used for paginated search
phone	string	A value in a phone contact
type	string	type='ref' (to find referring providers)

Examples:
Search for Practitioners by All Possible Search Parameters

{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner?email&phone&family=doe&active=true&identifier=http://www.hl7.org/fhir/v2/0203/index.html%23v2-0203-NPI|1881900637&given=Jane, Mdl

Search Practitioners by a Single Parameter
{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner?active=true

Sample:


```
{
   "resourceType": "Bundle",
   "id": "f4bd200b-3fac-42f0-8bfd-b8a1fce240a5",
   "meta": {
      "lastUpdated": "2019-04-03T14:49:48.329+00:00"
   },
   "type": "searchset",
   "total": 1,
   "link": [
      {
         "relation": "self",
         "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner?family=doe"
      }
   ],
   "entry": [
      {
         "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/21648",
         "resource": {
            "resourceType": "Practitioner",
            "id": "21648",
            "identifier": [
               {
```

```
                    "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-NPI",
                    "value": "1890018651"
                }
            ],
            "active": false,
            "name": [
                {
                    "family": "doe",
                    "given": [
                        "Jane",
                        "E"
                    ]
                }
            ],
            "telecom": [
                {
                    "system": "phone",
                    "value": "7837739928",
                    "use": "work"
                },
                {
                    "system": "phone",
                    "value": "4893392201",
                    "use": "mobile"
                },
                {
                    "system": "fax",
                    "value": "9821181190",
                    "use": "work"
                },
                {
                    "system": "email",
                    "value": "jdoe@modmed.cl"
                }
            ]
        }
    }
]
```


Practitioner CREATE

Note: EMA supports two type of Practitioners. Practitioner CREATE is currently only supported to create Referring Providers into a Practitice. You cannot update or create any of the practice's users or providers, only Referring Providers.

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner	POST	Create Referring Practitioner

Name	Type	Description
family	string	This is the practitioner's last name - Supports exact matches

given	string	The given name of the practitioner
telecom	string	The telecom details for a Practitioner
address	string	The address of the Practitioner
qualification	string	The speciality (specialities) of the Practitioner

Examples:
Create a referring provider:

POST {base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner


```
{
    "resourceType": "Practitioner",
    "active": true,
    "name": [
      {
        "family": "Scholl",
        "given": [
          "Doctor"
        ]
      }
    ],
    "telecom": [
      {
        "system": "fax",
        "value": "1112223333",
        "use": "work"
      },
      {
        "system": "phone",
        "value": "2223334444",
        "use": "work"
      }
    ],
     "address": [
                {
                    "use": "work",
                    "type": "both",
                    "line": [
                        "2 Main St",
                        "SUITE # 110"
                    ],
                    "city": "BOCA RATON",
                    "state": "FL",
                    "postalCode": "334316437",
                    "country": "United States of America"
                }
            ],
    "qualification": [
      {
        "code": {
          "coding": [
            {
              "system": "http://nucc.org/provider-taxonomy",
              "code": "213E00000X",
              "display": "Podiatry"
            }
```

```
            ]
          }
        }
      ]
    }
```

Encounters/Visits

Visits (as well as Telehealth visits and Non-Visit Orders) are all found in the /Encounter resource. Encounters are NOT the same as Appointments. An Appointment can be thought of as a placeholder for an Encounter. If an Encounter is created from an Appointment (which is the standard workflow - although it is possible that a user did not do something standard), then there will be a link (a reference) between the Appointment and the Encounter. Please note that if the practice is NOT using our PM system (MMPM), the Appointment data will never be linked here.

While an Encounter is in progress, you will not be able to retrieve the Visit Note (document) or Charges (ChargeItems). Those are only available once the Encounter has been finalized (which will update the status to 'finished').

Encounter

- FHIR Specification: https://www.hl7.org/fhir/encounter.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Encounter

Common use cases include:
- Find all Encounters (visits) for a patient

The following attributes are supported:

Field Name	Notes
id	unique encounter ID
metadata - lastUpdated	time/date the encounter was last updated
status	FHIR supports the following statuses: planned | arrived | triaged | in-progress | onleave | finished | cancelled + Currently MMI will only support encounters which are 'finished' or 'in-progress'
class	https://www.hl7.org/fhir/v3/ActEncounterCode/vs.html Currently MMI will only support the class of 'AMB'
type	Encounter Type ValueSet: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/encounter-type

subject	Reference: Patient
participant - individual	Reference: Practitioner
appointment	Reference: Appointment Note: that this will only appear if the appointment was created using MMPM AND the Encounter/Visit was created through the Appointment.
period	start: datetime the Encounter was started end: datetime the Encounter was finalized
diagnosis - condition	Reference: Condition Note: When the Encounter is still 'in-progress', the Diagnoses will be identified by the ICD10 codes and once the Encounter is 'finished', those diagnoses will become References to the Condition resource.
location	Reference: Location

The Following Operations are supported:

- Encounter READ
- Encounter SEARCH

Encounter READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter	GET	Get All Encounters for a Practice
{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/{id}	GET	Get a specific Encounter

Examples:


```
{
  "resourceType": "Bundle",
  "id": "e8bca685-4843-41be-b2fc-804d43b13560",
  "meta": {
    "lastUpdated": "2020-04-17T12:34:30.688+00:00"
  },
  "type": "searchset",
  "total": 154030,
  "link": [
    {
      "relation": "next",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter?page=2"
    },
    {
      "relation": "last",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter?page=3081"
    },
    {
```

```
        "relation": "self",
        "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter"
      }
    ],
    "entry": [
      {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/29943931",
        "resource": {
          "resourceType": "Encounter",
          "id": "29943931",
          "meta": {
            "lastUpdated": "2020-01-30T20:01:52.000+00:00"
          },
          "status": "finished",
          "class": {
            "system": "http://terminology.hl7.org/ValueSet/v3-ActEncounterCode",
            "code": "AMB",
            "display": "ambulatory"
          },
          "type": [
            {
              "coding": [
                {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/encounter-type",
                  "code": "VISIT",
                  "display": "Visit"
                }
              ]
            }
          ],
          "subject": {
            "reference": "{base url}/{firm_url_prefix}/Patient/3089410",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3089410"
          },
          "participant": [
            {
              "type": [
                {
                  "coding": [
                    {
                      "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                      "code": "PPRF",
                      "display": "primary performer"
                    }
                  ],
                  "text": "primary performer"
                }
              ],
              "individual": {
                "reference": "{base url}/{firm_url_prefix}/Practitioner/2649904",
                "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/2649904"
              }
            }
          ],
          "period": {
            "start": "2020-01-30T19:41:00+00:00",
            "end": "2020-01-30T20:01:52+00:00"
          },
          "diagnosis": [
            {
              "condition": {
                "reference": "{base url}/{firm_url_prefix}/Condition/119427689",
                "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/119427689"
              }
            },
```

```
            {
               "condition": {
                  "reference": "{base url}/{firm_url_prefix}/Condition/119427690",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/119427690"
               }
            }
         ],
         "location": [
            {
               "location": {
                  "reference": "{base url}/{firm_url_prefix}/Location/309",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/309"
               }
            }
         ]
      }
   },
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/30195511",
      "resource": {
         "resourceType": "Encounter",
         "id": "30195511",
         "meta": {
            "lastUpdated": "2020-02-20T19:16:32.000+00:00"
         },
         "status": "finished",
         "class": {
            "system": "http://terminology.hl7.org/ValueSet/v3-ActEncounterCode",
            "code": "AMB",
            "display": "ambulatory"
         },
         "type": [
            {
               "coding": [
                  {
                     "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/encounter-type",
                     "code": "VISIT",
                     "display": "Visit"
                  }
               ]
            }
         ],
         "subject": {
            "reference": "{base url}/{firm_url_prefix}/Patient/3089435",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3089435"
         },
         "participant": [
            {
               "type": [
                  {
                     "coding": [
                        {
                           "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                           "code": "PPRF",
                           "display": "primary performer"
                        }
                     ],
                     "text": "primary performer"
                  }
               ],
               "individual": {
                  "reference": "{base url}/{firm_url_prefix}/Practitioner/18311338",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/18311338"
               }
            }
```

```
        ],
        "period": {
          "start": "2020-02-20T17:59:00+00:00",
          "end": "2020-02-20T19:16:33+00:00"
        },
        "diagnosis": [
          {
            "condition": {
              "reference": "{base url}/{firm_url_prefix}/Condition/120182956",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/120182956"
            }
          },
          {
            "condition": {
              "reference": "{base url}/{firm_url_prefix}/Condition/120182957",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/120182957"
            }
          }
        ],
        "location": [
          {
            "location": {
              "reference": "{base url}/{firm_url_prefix}/Location/1454",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/1454"
            }
          }
        ]
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/29921768",
      "resource": {
        "resourceType": "Encounter",
        "id": "29921768",
        "meta": {
          "lastUpdated": "2020-01-29T20:56:08.000+00:00"
        },
        "status": "cancelled",
        "class": {
          "system": "http://terminology.hl7.org/ValueSet/v3-ActEncounterCode",
          "code": "AMB",
          "display": "ambulatory"
        },
        "type": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/encounter-type",
                "code": "VISIT",
                "display": "Visit"
              }
            ]
          }
        ],
        "subject": {
          "reference": "{base url}/{firm_url_prefix}/Patient/3089712",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3089712"
        },
        "participant": [
          {
            "type": [
              {
                "coding": [
                  {
                    "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
```

```
                        "code": "PPRF",
                        "display": "primary performer"
                    }
                ],
                "text": "primary performer"
            }
        ],
        "individual": {
            "reference": "{base url}/{firm_url_prefix}/Practitioner/2649904",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/2649904"
        }
    }
],
"period": {
    "start": "2020-01-29T20:54:07+00:00"
},
"location": [
    {
        "location": {
            "reference": "{base url}/{firm_url_prefix}/Location/309",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/309"
        }
    }
]
}
},
```


Encounter SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter?parameter={value}	GET	Get All Encounters for the specified search criteria

The Encounter resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 50
_lastUpdated	date	
page	string	Page to be used for paginated search
patient	reference	The patient or group present at the encounter

status	string	planned | arrived | triaged | in-progress | onleave | finished | cancelled + Currently MMI will only support encounters which are 'finished' or 'in-progress'
appointment	reference	ID of the appointment

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Encounter?patient=3089712


```
{
  "resourceType": "Bundle",
  "id": "a5542f46-2750-4317-8fe9-6c4a4ef6ffd6",
  "meta": {
    "lastUpdated": "2020-04-17T12:39:48.176+00:00"
  },
  "type": "searchset",
  "total": 7,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter?patient=3089712"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/5382931",
      "resource": {
        "resourceType": "Encounter",
        "id": "5382931",
        "meta": {
          "lastUpdated": "2015-04-02T15:14:24.000+00:00"
        },
        "status": "finished",
        "class": {
          "system": "http://terminology.hl7.org/ValueSet/v3-ActEncounterCode",
          "code": "AMB",
          "display": "ambulatory"
        },
        "type": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/encounter-type",
                "code": "VISIT",
                "display": "Visit"
              }
            ]
          }
        ],
        "subject": {
          "reference": "{base url}/{firm_url_prefix}/Patient/3089712",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3089712"
        },
        "participant": [
          {
            "type": [
              {
```

```
                    "coding": [
                      {
                        "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                        "code": "PPRF",
                        "display": "primary performer"
                      }
                    ],
                    "text": "primary performer"
                  }
                ],
                "individual": {
                  "reference": "{base url}/{firm_url_prefix}/Practitioner/2649904",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/2649904"
                }
              }
            ],
            "period": {
              "start": "2015-04-02T14:40:00+00:00",
              "end": "2015-04-02T15:16:08+00:00"
            },
            "diagnosis": [
              {
                "condition": {
                  "reference": "{base url}/{firm_url_prefix}/Condition/18727824",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/18727824"
                }
              },
              {
                "condition": {
                  "reference": "{base url}/{firm_url_prefix}/Condition/18727825",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/18727825"
                }
              },
              {
                "condition": {
                  "reference": "{base url}/{firm_url_prefix}/Condition/18727826",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/18727826"
                }
              }
            ],
            "location": [
              {
                "location": {
                  "reference": "{base url}/{firm_url_prefix}/Location/309",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/309"
                }
              }
            ]
          }
        },
        {
          "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/11891853",
          "resource": {
            "resourceType": "Encounter",
            "id": "11891853",
            "meta": {
              "lastUpdated": "2016-12-27T22:08:28.000+00:00"
            },
            "status": "finished",
            "class": {
              "system": "http://terminology.hl7.org/ValueSet/v3-ActEncounterCode",
              "code": "AMB",
              "display": "ambulatory"
            },
            "type": [
```

```
            {
               "coding": [
                  {
                     "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/encounter-type",
                     "code": "VISIT",
                     "display": "Visit"
                  }
               ]
            }
         ],
         "subject": {
            "reference": "{base url}/{firm_url_prefix}/Patient/3089712",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3089712"
         },
         "participant": [
            {
               "type": [
                  {
                     "coding": [
                        {
                           "system": "http://hl7.org/fhir/ValueSet/encounter-participant-type",
                           "code": "PPRF",
                           "display": "primary performer"
                        }
                     ],
                     "text": "primary performer"
                  }
               ],
               "individual": {
                  "reference": "{base url}/{firm_url_prefix}/Practitioner/2649903",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/2649903"
               }
            }
         ],
         "period": {
            "start": "2016-12-27T21:59:00+00:00",
            "end": "2016-12-28T01:31:38+00:00"
         },
         "diagnosis": [
            {
               "condition": {
                  "reference": "{base url}/{firm_url_prefix}/Condition/58403339",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/58403339"
               }
            }
         ],
         "location": [
            {
               "location": {
                  "reference": "{base url}/{firm_url_prefix}/Location/309",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/309"
               }
            }
         ]
      }
   },
```

Insurance

The insurance experience will differ if the customer uses MMPM (ModMed Practice Management) or if they are only using EMA. You will not be able to CREATE or UPDATE a patient's insurance if the customer is not using MMPM.

Coverage

- FHIR Specification: https://www.hl7.org/fhir/coverage.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Coverage
- Value Set: ValueSet/insurance-policy-type
- Value Set: ValueSet/insured-relationship

Common use cases include:

- Find Insurance Coverage for a patient
- Find the Primary, Secondary, Tertiary coverages for a Patient

Note: There are currently two versions of the Coverage READ and Coverage SEARCH payloads. We recently added the ability to do a Coverage CREATE and when we did that, we changed the structure of the Coverage payload. Because we didn't want to introduce a breaking change to the vendors who were already using the Coverage endpoint, we put the new version of the Coverage payload behind a feature flag. If you need this updated version, please contact synapsys@modmed.com in order to turn the flag on for your customers. At some point, we will communicate the change to the entire audience and vendors will have to use the updated version.

The following attributes are supported:

Field Name	Notes
id	The MMI-specific unique identifier for the coverage
identifier	payerId
status	
type	ValueSet/insurance-policy-type
policyHolder	
beneficiary	reference
relationship	ValueSet/insured-relationship
payor	
class	https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group

order	1=Primary 2=Secondary 3=Tertiary 0=Non-ordered Please note that any insurance that is not Primary, Secondary, Tertiary will return as order=0
costToBeneficiary	

The Following Operations are supported:

- Coverage READ
- Coverage SEARCH
- Coverage CREATE
- Coverage UPDATE

Coverage READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/{id}	GET	Retrieve Coverage details for an ID (Note: this is the specific coverage ID, not the Patient ID) In order to get this ID, you'd want to do a Coverage search with the 'patient=value' parameter.

Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/22345

Sample Response:


```
{
  "resourceType": "Coverage",
  "id": "22345",
  "status": "active",
  "type": {
    "coding": [
      {
        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
        "code": "PPO",
        "display": "PPO"
      }
    ],
    "text": "PPO"
  },
  "policyHolder": {
    "display": "Clayton Abernathy"
  },
```

```
  "beneficiary": {
     "reference": "{base url}/{firm_url_prefix}/Patient/39291",
     "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
  },
  "relationship": {
     "coding": [
        {
           "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship",
           "code": "SEL",
           "display": "Self"
        }
     ],
     "text": "Self"
  },
  "payor": [
     {
        "display": "Blue Care Family Plan - CT BCBS Plan"
     }
  ],
  "class": [
     {
        "type": {
           "coding": [
              {
                 "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan",
                 "code": "plan",
                 "display": "Plan"
              }
           ],
           "text": "Plan"
        },
        "value": "XXXC456677"
     },
     {
        "type": {
           "coding": [
              {
                 "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group",
                 "code": "group",
                 "display": "Group"
              }
           ],
           "text": "Group"
        },
        "value": "123456"
     }
  ],
  "order": 1
}
```


Flavor 2 - GET {base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/1392

Sample Response:


```
{
  "resourceType": "Coverage",
  "id": "1392",
  "meta": {
     "lastUpdated": "2022-04-12T17:35:45.000+00:00"
```

```
},
"identifier": [
  {
    "system": "payerId",
    "value": "40000"
  }
],
"status": "active",
"type": {
  "coding": [
    {
      "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
      "code": "EPO",
      "display": "EPO"
    }
  ],
  "text": "EPO"
},
"policyHolder": {
  "display": "Doe, John"
},
"beneficiary": {
  "reference": "Patient/2840",
  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/2840"
},
"relationship": {
  "coding": [
    {
      "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship",
      "code": "SEL",
      "display": "Self"
    }
  ],
  "text": "Self"
},
"payor": [
  {
    "reference": "Organization/pay|20",
    "display": "Blue Cross Blue Shield State Employees-SC Health"
  },
  {
    "reference": "InsurancePlan/9",
    "display": "plan1"
  }
```

```
],
"class": [
  {
    "type": {
      "coding": [
        {
          "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan",
          "code": "plan",
          "display": "Plan"
        }
      ],
      "text": "Plan"
    },
    "value": "965275629",
    "name": "plan1"
  },
  {
    "type": {
      "coding": [
        {
          "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group",
          "code": "group",
          "display": "Group"
        }
      ],
      "text": "Group"
    },
    "value": "3122924"
  }
],
"order": 1,
"costToBeneficiary": [
  {
    "type": {
      "coding": [
        {
          "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
          "code": "DEDUCTIBLE",
          "display": "DEDUCTIBLE"
        }
      ],
      "text": "DEDUCTIBLE"
    },
    "valueMoney": {
```

```
        "value": 8000.0,
        "currency": "USD"
      }
    },
    {
      "type": {
        "coding": [
          {
            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
            "code": "COPAY_AMOUNT",
            "display": "COPAY_AMOUNT"
          }
        ],
        "text": "COPAY_AMOUNT"
      },
      "valueMoney": {
        "value": 50.0,
        "currency": "USD"
      }
    },
    {
      "type": {
        "coding": [
          {
            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
            "code": "OUT_OF_POCKET",
            "display": "OUT_OF_POCKET"
          }
        ],
        "text": "OUT_OF_POCKET"
      },
      "valueMoney": {
        "value": 4000.00,
        "currency": "USD"
      }
    },
    {
      "type": {
        "coding": [
          {
            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
            "code": "REMAINING_OUT_OF_POCKET",
            "display": "REMAINING_OUT_OF_POCKET"
          }
```

```
            ],
            "text": "REMAINING_OUT_OF_POCKET"
        },
        "valueMoney": {
            "value": 4000.00,
            "currency": "USD"
        }
    },
    {
        "type": {
            "coding": [
                {
                    "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
                    "code": "REMAINING_DEDUCTIBLE",
                    "display": "REMAINING_DEDUCTIBLE"
                }
            ],
            "text": "REMAINING_DEDUCTIBLE"
        },
        "valueMoney": {
            "value": 4000.00,
            "currency": "USD"
        }
    },
    {
        "type": {
            "coding": [
                {
                    "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
                    "code": "COINSURANCE_PERCENTAGE",
                    "display": "COINSURANCE_PERCENTAGE"
                }
            ],
            "text": "COINSURANCE_PERCENTAGE"
        },
        "valueQuantity": {
            "value": 20.0
        }
    }
  ]
}
```


Coverage SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage?{Parameter=Value}	GET	Retrieve Coverage resources meeting the specified search criteria

The Coverage resource is searchable by the following parameters:

Name	Type	Description
order	string	The order of the insurance policy, it can be 1= Primary , 2= Secondary 3 = Tertiary
patient	reference	The patient id - The unique Patient Identifier
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 100
_lastUpdated	date	
page	string	Page to be used for paginated search
reconciliationId	reference	View status of Coverage CREATE reconciliation by Reconciliation Identifier. Reconciliation status can equal Pending or Completed

Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Coverage?patient=39291

Sample Response:


```
                                    {
"resourceType": "Bundle",
"id": "de5445a4-33be-4e1e-a617-b3a820db5b38",
"meta": {
   "lastUpdated": "2019-08-30T15:20:32.470+00:00"
},
"type": "searchset",
"total": 5,
"link": [
   {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage?patient=39291"
   }
],
"entry": [
```

```
{
   "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/22345",
   "resource": {
      "resourceType": "Coverage",
      "id": "22345",
      "status": "active",
      "type": {
         "coding": [
            {
               "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
               "code": "PPO",
               "display": "PPO"
            }
         ],
         "text": "PPO"
      },
      "policyHolder": {
         "display": "Clayton Abernathy"
      },
      "beneficiary": {
         "reference": "{base url}/{firm_url_prefix}/Patient/39291",
         "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
      },
      "relationship": {
         "coding": [
            {
               "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship",
               "code": "SEL",
               "display": "Self"
            }
         ],
         "text": "Self"
      },
      "payor": [
         {
            "display": "Blue Care Family Plan - CT BCBS Plan"
         }
      ],
      "class": [
         {
            "type": {
               "coding": [
                  {
                     "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan",
                     "code": "plan",
                     "display": "Plan"
                  }
               ],
               "text": "Plan"
            },
            "value": "XXXC456677"
         },
         {
            "type": {
               "coding": [
                  {
                     "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group",
                     "code": "group",
                     "display": "Group"
                  }
               ],
               "text": "Group"
            },
            "value": "123456"
         }
```

```
        ],
        "order": 1
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/37796",
      "resource": {
        "resourceType": "Coverage",
        "id": "37796",
        "status": "active",
        "type": {
          "coding": [
            {
              "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
              "code": "WORKERS_COMP",
              "display": "WORKERS_COMP"
            }
          ],
          "text": "WORKERS_COMP"
        },
        "beneficiary": {
          "reference": "{base url}/{firm_url_prefix}/Patient/39291",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
        },
        "relationship": {
          "coding": [
            {
              "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship",
              "code": "EMP",
              "display": "Employer"
            }
          ],
          "text": "Employer"
        },
        "payor": [
          {
            "display": "Payer TF test"
          }
        ],
        "class": [
          {
            "type": {
              "coding": [
                {
                  "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan",
                  "code": "plan",
                  "display": "Plan"
                }
              ],
              "text": "Plan"
            },
            "value": "12345567",
            "name": "Testing Payer"
          },
          {
            "type": {
              "coding": [
                {
                  "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group",
                  "code": "group",
                  "display": "Group"
                }
              ],
              "text": "Group"
            },
```

```
                "value": "1234"
            }
          ],
          "order": 0
       }
    },
    {
       "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/45707",
       "resource": {
          "resourceType": "Coverage",
          "id": "45707",
          "status": "active",
          "type": {
             "coding": [
                {
                   "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
                   "code": "PPO",
                   "display": "PPO"
                }
             ],
             "text": "PPO"
          },
          "policyHolder": {
             "display": "Clayton Abernathy"
          },
          "beneficiary": {
             "reference": "{base url}/{firm_url_prefix}/Patient/39291",
             "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
          },
          "relationship": {
             "coding": [
                {
                   "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship",
                   "code": "SEL",
                   "display": "Self"
                }
             ],
             "text": "Self"
          },
          "payor": [
             {
                "display": "AB Cigna"
             }
          ],
          "class": [
             {
                "type": {
                   "coding": [
                      {
                         "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan",
                         "code": "plan",
                         "display": "Plan"
                      }
                   ],
                   "text": "Plan"
                },
                "value": "123"
             },
             {
                "type": {
                   "coding": [
                      {
                         "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group",
                         "code": "group",
                         "display": "Group"
```

```
                    }
                ],
                "text": "Group"
            }
        }
    ],
    "order": 2
  }
},
{
  "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/45710",
  "resource": {
    "resourceType": "Coverage",
    "id": "45710",
    "status": "active",
    "type": {
      "coding": [
        {
          "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
          "code": "VISION",
          "display": "VISION"
        }
      ],
      "text": "VISION"
    },
    "policyHolder": {
      "display": "Clayton Abernathy"
    },
    "beneficiary": {
      "reference": "{base url}/{firm_url_prefix}/Patient/39291",
      "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
    },
    "relationship": {
      "coding": [
        {
          "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship",
          "code": "SEL",
          "display": "Self"
        }
      ],
      "text": "Self"
    },
    "payor": [
      {
        "display": "VSP"
      }
    ],
    "class": [
      {
        "type": {
          "coding": [
            {
              "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan",
              "code": "plan",
              "display": "Plan"
            }
          ],
          "text": "Plan"
        },
        "value": "123123"
      },
      {
        "type": {
          "coding": [
            {
```

```
                        "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group",
                        "code": "group",
                        "display": "Group"
                     }
                  ],
                  "text": "Group"
               }
            }
         ],
         "order": 0
      }
   },
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/46330",
      "resource": {
         "resourceType": "Coverage",
         "id": "46330",
         "status": "active",
         "type": {
            "coding": [
               {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
                  "code": "HMO",
                  "display": "HMO"
               }
            ],
            "text": "HMO"
         },
         "policyHolder": {
            "display": "Clayton Abernathy"
         },
         "beneficiary": {
            "reference": "{base url}/{firm_url_prefix}/Patient/39291",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
         },
         "relationship": {
            "coding": [
               {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship",
                  "code": "SEL",
                  "display": "Self"
               }
            ],
            "text": "Self"
         },
         "payor": [
            {
               "display": "Blue Care Family Plan - CT BCBS Plan"
            }
         ],
         "class": [
            {
               "type": {
                  "coding": [
                     {
                        "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan",
                        "code": "plan",
                        "display": "Plan"
                     }
                  ],
                  "text": "Plan"
               },
               "value": "5569998",
               "name": "BLUE"
            },
```

```
            {
               "type": {
                  "coding": [
                     {
                        "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group",
                        "code": "group",
                        "display": "Group"
                     }
                  ],
                  "text": "Group"
               }
            }
         ],
         "order": 3
      }
   }
]
}
```


Flavor 2 - Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Coverage?patient=2840

Sample Response:


```
{
  "resourceType": "Bundle",
  "id": "2fcf9c50-4ed0-4f8d-b5e3-ad1880c77a6e",
  "meta": {
     "lastUpdated": "2022-04-12T17:35:49.334+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
     {
        "relation": "self",
        "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage?patient=2840"
     }
  ],
  "entry": [
     {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/1392",
        "resource": {
           "resourceType": "Coverage",
           "id": "1392",
           "meta": {
              "lastUpdated": "2022-04-12T17:35:45.000+00:00"
```

```
},
"identifier": [
  {
    "system": "payerId",
    "value": "40000"
  }
],
"status": "active",
"type": {
  "coding": [
    {
      "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
      "code": "EPO",
      "display": "EPO"
    }
  ],
  "text": "EPO"
},
"policyHolder": {
  "display": "Doe, John"
},
"beneficiary": {
  "reference": "Patient/2840",
  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/2840"
},
"relationship": {
  "coding": [
    {
      "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship",
      "code": "SEL",
      "display": "Self"
    }
  ],
  "text": "Self"
},
"payor": [
  {
    "reference": "Organization/pay|20",
    "display": "Blue Cross Blue Shield State Employees-SC Health"
  },
  {
    "reference": "InsurancePlan/9",
    "display": "plan1"
  }
```

```
    ],
    "class": [
      {
        "type": {
          "coding": [
            {
              "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan",
              "code": "plan",
              "display": "Plan"
            }
          ],
          "text": "Plan"
        },
        "value": "965275629",
        "name": "plan1"
      },
      {
        "type": {
          "coding": [
            {
              "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group",
              "code": "group",
              "display": "Group"
            }
          ],
          "text": "Group"
        },
        "value": "3122924"
      }
    ],
    "order": 1,
    "costToBeneficiary": [
      {
        "type": {
          "coding": [
            {
              "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
              "code": "DEDUCTIBLE",
              "display": "DEDUCTIBLE"
            }
          ],
          "text": "DEDUCTIBLE"
        },
        "valueMoney": {
```

```
            "value": 8000.0,
            "currency": "USD"
        }
    },
    {
        "type": {
            "coding": [
                {
                    "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
                    "code": "COPAY_AMOUNT",
                    "display": "COPAY_AMOUNT"
                }
            ],
            "text": "COPAY_AMOUNT"
        },
        "valueMoney": {
            "value": 50.0,
            "currency": "USD"
        }
    },
    {
        "type": {
            "coding": [
                {
                    "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
                    "code": "OUT_OF_POCKET",
                    "display": "OUT_OF_POCKET"
                }
            ],
            "text": "OUT_OF_POCKET"
        },
        "valueMoney": {
            "value": 4000.00,
            "currency": "USD"
        }
    },
    {
        "type": {
            "coding": [
                {
                    "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
                    "code": "REMAINING_OUT_OF_POCKET",
                    "display": "REMAINING_OUT_OF_POCKET"
                }
```

```
                ],
                "text": "REMAINING_OUT_OF_POCKET"
              },
              "valueMoney": {
                "value": 4000.00,
                "currency": "USD"
              }
            },
            {
              "type": {
                "coding": [
                  {
                    "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
                    "code": "REMAINING_DEDUCTIBLE",
                    "display": "REMAINING_DEDUCTIBLE"
                  }
                ],
                "text": "REMAINING_DEDUCTIBLE"
              },
              "valueMoney": {
                "value": 4000.00,
                "currency": "USD"
              }
            },
            {
              "type": {
                "coding": [
                  {
                    "system": "{base url}/{firm_url_prefix}/fhir/v2/ValueSet/cost-to-beneficiary-type",
                    "code": "COINSURANCE_PERCENTAGE",
                    "display": "COINSURANCE_PERCENTAGE"
                  }
                ],
                "text": "COINSURANCE_PERCENTAGE"
              },
              "valueQuantity": {
                "value": 20.0
              }
            }
          ]
        }
      }
    ]
}
```

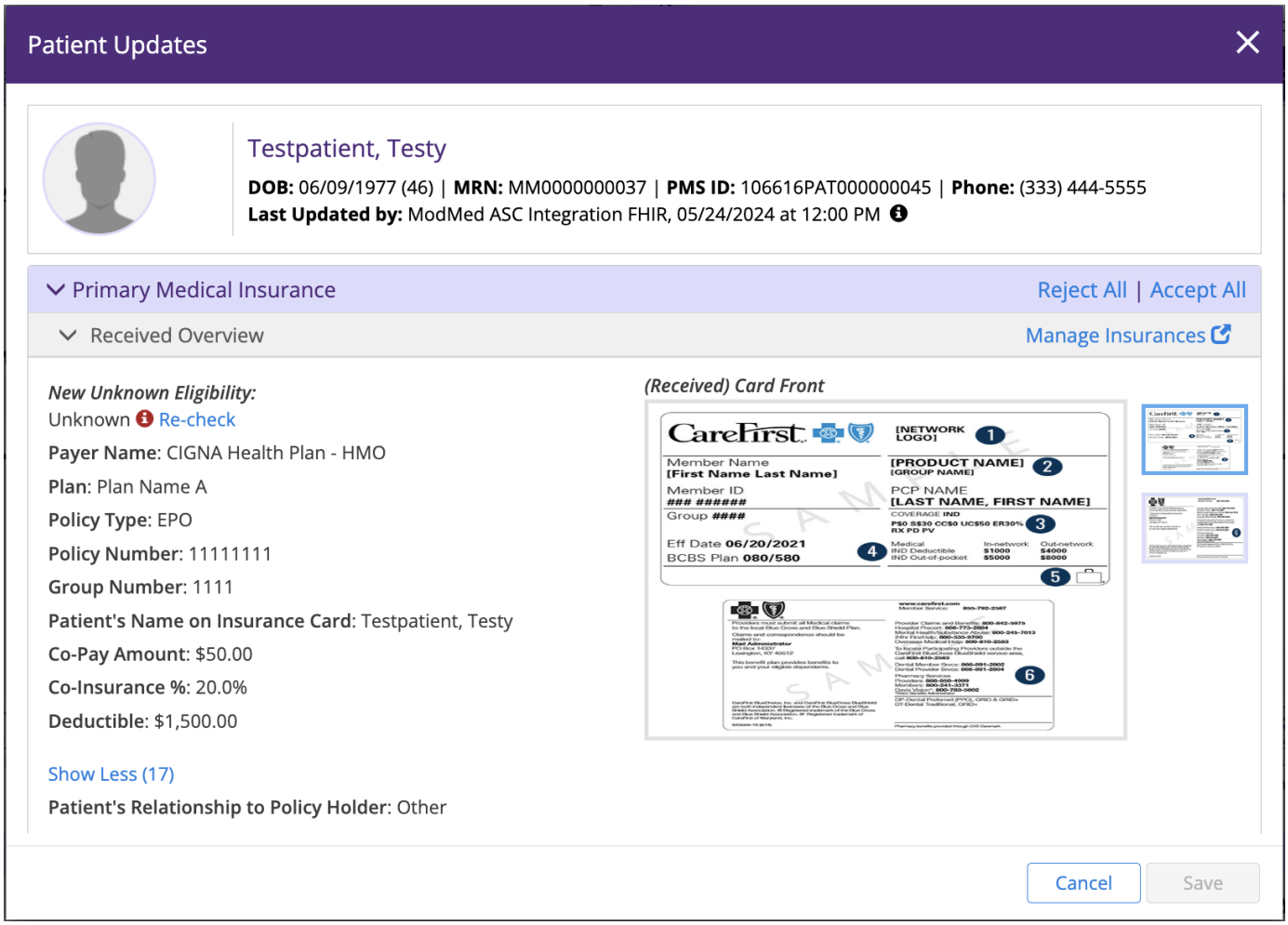
Coverage CREATE

The ModMed PM system (MMPM), will allow for new Coverages to be created for patients by outside systems. You can send a new Coverage in for a patient where it will then be reconciled by someone at the practice. In order to send a new Coverage for a patient, it must be for a Payer that is supported by the PM system. Further, some practices require that you also create a Coverage for a supported InsurancePlan as well. This resource will also allow you to send along the ID card images (front and back) if you so choose, but it is not required. Additionally, since there is a reconciliation which needs to be performed by someone at the practice, when you POST your Coverage, you will get a ReconciliationID back which will allow you to query for this Coverage while it is in this state. The API will let you know if it is still pending if you need to check on the status or if it has been reconciled, it will let you know - at which point you'll simply need to query the patient's Coverage(s) to find their current state. The list of steps below help to identify how you might query the system to identify these items.

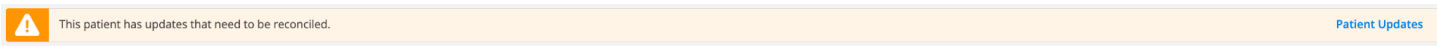
User Experience:
A vendor has the ability to capture and send all of the following data:

- Payer Name
- Plan
- Policy Type
- Policy Number
- Group Number
- Patient's Name on Insurance Card
- Co-Pay Amount
- Co-Insurance %
- Deductible
- Patient's Relationship to Policy Holder
- Name (Policy Holder)
- Date of Birth (Policy Holder)
- Birth Sex (Policy Holder)
- Address 1 (Policy Holder)
- Address 2 (Policy Holder)
- City (Policy Holder)
- State (Policy Holder)
- Zip (Policy Holder)
- Home Phone Number (Policy Holder)
- Work Phone Number (Policy Holder)
- Mobile Phone Number (Policy Holder)
- Remaining Deductible
- Out of Pocket
- Remaining Out of Pocket
- Policy Effective Date
- Policy End Date
- Insurance Card Image (Front of Card)
- Insurance Card Image (Back of Card)

Assuming all (or some) of that is included, the EMA/MMPM user would see this when they went to the Patient's chart:



Essentially from there, the user can Accept All or reject All or go through and accept and reject different fields if they so choose. If the user accepts the insurance, it will become the Primary Insurance by default and the user will need to go to the 'Insurance' section of the Patient's chart to change the order. If the user rejects the insurance, the vendor would need to send another message to get different insurance information there. If the user takes no action, a prompt will remain in the patient's chart from which the user can return and choose to take action at any time:



Step	HTTP Request	Method	Action
1	{base url}/{firm_url_prefix}/ema/fhir/v2/Patient?{Parameter=Value}	GET	Perform a Patient SEARCH to retrieve the Patient Id Reference Patient SEARCH for a list of parameters

2	{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage?{patient=xxxxx}	GET	Find a patient's existing Coverage(s)
3	{base url}/{firm_url_prefix}/ema/fhir/v2/Organization?type=pay	GET	Perform an Organization SEARCH to retrieve the ID.
4	{base url}/{firm_url_prefix}/ema/fhir/v2/InsurancePlan?owned-by={organization ID}	GET	OPTIONAL (if the practice requires a supported InsurancePlan) Perform an InsurancePlan SEARCH to retrieve the InsurancePlan Id , and the insurance-policy-type Reference InsurancePlan SEARCH for a list of parameters
5	{base url}/{firm_url_prefix}/ema/fhir/v2/Binary	POST	OPTIONAL Used to add the ID card images. This step will retrieve the S3 Bucket URL. One S3 URL will need to be generated for each image (front/back)
6	{base_s3_url}/{auto-generated string}	PUT	OPTIONAL Upload insurance card images to the S3 Bucket URLs. One S3 Bucket URL will need to be used for each image (front/back) NOTE: 'base_s3_url' refers to the URL you will get back from making the Binary POST. There will be different URL structures depending on whether you are POSTing to Development or Production environments. As an example, here is an example of the current Production URL: https://modmed-prod-incoming-fhir-attachments.s3.amazonaws.com/{auto-generated string} **Note:** If using Postman, or a similar solution, check your hidden headers as it may automatically add a Content-Type which may cause the upload to fail. Content-Type will need to equal "text/plain"
7	{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship	GET	OPTIONAL If relationship ≠ SELF, perform a GET on ValueSet insured-relationship to retrieve the relationship type
8	{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage	POST	Use information gathered in 1-7 when constructing the Coverage payload

9	{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage?reconciliationId={Reconciliation Id}	GET	Perform a Coverage SEARCH by the Reconciliation Identifier provided in the response to step 8 (if successful) to see if the Reconciliation is Pending or Completed

The minimum attributes for creating a new Coverage are:

Name	Type	Description
status	code	only “active” supported on create
identifier	string	policyHolder information is only required when relationship is ≠ SELF PolicyHolderFirst PolicyHolderLast PolicyHolderMiddle PolicyHolderSuffix PolicyHolderDOB PolicyHolderBirthSex PolicyHolderAddress1 PolicyHolderAddress2 PolicyHolderAddressCity PolicyHolderAddressState PolicyHolderAddressZipCode PolicyHolderPhoneHome PolicyHolderPhoneMobile PolicyHolderPhoneWork InsuranceCardFrontUrl (always optional) InsuranceCardBackUrl (always optional)
payor	reference	Reference to Organization Id
beneficiary	reference	Reference to Patient Id
type	code	Reference to Policy Type ValueSet {base url}/{firm_url_prefix}/ValueSet/insurance-policy-type
relationship	code	Reference to Insured Relationship ValueSet {base url}/{firm_url_prefix}/ValueSet/insured-relationship NOTE: If relationship ≠ SELF, use the “identifier” attribute to pass the patients identifiers

Additional attributes for creating a new Coverage are:

Name	Type	Description
order	string	The order of the insurance policy, it can be 1= Primary , 2= Secondary 3 = Tertiary
class	code	Use this to pass in the Plan and/or Group Numbers and Names. For Plans, use the Reference to Coverage Class Plan https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan For Groups, use the Reference to Coverage Class Group: https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group And then add values and names per the examples below.
cost-to-beneficiary-type	ValueSet	Reference to Cost to Beneficiary ValueSet {base url}/{firm_url_prefix}/ValueSet/cost-to-beneficiary-type
period	date	Policy Effective Date and Policy End Date start = yyyy-MM-dd end = yyyy-MM-dd

Use information gathered in 1-7 when constructing the Coverage payload

Step 8 Example:

POST {base url}/{firm_url_prefix}/ema/fhir/v2/Coverage

```
{
 "resourceType": "Coverage",
 "status": "active",
 "identifier" : [
  {
   "system": "PolicyHolderFirst",
   "value": "Darth"
  },
  {
   "system": "PolicyHolderLast",
   "value": "Vader"
```

```
  },
  {
    "system": "PolicyHolderMiddle",
    "value": "A"
  },
  {
    "system": "PolicyHolderSuffix",
    "value": "Sr"
  },
  {
    "system": "PolicyHolderDOB",
    "value": "1985-06-15"
  },
  {
    "system": "PolicyHolderBirthSex",
    "value": "Male"
  },
  {
    "system": "PolicyHolderAddress1",
    "value": "1000 S Force Way"
  },
  {
    "system": "PolicyHolderAddress2",
    "value": "Unit 5"
  },
  {
    "system": "PolicyHolderAddressCity",
    "value": "Los Angeles"
  },
  {
    "system": "PolicyHolderAddressState",
    "value": "CA"
  },
  {
    "system": "PolicyHolderAddressZipCode",
    "value": "90015"
  },
  {
    "system": "PolicyHolderPhoneHome",
    "value": "555-555-5555"
  },
  {
    "system": "PolicyHolderPhoneMobile",
    "value": "777-777-7777"
  },
  {
    "system": "PolicyHolderPhoneWork",
    "value": "888-888-8888"
  },
  {
    "system": "InsuranceCardFrontUrl",
    "value": ""
  },
  {
    "system": "InsuranceCardBackUrl",
    "value": ""
  }
],
"type": {"coding": [
  {
    "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
    "code": "EPO",
    "display": "EPO"
  }
],
```

```
 "text": "EPO"
},
"beneficiary": {
 "reference": "Patient/24884",
 "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
},
"relationship": {
 "coding": [
  {
   "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insured-relationship",
   "code": "Other",
   "display": "Other"
  }
 ],
 "text": "Other"
},
"period": {
 "start": "2021-01-01",
 "end": "2023-01-01"
},
"payor": [
 {
  "reference": "Organization/pay|541"
 },
 {
  "reference": "InsurancePlan/254"
 }
],
"class": [
 {
  "type": {
   "coding": [
    {
     "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-plan",
     "code": "plan",
     "display": "Plan"
    }
   ],
   "text": "Plan"
  },
  "value": "11111111",
  "name": "SteveTestInsurancePlan"
 },
 {
  "type": {
   "coding": [
    {
     "system": "https://www.hl7.org/fhir/codesystem-coverage-class.html#coverage-class-group",
     "code": "group",
     "display": "Group"
    }
   ],
   "text": "Group"
  },
  "value": "1111"
 }
],
"order": 1,
"costToBeneficiary" : [
 {
  "type": {
   "coding": [
    {
     "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
     "code": "COPAY_AMOUNT"
```

```
      }
    ]
  },
  "valueMoney": {
    "value": 50.00,
    "currency": "USD"
  }
},
{
  "type": {
    "coding": [
      {
        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
        "code": "COINSURANCE_PERCENTAGE"
      }
    ]
  },
  "valueQuantity": {
    "value": 20.00
  }
},
{
  "type": {
    "coding": [
      {
        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
        "code": "DEDUCTIBLE"
      }
    ]
  },
  "valueMoney": {
    "value": 1500.00,
    "currency": "USD"
  }
},
{
  "type": {
    "coding": [
      {
        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
        "code": "OUT_OF_POCKET"
      }
    ]
  },
  "valueMoney": {
    "value": 500.00,
    "currency": "USD"
  }
},
{
  "type": {
    "coding": [
      {
        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
        "code": "REMAINING_DEDUCTIBLE"
      }
    ]
  },
  "valueMoney": {
    "value": 800.00,
    "currency": "USD"
  }
},
{
  "type": {
```

```
    "coding": [
     {
      "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/cost-to-beneficiary-type",
      "code": "REMAINING_OUT_OF_POCKET"
     }
    ]
   },
   "valueMoney": {
    "value": 100.00,
    "currency": "USD"
   }
  }
]
}
}
```


Sample Response:


```
{
   "resourceType": "OperationOutcome",
   "id": "04c59c6f-2308-482d-a77b-e1c84065ae8e",
   "issue": [
      {
         "severity": "information",
         "code": "value",
         "details": {
            "text": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage?reconciliationId=14"
         },
         "diagnostics": "We have received your Coverage request. When it has been reconciled in our system, you can find the latest details at the url in the OperationOutcome details text field: "
      }
   ]
}
```


Note: Every inbound Coverage will need to be reconciled by the Firm. Searching Coverage by reconciliationId allows you to check the status of Reconciliation for the new Coverage. When the status of a reconciliationId is completed, the new Coverage has either been accepted or rejected. You can perform a Coverage READ or SEARCH to check to see if the Coverage was accepted.

Perform a Coverage SEARCH by the Reconciliation Identifier provided in the response to step 8 (if successful) to see if the Reconciliation is Pending or Completed

Step 9 Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Coverage?reconciliationId=14

Sample Response when the Reconciliation is Pending:


```
{
   "resourceType": "OperationOutcome",
   "issue": [
      {
         "severity": "error",
         "code": "processing",
         "diagnostics": "Reconciliation Id:14 is still pending. "
      }
   ]
}
```

Sample Response when the Reconciliation is still Completed:


```
{
   "resourceType": "OperationOutcome",
   "issue": [
      {
         "severity": "error",
         "code": "processing",
         "diagnostics": "Reconciliation Id:11 has completed. Please search for the specific Patient to see the latest
Coverage info. "
      }
   ]
}
```


Coverage UPDATE

Everything that can be added via a POST or CREATE can also be updated through a PUT. In that case, simply include the ID of the Coverage that you are updating.

Organization

Currently the 'Organization' resource can only be used to query two different data sets. It can be used to find Payers in the ModMed Practice Management system. It can also be used to find Referring Institutions within EMA/MMPM. We will be expanding on the Organization resource to include other types of Organizations in the future, so if you are looking for additional functionality, be sure to check back.

The following attributes are supported in cases that the Organization is a Payer:

Field Name	Notes
id	ID of the Organization
identifier	payerID for Payers, npi for Referring Institutions
active	true|false
type	"pay" or "prov"
name	Name of the Payer or Referring Institution

The Following additional attributes are supported additionally for Organizations that are Referring Institutions.

Field Name	Notes
telecom	work , fax, mobile phone numbers, email, hisp address
address	office address

The Following Operations are supported:

- Organization READ
- Organization SEARCH
- Organization CREATE(supported only for Referring Institutions)

Organization READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/{id}	GET	Retrieve information by ID

Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Organization/pay|651

Sample Response:


```
{
   "resourceType": "Organization",
   "id": "pay|651",
   "meta": {
      "lastUpdated": "2021-09-15T17:55:55.000+00:00"
   },
   "identifier": [
      {
         "system": "payerId",
         "value": "09102"
      }
   ],
   "active": true,
   "type": [
      {
         "coding": [
            {
               "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/organization-type",
               "code": "pay",
               "display": "Payer"
            }
         ],
         "text": "Payer"
      }
   ],
   "name": "Medicare of Florida / First Coast Service Opt - J9"
}
```


Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Organization/prov%7C99
Sample Response:


```
{
   "resourceType": "Organization",
   "id": "prov|99",
   "meta": {
      "lastUpdated": "2023-02-22T00:04:11.000+00:00"
```

```
  },
  "identifier": [
    {
      "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-NPI",
      "value": "2920894031"
    }
  ],
  "active": true,
  "type": [
    {
      "coding": [
        {
          "system": " {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/organization-type",
          "code": "prov",
          "display": "Healthcare Provider"
        }
      ],
      "text": "Healthcare Provider"
    }
  ],
  "name": "FHIR Institution NEW",
  "telecom": [
    {
      "system": "email",
      "value": "mybuild@nada.go",
      "use": "work",
      "rank": 1
    },
    {
      "system": "email",
      "value": "altgo@good.go",
      "use": "work",
      "rank": 2
    },
    {
      "system": "fax",
      "value": "9992220000",
      "use": "work"
    },
    {
      "system": "phone",
      "value": "56156122349",
      "use": "work"
    },
    {
      "system": "phone",
      "value": "3334442222",
      "use": "mobile"
    }
  ],
  "address": [
    {
      "use": "work",
      "type": "both",
      "line": [
        "45 Main Street",
        "Suit 202"
      ],
      "city": "Boca Raton",
      "state": "FL",
      "postalCode": "334321122",
      "country": "United States of America"
    }
  ]
}
```

Organization SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Organization?{Parameter=Value}	GET	Search Organization by certain parameters

The Task resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 100
type	string	“pay” is supported, which will return Payer information for the Firm. “prov” will return all Referral Institutions for the Firm.
name	string	Must be an exact match
_lastUpdated	date	Search by data/time of _lastUpdated
active	boolean	true/false
identifier	token	If you want to search by payerId, you would add identifier=payerId|xxxx
page	string	Page to be used for paginated search

Examples:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Organization?type=pay&identifier=payerId|09102

Sample Response:


```
{
  "resourceType": "Bundle",
  "id": "1cbf0d8a-de2d-445e-8919-9ea2d81f81df",
  "meta": {
    "lastUpdated": "2021-09-15T20:56:08.984+00:00"
  },
  "type": "searchset",
```

```
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization?type=pay&identifier=payerId%7C09102"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/pay%7C651",
      "resource": {
        "resourceType": "Organization",
        "id": "pay|651",
        "meta": {
          "lastUpdated": "2021-09-15T17:55:55.000+00:00"
        },
        "identifier": [
          {
            "system": "payerId",
            "value": "09102"
          }
        ],
        "active": true,
        "type": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/organization-type",
                "code": "pay",
                "display": "Payer"
              }
            ],
            "text": "Payer"
          }
        ],
        "name": "Medicare of Florida / First Coast Service Opt - J9"
      }
    }
  ]
}
```


Examples:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Organization?type=prov

Sample Response:


```
{
  "resourceType": "Bundle",
  "id": "06049ac4-2597-444a-a688-98c5df848938",
  "meta": {
    "lastUpdated": "2023-02-21T23:51:07.924+00:00"
  },
  "type": "searchset",
  "total": 37,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization?type=prov"
    }
  ],
  "entry": [
    {
```

```
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/prov%7C7",
        "resource": {
            "resourceType": "Organization",
            "id": "prov|7",
            "meta": {
                "lastUpdated": "2018-12-03T19:32:15.000+00:00"
            },
            "active": true,
            "type": [
                {
                    "coding": [
                        {
                            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/organization-type",
                            "code": "prov",
                            "display": "Healthcare Provider"
                        }
                    ],
                    "text": "Healthcare Provider"
                }
            ],
            "name": "Instituition-1"
        }
    },
    {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/prov%7C8",
        "resource": {
            "resourceType": "Organization",
            "id": "prov|8",
            "meta": {
                "lastUpdated": "2018-10-04T18:00:41.000+00:00"
            },
            "active": true,
            "type": [
                {
                    "coding": [
                        {
                            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/organization-type",
                            "code": "prov",
                            "display": "Healthcare Provider"
                        }
                    ],
                    "text": "Healthcare Provider"
                }
            ],
            "name": "Instituition-2"
        }
    },
...
    {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/prov%7C98",
        "resource": {
            "resourceType": "Organization",
            "id": "prov|98",
            "meta": {
                "lastUpdated": "2022-02-04T16:40:14.000+00:00"
            },
            "active": true,
            "type": [
                {
                    "coding": [
                        {
                            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2ValueSet/organization-type",
                            "code": "prov",
                            "display": "Healthcare Provider"
                        }
```

```
                ],
                "text": "Healthcare Provider"
              }
            ],
            "name": "Acupath Inc (Ellkay)"
          }
        }
      ]
}
```

Organization CREATE

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Organization	POST	Create Referring Institution

The following attributes are required:

Field Name	Notes
identifier	NPI: "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-NPI"
active	true
type	code = 'prov'
name	
address	

The following attributes are optional to send in:

Field Name	Notes
telecom	email, alternate email, work phone, fax, mobile

Sample Payload is as shown below:

```
{
```

```
"resourceType": "Organization",
"identifier": [
   {
      "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-NPI",
      "value": "877878777"
   }
],
"active": true,
"type": [
   {
      "coding": [
         {
            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/organization-type",
            "code": "prov",
            "display": "Healthcare Provider"
         }
      ],
      "text": "Healthcare Provider"
   }
],
"name": "FHIR institution 114",
"telecom": [
 {
      "system": "email",
      "use": "work",
      "rank": 1
   },
   {
      "system": "email",
      "use": "work",
      "rank": 2
   },
   {
      "system": "other",
      "use": "work",
      "rank": 1
   },
   {
      "system": "other",
      "value": "hisp alt",
      "use": "work",
      "rank": 2
   },
   {
      "system": "fax",
      "value": "3213212122",
      "use": "work"
   },
   {
      "system": "phone",
      "value": "3213212122",
      "use": "mobile"
   }
],
"address": [
   {
      "use": "work",
      "type": "both",
      "line": [
         "902 CLINT MOORE RD STE 146"
      ],
      "city": "BOCA RATON",
      "state": "FL",
      "postalCode": "334872828",
      "country": "United States"
```

```
    }
  ]
}
```

InsurancePlan

Currently the 'InsurancePlan' resource can only be used to query and find InsurancePlans in the ModMed Practice Management system. InsurancePlan information is optional when creating Coverage.

The following attributes are supported:

Field Name	Notes
id	ID of the InsurancePlan
_count	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 100
_lastUpdated	Search by data/time of _lastUpdated
status	active or inactive
name	Name of the InsurancePlan
owned-by	reference to Organization (payer)
plan	type of plan

The Following Operations are supported:

- InsurancePlan READ
- InsurancePlan SEARCH

InsurancePlan READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/InsurancePlan	GET	Retrieve all InsurancePlan information for a Firm
{base url}/{firm_url_prefix}/ema/fhir/v2/InsurancePlan/{id}	GET	Retrieve InsurancePlan by ID

Example:

GET {base url}/{firm_url_prefix}ema/fhir/v2/InsurancePlan/3

Sample Response:

```
{
  "resourceType": "InsurancePlan",
  "id": "3",
  "status": "active",
  "name": "Parts B and D",
  "ownedBy": {
    "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/pay%7C7226",
    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/pay%7C7226"
  },
  "plan": [
    {
      "type": {
        "coding": [
          {
            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
            "code": "MEDICARE",
            "display": "MEDICARE"
          }
        ],
        "text": "MEDICARE"
      }
    }
  ]
}
```


InsurancePlan SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/InsurancePlan?{Parameter=Value}	GET	Search InsurancePlan by certain parameters

The Task resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 100
_lastUpdated	date	Search by data/time of _lastUpdated
owned-by	reference	Search InsurancePlan by Organization Id
page	string	Page to be used for paginated search
status	string	Check the Status of the InsurancePlan

Examples:

{base url}/{firm_url_prefix}/ema/fhir/v2/InsurancePlan?owned-by=pay|650

Sample Response:


```
{
  "resourceType": "Bundle",
  "id": "efb434d3-d986-4a47-b3ea-a881d77015b7",
  "meta": {
    "lastUpdated": "2021-09-15T20:34:28.772+00:00"
  },
  "type": "searchset",
  "total": 2,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/InsurancePlan?owned-by=pay%7C650"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/InsurancePlan/10",
      "resource": {
        "resourceType": "InsurancePlan",
        "id": "10",
        "meta": {
          "lastUpdated": "2021-09-15T20:32:12.000+00:00"
        },
        "status": "active",
        "name": "Plan Name A",
        "ownedBy": {
          "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/pay%7C650",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/pay%7C650"
        },
        "plan": [
          {
            "type": {
              "coding": [
                {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
                  "code": "HMO",
                  "display": "HMO"
                }
              ],
              "text": "HMO"
            }
          }
        ]
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/InsurancePlan/11",
      "resource": {
        "resourceType": "InsurancePlan",
        "id": "11",
        "meta": {
          "lastUpdated": "2021-09-15T20:32:36.000+00:00"
        },
        "status": "active",
        "name": "Plan Name B",
        "ownedBy": {
          "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/pay%7C650",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Organization/pay%7C650"
        },
```

```
            "plan": [
              {
                "type": {
                  "coding": [
                    {
                      "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/insurance-policy-type",
                      "code": "PPO",
                      "display": "PPO"
                    }
                  ],
                  "text": "PPO"
                }
              }
            ]
          }
        }
      ]
}
```


Locations/Facilities

Location

- FHIR Specification: https://www.hl7.org/fhir/location.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Location

Common use cases include:
- Find the Locations of a Practice
- Find the identifiers of Locations
- Find the BusinessUnit for a Location
- Search for a Location by name

The following attributes are supported:

Field Name	Notes
id	The MMI-specific unique identifier for the location
identifier	Other identifiers for the Location: • BusinessUnitId (for when the practice is using Modernizing Medicine Practice Management System) • PMSID (additional identifier for the location used in HL7 interfaces and sometimes needs to be used in conjunction with the API)
status	active|inactive
name	Name of the practice (location)
address	Address of the location

The Following Operations are supported:

- Location READ
- Location SEARCH

Location READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Location	GET	Retrieve List of all locations for that firm
{base url}/{firm_url_prefix}/ema/fhir/v2/Location/{id}	GET	Retrieve Location by ID

Location SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Location?{Parameter=Value}	GET	Retrieve Location resources meeting the specified search criteria

The Location resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 100
address-city	string	City - A city specified in an address
address-country	string	Country - A country specified in an address
address-postalcode	string	Zip Code - A postal code specified in an address
address-state	string	State - A state specified in an address
name	string	A portion of the location's name or alias
page	string	Page to be used for paginated search
status	code	Searches for locations with a specific kind of status • active|inactive

Examples:

Search for Locations by All Possible Search Parameters
{base url}/{firm_url_prefix}/ema/fhir/v2/Location?address-city=BocaRaton&address-state=FL&address-postalcode=33160&address-country=United States of America&name=Secondary Facility&status=active

Search Locations by a Single Parameter
{base url}/{firm_url_prefix}/ema/fhir/v2/Location?status=active

Sample:


```
{
  "resourceType": "Bundle",
  "id": "f5b69f46-b640-44ee-8bdf-7c6568ddfd54",
  "meta": {
    "lastUpdated": "2019-02-13T14:43:44.667+00:00"
  },
  "type": "searchset",
  "total": 8,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location?_format=json"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/8",
      "resource": {
        "resourceType": "Location",
        "id": "8",
        "status": "inactive",
        "name": "Primary Facility",
        "address": {
          "id": "7682",
          "line": [
            "1 Unspecified Address"
          ],
          "city": "Unspecified City",
          "state": "OH",
          "postalCode": "33445",
          "country": "United States of America"
        }
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/23",
      "resource": {
        "resourceType": "Location",
        "id": "23",
        "status": "active",
        "name": "Primary Facility",
        "address": {
          "id": "7843",
          "line": [
            "1515 S. Rogers Circle"
          ],
          "city": "Boca Raton",
          "state": "FL",
          "postalCode": "334831234",
          "country": "United States of America"
        }
```

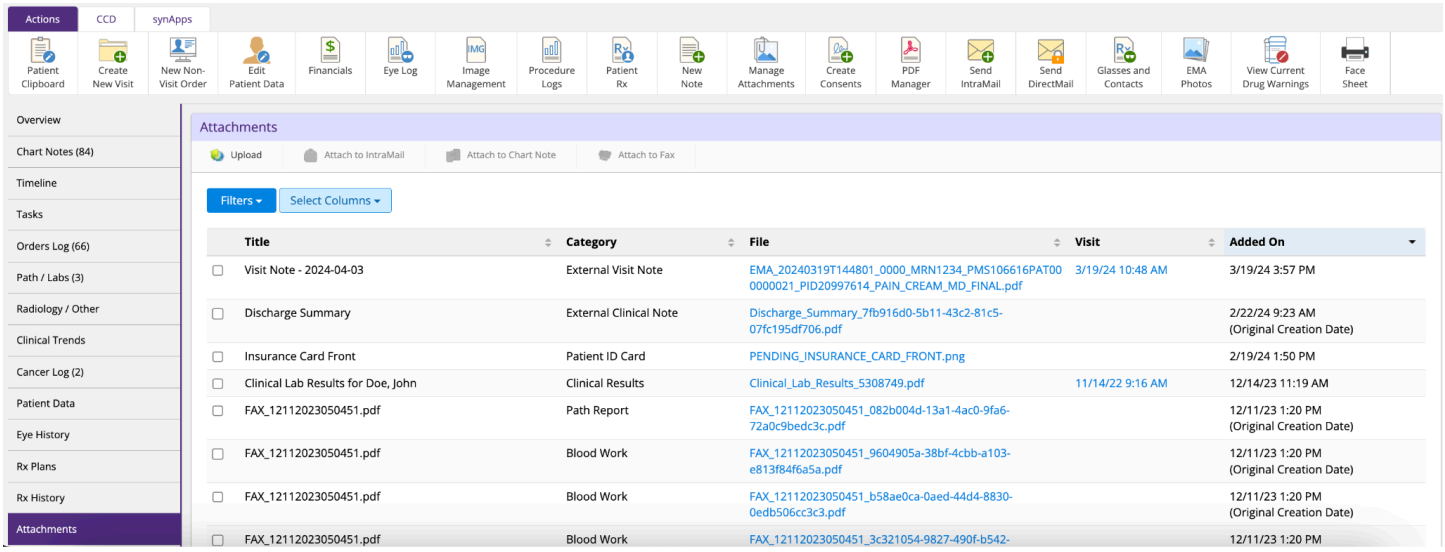
```
        }
      },
      {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/25",
        "resource": {
          "resourceType": "Location",
          "id": "25",
          "status": "active",
          "name": "Secondary Facility",
          "address": {
            "id": "8560",
            "line": [
              "555 Stale road"
            ],
            "city": "Boca Raton",
            "state": "FL",
            "postalCode": "33160",
            "country": "United States of America"
          }
        }
      },
      {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/130",
        "resource": {
          "resourceType": "Location",
          "id": "130",
          "status": "inactive",
          "name": "Ohio facility2",
          "address": {
            "id": "11307",
            "line": [
              "1 Unspecified Address"
            ],
            "city": "Unspecified City",
            "state": "WA",
            "postalCode": "334455022",
            "country": "United_States_of_America"
          }
        }
      },
      {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/274",
        "resource": {
          "resourceType": "Location",
          "id": "274",
          "status": "inactive",
          "name": "dgadfbasgasfdasdfasdfasdgadgagasdfgadsgfasdgadgadgasdgasdgasdgadg",
          "address": {
            "id": "15456",
            "line": [
              "dfd"
            ],
            "city": "df",
            "state": "AR",
            "postalCode": "34343",
            "country": "United States of America"
          }
        }
      }
    ]
}
```

Documents

There are several different Document categories and types inside of EMA. Most “documents” can be handled through the ‘DocumentReference’ resource.

Attachments

Each Patient chart has a section called ‘Attachments’.



Each document has the ability to have a title, category, file name, visit associated (if relevant), and date. The document categories in this section are defined by the customer. Each customer will have different document categories and therefore different IDs for these categories. Each customer’s document categories can be found by querying their ValueSet.

Visit Notes

The Visit Note is another document type you can find in EMA. These are the nicely designed PDFs of each patient encounter in EMA. You can find ALL of a Patient’s visit notes, by calling: /DocumentReference?patient={patientID}&category=note.

If you are looking for the Visit Note of a specific Encounter, you can /DocumentReference/note|{visitID}. You can find Encounters by searching the /Encounter endpoint.

CCDA

You can also query for a Patient’s CCDA. /DocumentReference?patient={patientID}&category=CCDA. This will be an XML document.

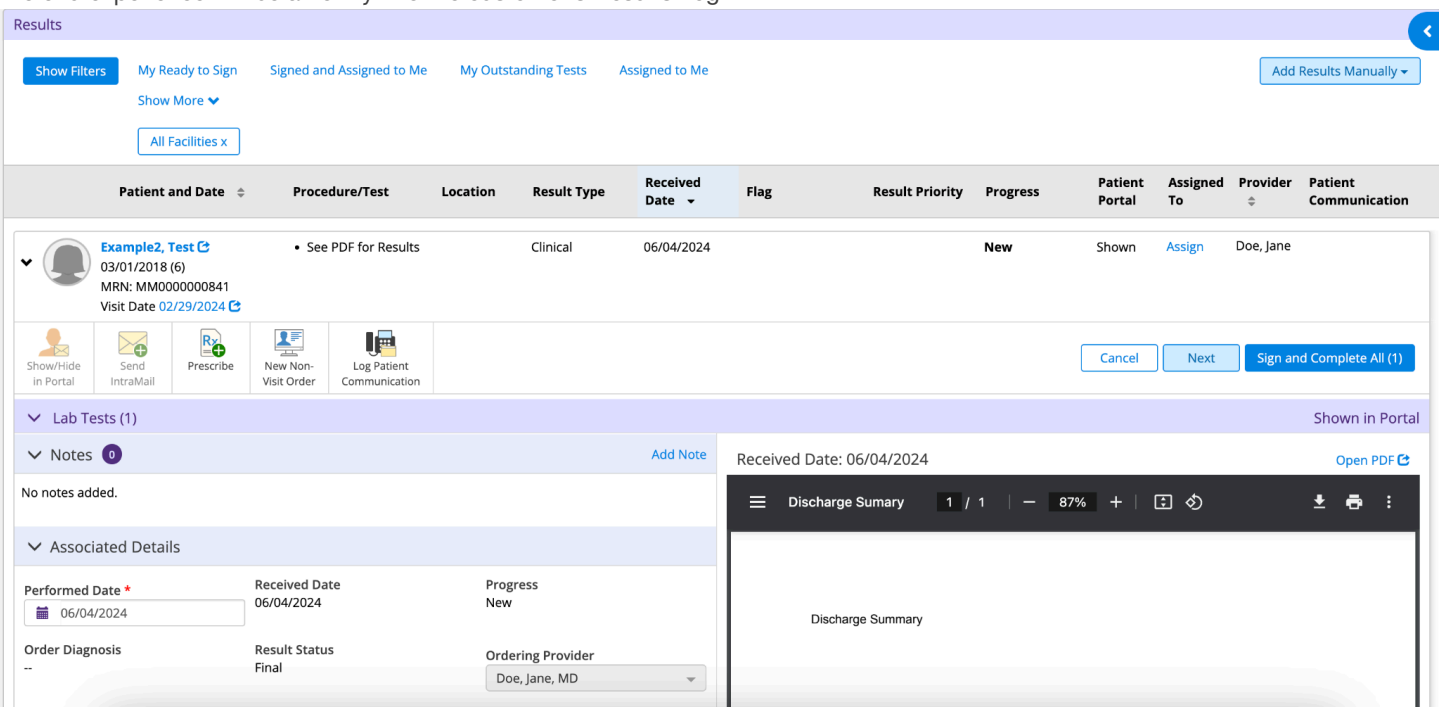
Results

In order to POST a document into a customer’s Results Log, you would need to query their ValueSet for document-category and find the ‘Results -*’ categories. Each customer will have Results categories - depending on the type of results they work with - for example:

```
{
                "code": "1567",
                "display": "Results - Lab"
            },
            {
                "code": "31755",
                "display": "Results - Path/Lab"
            },
```

```
        {
          "code": "1694",
          "display": "Results - Pathology"
        },
        {
          "code": "2075",
          "display": "Results - Procedures"
        },
        {
          "code": "5184",
          "display": "Results - PT/OT"
        },
        {
          "code": "1821",
          "display": "Results - Radiology"
        },
```


The end experience will be an entry into the customer's Results Log:



The results log allows for a more Results-centric workflow which allows the end user to review, sign, and/or create plans or follow-up actions.

DocumentReference

DocumentReference can currently be used to retrieve/create documents which reside in the "Attachments" section of a patient's chart in EMA. The following documentation is specific to the "Attachments" section of the patient's chart. For information regarding how to retrieve a patient's CCDA or Visit Note, please review the ***DocumentReference CCDA and Visit Notes*** documentation immediately following this section. For information regarding how to POST a PRO (Patient Reported Outcome) document to EMA's PRO module, please review the PRO piece of the DocumentReference CREATE section below.

- FHIR Specification: https://www.hl7.org/fhir/documentreference.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference
- Document Category ValueSet: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/document-category
    - Since document categories are configured at the Firm level (ie. specific to each firm), the way to find these categories is to reference the document-category value set for the firm.
- Document Type ValueSet: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/document-type

Common use cases include:

- Add Documents to a Patient's chart
- Find Documents for a Patient
- Find a specific Visit Note
- Retrieve a Patient's CCDA

The following attributes are supported:

Field Name	Notes
id	The MMI-specific unique identifier for the Document
identifier	filename
status	current | superseded | entered-in-error NOTE: MMI currently only supports 'current'
type	the type of file - application/pdf - audio/mpeg
category	ValueSet: document-category {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/document-category
subject	reference - Patient
date	When this document reference was created
description	The title of the document
content	The document itself
context	Reference to Encounter

The Following Operations are supported:

- DocumentReference READ
- DocumentReference SEARCH
- DocumentReference CREATE

DocumentReference READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/{id}	GET	Retrieve Document by ID
{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient={id}	GET	Retrieve all Documents for a Patient ID
{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient={base url}/Patient/{id}	GET	Retrieve all Documents for a Patient Reference

DocumentReference SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?{Parameter=Value}	GET	Retrieve Document resources meeting the specified search criteria

The DocumentReference resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 10
_summary		By default, all DocumentaReference searches will set the _summary=true. If you want the entire document string for each result, you can set the _summary=false.
date	date	The original upload date in format of yyyy-MM-dd'T'HH:mm:ss.SSSSSSSZ • date=2019-03-18T08:03:35.000 • date=eq2019-03-18T08:03:35.000 • date=gt2019-04-02T21:11:38.000&date=lt2019-04-03T21:11:39.000
description	string	File title, this is an optional field
identifier	token	Document reference identifier, can be search by filename passing the identifier filename and the value in

		format filename|value. This is an optional field • identifier=filename|labresult
page	string	Page to be used for paginated search
patient	string	Patient reference url in format : /resoucrename/id or id, this is a mandatory field. MMI Patient ID ?patient={id}
type	token	File extension type, this is an optional field • type=pdf

Examples:

Sample Return:


```
{
  "resourceType": "Bundle",
  "id": "c25ecc2d-2b36-41a8-92a9-b715ccfd3b37",
  "meta": {
    "lastUpdated": "2021-07-14T18:49:42.686+00:00"
  },
  "type": "searchset",
  "total": 54,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=24884&_summary=false"
    },
    {
      "relation": "next",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=24884&_summary=false&page=2"
    },
    {
      "relation": "last",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=24884&_summary=false&page=6"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C40134",
      "resource": {
        "resourceType": "DocumentReference",
        "id": "file|40134",
        "identifier": [
          {
            "system": "filename",
            "value": "Fax_291239460.pdf"
          }
        ],
        "status": "current",
        "type": {
          "text": "application/pdf"
```

```
            },
            "subject": {
               "reference": "Patient/24884",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
            },
            "date": "2016-09-01T19:24:58.000+00:00",
            "content": [
               {
                  "attachment": {
                     "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/Fax_291239460.pdf?X-Amz-Algorithm=AWS4-HMAC
-SHA256&X-Amz-Date=20210714T184942Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA4...%2Fu
s-east-1%2Fs3%2Faws4_request&X-Amz-Signature=b91bf...",
                     "size": 27208,
                     "creation": "2016-09-01T19:24:58+00:00"
                  }
               }
            ]
         }
      },
      {
         "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C47791",
         "resource": {
            "resourceType": "DocumentReference",
            "id": "file|47791",
            "identifier": [
               {
                  "system": "filename",
                  "value": "EMA_PID4696_TOC_CCD.xml"
               }
            ],
            "status": "current",
            "type": {
               "text": "application/xml"
            },
            "category": [
               {
                  "coding": [
                     {
                        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/document-category",
                        "code": "493",
                        "display": "CCD"
                     }
                  ],
                  "text": "CCD"
               }
            ],
            "subject": {
               "reference": "Patient/24884",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
            },
            "date": "2017-01-09T16:10:30.000+00:00",
            "content": [
               {
                  "attachment": {
                     "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/EMA_PID4696_TOC_CCD.xml?X-Amz-Algorithm=AW
S4-HMAC-SHA256&X-Amz-Date=20210714T184942Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKI
A4...%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Signature=af367...",
                     "size": 44350,
                     "creation": "2017-01-09T16:10:30+00:00"
                  }
               }
            ]
         }
```

```
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C50356",
      "resource": {
        "resourceType": "DocumentReference",
        "id": "file|50356",
        "identifier": [
          {
            "system": "filename",
            "value":
"EMA_20170303T203416_0000_MRNMM0000000144_PMS1004910000000412_PID24884_CameraPicture.jpg"
          }
        ],
        "status": "current",
        "type": {
          "text": "image/jpeg"
        },
        "category": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/document-category",
                "code": "503",
                "display": "Image"
              }
            ],
            "text": "Image"
          }
        ],
        "subject": {
          "reference": "Patient/24884",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
        },
        "date": "2017-03-03T20:34:16.000+00:00",
        "description": "rash left upper arm",
        "content": [
          {
            "attachment": {
              "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/EMA_20170303T203416_0000_MRNMM0000000144
_PMS1004910000000412_PID24884_CameraPicture.jpg?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20210714T1849
42Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA...%2Fus-east-1%2Fs3%2Faws4_request&X-Amz
-Signature=a6c83...",
              "size": 52524,
              "title": "rash left upper arm",
              "creation": "2017-03-03T20:34:16+00:00"
            }
          }
        ],
        "context": {
          "encounter": [
            {
              "reference": "Encounter/90257",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/90257"
            }
          ]
        }
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C51159",
      "resource": {
        "resourceType": "DocumentReference",
        "id": "file|51159",
        "identifier": [
```

```
            {
               "system": "filename",
               "value": "EMA_PID15248_TOC_CCD.ccda.xml"
            }
         ],
         "status": "current",
         "type": {
            "text": "application/xml"
         },
         "category": [
            {
               "coding": [
                  {
                     "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/document-category",
                     "code": "493",
                     "display": "CCD"
                  }
               ],
               "text": "CCD"
            }
         ],
         "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
         },
         "date": "2017-03-17T19:57:30.000+00:00",
         "content": [
            {
               "attachment": {
                  "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/EMA_PID15248_TOC_CCD.ccda.xml?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20210714T184942Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA4...&X-Amz-Signature=4e83a...",
                  "size": 92421,
                  "creation": "2017-03-17T19:57:30+00:00"
               }
            }
         ]
      }
   },
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C56181",
      "resource": {
         "resourceType": "DocumentReference",
         "id": "file|56181",
         "identifier": [
            {
               "system": "filename",
               "value": "dt170209.gif"
            }
         ],
         "status": "current",
         "type": {
            "text": "image/gif"
         },
         "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
         },
         "date": "2017-07-20T19:49:06.000+00:00",
         "content": [
            {
               "attachment": {
                  "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/dt170209.gif?X-Amz-Algorithm=AWS4-HMAC-SHA2
```

56&X-Amz-Date=20210714T184942Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA4...&X-Amz-Signature=a5c7...",
"size": 141388,
"creation": "2017-07-20T19:49:06+00:00"
}
}
]
}
},
{
"fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C56185",
"resource": {
"resourceType": "DocumentReference",
"id": "file|56185",
"identifier": [
{
"system": "filename",
"value": "dt170209_1.gif"
}
],
"status": "current",
"type": {
"text": "image/gif"
},
"subject": {
"reference": "Patient/24884",
"display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
},
"date": "2017-07-20T19:54:53.000+00:00",
"description": "dt170209.gif",
"content": [
{
"attachment": {
"contentType": "image/gif",
"url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/dt170209_1.gif?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20210714T184942Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA4...%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Signature=97397...",
"size": 141388,
"title": "dt170209.gif",
"creation": "2017-07-20T19:54:53+00:00"
}
}
]
}
},
{
"fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C57449",
"resource": {
"resourceType": "DocumentReference",
"id": "file|57449",
"identifier": [
{
"system": "filename",
"value":
"EMA_20170811T133932_0000_MRNMM0000000144_PMS100491000000412_PID24884_WORKERSCOMPEVAL_FL_FINAL.pdf"
}
],
"status": "current",
"type": {
"text": "application/pdf"
},
"subject": {
"reference": "Patient/24884",
"display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"

```
            },
            "date": "2017-08-11T13:42:48.000+00:00",
            "content": [
               {
                  "attachment": {
                     "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/EMA_20170811T133932_0000_MRNMM0000000144
_PMS100491000000412_PID24884_WORKERSCOMPEVAL_FL_FINAL.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date
=20210714T184942Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA4...&X-Amz-Signature=41763...",
                     "size": 347440,
                     "creation": "2017-08-11T13:42:48+00:00"
                  }
               }
            ],
            "context": {
               "encounter": [
                  {
                     "reference": "Encounter/106533",
                     "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/106533"
                  }
               ]
            }
         }
      },
      {
         "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C57479",
         "resource": {
            "resourceType": "DocumentReference",
            "id": "file|57479",
            "identifier": [
               {
                  "system": "filename",
                  "value":
"EMA_20170811T180307_0000_MRNMM0000000144_PMS100491000000412_PID24884_WORKERSCOMPEVAL_FL_FINAL.pdf"
               }
            ],
            "status": "current",
            "type": {
               "text": "application/pdf"
            },
            "subject": {
               "reference": "Patient/24884",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
            },
            "date": "2017-08-11T18:07:00.000+00:00",
            "content": [
               {
                  "attachment": {
                     "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/EMA_20170811T180307_0000_MRNMM0000000144
_PMS100491000000412_PID24884_WORKERSCOMPEVAL_FL_FINAL.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date
=20210714T184942Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA4...&X-Amz-Signature=485b8...",
                     "size": 347440,
                     "creation": "2017-08-11T18:07:00+00:00"
                  }
               }
            ],
            "context": {
               "encounter": [
                  {
                     "reference": "Encounter/106634",
                     "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/106634"
                  }
               ]
            }
```

```
        }
      },
      {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C57524",
        "resource": {
          "resourceType": "DocumentReference",
          "id": "file|57524",
          "identifier": [
            {
              "system": "filename",
              "value": "a06.png"
            }
          ],
          "status": "current",
          "type": {
            "text": "image/png"
          },
          "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
          },
          "date": "2017-08-14T14:52:46.000+00:00",
          "description": "a06.png",
          "content": [
            {
              "attachment": {
                "contentType": "image/png",
                "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/a06.png?X-Amz-Algorithm=AWS4-HMAC-SHA256&X
-Amz-Date=20210714T184942Z&X-Amz-SignedHeaders=host&X-Amz-Expires=299&X-Amz-Credential=AKIA4...&X-Amz-Signature
=8acf...",
                "size": 4098,
                "title": "a06.png",
                "creation": "2017-08-14T14:52:46+00:00"
              }
            }
          ]
        }
      },
      {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/file%7C57525",
        "resource": {
          "resourceType": "DocumentReference",
          "id": "file|57525",
          "identifier": [
            {
              "system": "filename",
              "value": "a11.png"
            }
          ],
          "status": "current",
          "type": {
            "text": "image/png"
          },
          "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
          },
          "date": "2017-08-14T14:52:52.000+00:00",
          "description": "a11.png",
          "content": [
            {
              "attachment": {
                "contentType": "image/png",
```

```
                    "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/a11.png?X-Amz-Algorithm=AWS4-HMAC-SHA256&X
-Amz-Date=20210714T184942Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA4...&X-Amz-Signature
=545ee...",
                    "size": 3669,
                    "title": "a11.png",
                    "creation": "2017-08-14T14:52:52+00:00"
                }
            }
        ]
      }
    }
  ]
}
```


DocumentReference CCDA and Visit Notes

Additionally, we've added functionality to be able to retrieve:

- A Patient's CCDA Document (an XML document)
- A Patient's Visit Note - the PDF version of a visit note for a specific encounter

CCDA

In order to search for a patient's CCDA:

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=(PatientID}&category=ccda	GET	Search for a Patient's CCDA Alternatively, the LOINC for CCDA (81214-9) can be passed instead of 'ccda'

Sample: GET {base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=24884&category=ccda


```
{
  "resourceType": "Bundle",
  "id": "52ba26e3-10de-4515-a28a-57a132ac157f",
  "meta": {
    "lastUpdated": "2021-07-14T19:46:24.475+00:00",
    "tag": [
      {
        "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
        "code": "SUBSETTED",
        "display": "Resource encoded in summary mode"
      }
    ]
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=24884&category=ccda"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/ccda%7C24884",
```

```
        "resource": {
          "resourceType": "DocumentReference",
          "id": "ccda|24884",
          "meta": {
            "tag": [
              {
                "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                "code": "SUBSETTED",
                "display": "Resource encoded in summary mode"
              }
            ]
          },
          "identifier": [
            {
              "system": "filename",
              "value": "EMA_PID24884_TOC_CCD.ccda.xml"
            }
          ],
          "status": "current",
          "type": {
            "text": "xml"
          },
          "category": [
            {
              "coding": [
                {
                  "system": "http://loinc.org",
                  "code": "81214-9",
                  "display": "Continuity of Care Document"
                }
              ],
              "text": "Continuity of Care Document"
            }
          ],
          "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
          },
          "date": "2021-07-14T19:46:24.474+00:00",
          "description": "Transition of Care Document"
        }
      }
    ]
}
```


In order to read a patient's CCDA:

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/ccda|{patient ID}	GET	Retrieve a Patient's CCDA Alternatively, the LOINC for CCDA (81214-9) can be passed instead of 'ccda'

Sample: GET {base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/ccda|24884


```
{
  "resourceType": "DocumentReference",
```

```
  "id": "ccda|24884",
  "identifier": [
    {
      "system": "filename",
      "value": "EMA_PID24884_TOC_CCD.ccda.xml"
    }
  ],
  "status": "current",
  "type": {
    "text": "xml"
  },
  "category": [
    {
      "coding": [
        {
          "system": "http://loinc.org",
          "code": "81214-9",
          "display": "Continuity of Care Document"
        }
      ],
      "text": "Continuity of Care Document"
    }
  ],
  "subject": {
    "reference": "Patient/24884",
    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
  },
  "date": "2021-07-14T19:38:23.082+00:00",
  "description": "Transition of Care Document",
  "content": [
    {
      "attachment": {
        "contentType": "application/xml",
        "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/bd974031-bd76-4dae-8d0b-ab863d56ee6e?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20210714T193823Z&X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA4...t&X-Amz-Signature=4b811...",
        "size": 504291,
        "title": "EMA_PID24884_TOC_CCD.ccda.xml",
        "creation": "2021-07-14T19:38:23+00:00"
      }
    }
  ]
}
```


VISIT NOTE

In order to search for a patient's Visit Note(s):

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient={PatientID}&category=note	GET	Search for a Patient's Visit Note Alternatively, the LOINC for Summary of episode note (34133-9) can be passed instead of 'note'

Sample: GET {base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=24884&category=note


```
{
```

```
"resourceType": "Bundle",
"id": "5e1fd125-f8c1-4388-8d91-811bb5d5be61",
"meta": {
   "lastUpdated": "2021-07-14T19:49:43.417+00:00",
   "tag": [
      {
         "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
         "code": "SUBSETTED",
         "display": "Resource encoded in summary mode"
      }
   ]
},
"type": "searchset",
"total": 70,
"link": [
   {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=24884&category=note"
   },
   {
      "relation": "next",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=24884&category=note&page=2"
   },
   {
      "relation": "last",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=24884&category=note&page=7"
   }
],
"entry": [
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C81900",
      "resource": {
         "resourceType": "DocumentReference",
         "id": "note|81900",
         "meta": {
            "tag": [
               {
                  "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                  "code": "SUBSETTED",
                  "display": "Resource encoded in summary mode"
               }
            ]
         },
         "identifier": [
            {
               "system": "filename",
               "value": "EMA_20161201T201948_0000_MRNMM0000000144_PMS1004910000000412_PID24884_Visit_Final.pdf"
            }
         ],
         "status": "current",
         "type": {
            "text": "application/pdf"
         },
         "category": [
            {
               "coding": [
                  {
                     "system": "http://loinc.org",
                     "code": "34133-9",
                     "display": "Summary of episode note"
                  }
               ],
               "text": "Summary of episode note"
            }
         ],
```

```
        "subject": {
          "reference": "Patient/24884",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
        },
        "date": "2016-12-01T20:19:48.000+00:00",
        "context": {}
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C85579",
      "resource": {
        "resourceType": "DocumentReference",
        "id": "note|85579",
        "meta": {
          "tag": [
            {
              "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
              "code": "SUBSETTED",
              "display": "Resource encoded in summary mode"
            }
          ]
        },
        "identifier": [
          {
            "system": "filename",
            "value": "EMA_20170109T154712_0000_MRNMM0000000144_PMS1004910000000412_PID24884_Visit_Final.pdf"
          }
        ],
        "status": "current",
        "type": {
          "text": "application/pdf"
        },
        "category": [
          {
            "coding": [
              {
                "system": "http://loinc.org",
                "code": "34133-9",
                "display": "Summary of episode note"
              }
            ],
            "text": "Summary of episode note"
          }
        ],
        "subject": {
          "reference": "Patient/24884",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
        },
        "date": "2017-01-09T15:47:12.000+00:00",
        "context": {}
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C90188",
      "resource": {
        "resourceType": "DocumentReference",
        "id": "note|90188",
        "meta": {
          "tag": [
            {
              "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
              "code": "SUBSETTED",
              "display": "Resource encoded in summary mode"
            }
          ]
```

```
        },
        "identifier": [
          {
            "system": "filename",
            "value": "EMA_20170215T183520_0000_MRNMM0000000144_PMS1004910000000412_PID24884_Visit_Final.pdf"
          }
        ],
        "status": "current",
        "type": {
          "text": "application/pdf"
        },
        "category": [
          {
            "coding": [
              {
                "system": "http://loinc.org",
                "code": "34133-9",
                "display": "Summary of episode note"
              }
            ],
            "text": "Summary of episode note"
          }
        ],
        "subject": {
          "reference": "Patient/24884",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
        },
        "date": "2017-02-15T18:35:20.000+00:00",
        "context": {}
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C90193",
      "resource": {
        "resourceType": "DocumentReference",
        "id": "note|90193",
        "meta": {
          "tag": [
            {
              "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
              "code": "SUBSETTED",
              "display": "Resource encoded in summary mode"
            }
          ]
        },
        "identifier": [
          {
            "system": "filename",
            "value": "EMA_20170215T190517_0000_MRNMM0000000144_PMS1004910000000412_PID24884_Visit_Final.pdf"
          }
        ],
        "status": "current",
        "type": {
          "text": "application/pdf"
        },
        "category": [
          {
            "coding": [
              {
                "system": "http://loinc.org",
                "code": "34133-9",
                "display": "Summary of episode note"
              }
            ],
            "text": "Summary of episode note"
```

```
            }
         ],
         "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
         },
         "date": "2017-02-15T19:05:17.000+00:00",
         "context": {}
      }
   },
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C93453",
      "resource": {
         "resourceType": "DocumentReference",
         "id": "note|93453",
         "meta": {
            "tag": [
               {
                  "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                  "code": "SUBSETTED",
                  "display": "Resource encoded in summary mode"
               }
            ]
         },
         "identifier": [
            {
               "system": "filename",
               "value": "EMA_20170317T192100_0000_MRNMM0000000144_PMS1004910000000412_PID24884_Visit_Final.pdf"
            }
         ],
         "status": "current",
         "type": {
            "text": "application/pdf"
         },
         "category": [
            {
               "coding": [
                  {
                     "system": "http://loinc.org",
                     "code": "34133-9",
                     "display": "Summary of episode note"
                  }
               ],
               "text": "Summary of episode note"
            }
         ],
         "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
         },
         "date": "2017-03-17T19:21:55.000+00:00",
         "context": {}
      }
   },
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C96602",
      "resource": {
         "resourceType": "DocumentReference",
         "id": "note|96602",
         "meta": {
            "tag": [
               {
                  "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                  "code": "SUBSETTED",
                  "display": "Resource encoded in summary mode"
```

```
            }
          ]
        },
        "identifier": [
          {
            "system": "filename",
            "value": "EMA_20170508T123839_0000_MRNMM0000000144_PMS100491000000412_PID24884_Visit_Final.pdf"
          }
        ],
        "status": "current",
        "type": {
          "text": "application/pdf"
        },
        "category": [
          {
            "coding": [
              {
                "system": "http://loinc.org",
                "code": "34133-9",
                "display": "Summary of episode note"
              }
            ],
            "text": "Summary of episode note"
          }
        ],
        "subject": {
          "reference": "Patient/24884",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
        },
        "date": "2017-05-08T12:38:39.000+00:00",
        "context": {}
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C97655",
      "resource": {
        "resourceType": "DocumentReference",
        "id": "note|97655",
        "meta": {
          "tag": [
            {
              "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
              "code": "SUBSETTED",
              "display": "Resource encoded in summary mode"
            }
          ]
        },
        "identifier": [
          {
            "system": "filename",
            "value": "EMA_20170517T191430_0000_MRNMM0000000144_PMS100491000000412_PID24884_Visit_Final.pdf"
          }
        ],
        "status": "current",
        "type": {
          "text": "application/pdf"
        },
        "category": [
          {
            "coding": [
              {
                "system": "http://loinc.org",
                "code": "34133-9",
                "display": "Summary of episode note"
              }
```

```
                ],
                "text": "Summary of episode note"
            }
        ],
        "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
        },
        "date": "2017-05-17T19:14:30.000+00:00",
        "description": "Exam - Full Skin",
        "context": {}
    }
},
{
    "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C101319",
    "resource": {
        "resourceType": "DocumentReference",
        "id": "note|101319",
        "meta": {
            "tag": [
                {
                    "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                    "code": "SUBSETTED",
                    "display": "Resource encoded in summary mode"
                }
            ]
        },
        "identifier": [
            {
                "system": "filename",
                "value": "EMA_20170608T195734_0000_MRNMM0000000144_PMS100491000000412_PID24884_Visit_Final.pdf"
            }
        ],
        "status": "current",
        "type": {
            "text": "application/pdf"
        },
        "category": [
            {
                "coding": [
                    {
                        "system": "http://loinc.org",
                        "code": "34133-9",
                        "display": "Summary of episode note"
                    }
                ],
                "text": "Summary of episode note"
            }
        ],
        "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
        },
        "date": "2017-06-08T19:57:34.000+00:00",
        "context": {}
    }
},
{
    "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C101682",
    "resource": {
        "resourceType": "DocumentReference",
        "id": "note|101682",
        "meta": {
            "tag": [
                {
```

```
                    "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                    "code": "SUBSETTED",
                    "display": "Resource encoded in summary mode"
                }
            ]
          },
          "identifier": [
            {
              "system": "filename",
              "value":
"EMA_20170620T225357_0000_MRNMM00000054fgh3_PMS100491000000412_PID24884_Order_Final.pdf"
            }
          ],
          "status": "current",
          "type": {
            "text": "application/pdf"
          },
          "category": [
            {
              "coding": [
                {
                  "system": "http://loinc.org",
                  "code": "34133-9",
                  "display": "Summary of episode note"
                }
              ],
              "text": "Summary of episode note"
            }
          ],
          "subject": {
            "reference": "Patient/24884",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
          },
          "date": "2017-06-20T22:53:57.000+00:00",
          "context": {}
        }
      },
      {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note%7C103911",
        "resource": {
          "resourceType": "DocumentReference",
          "id": "note|103911",
          "meta": {
            "tag": [
              {
                "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                "code": "SUBSETTED",
                "display": "Resource encoded in summary mode"
              }
            ]
          },
          "identifier": [
            {
              "system": "filename",
              "value": "EMA_20170731T181541_0000_MRNMM0000000144_PMS100491000000412_PID24884_Visit_Final.pdf"
            }
          ],
          "status": "current",
          "type": {
            "text": "application/pdf"
          },
          "category": [
            {
              "coding": [
                {
```

```
                    "system": "http://loinc.org",
                    "code": "34133-9",
                    "display": "Summary of episode note"
                }
            ],
            "text": "Summary of episode note"
        }
    ],
    "subject": {
        "reference": "Patient/24884",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
    },
    "date": "2017-07-31T18:15:41.000+00:00",
    "context": {}
  }
 }
]
}
```


In order to read/retrieve a patient's Visit Note:

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note|{visit ID}	GET	Retrieve a Patient's Visit Note Alternatively, the LOINC for Summary of episode note (34133-9) can be passed instead of 'note'

Sample: GET {base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference/note|81900


```
{
  "resourceType": "DocumentReference",
  "id": "note|81900",
  "identifier": [
    {
      "system": "filename",
      "value": "EMA_20161201T201948_0000_MRNMM0000000144_PMS1004910000000412_PID24884_Visit_Final.pdf"
    }
  ],
  "status": "current",
  "type": {
    "text": "application/pdf"
  },
  "category": [
    {
      "coding": [
        {
          "system": "http://loinc.org",
          "code": "34133-9",
          "display": "Summary of episode note"
        }
      ],
      "text": "Summary of episode note"
    }
  ],
  "subject": {
    "reference": "Patient/24884",
    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/24884"
  },
```

```
  "date": "2016-12-01T20:19:48.000+00:00",
  "content": [
    {
      "attachment": {
        "contentType": "application/pdf",
        "url":
"https://modmed-qa-incoming-fhir-attachments.s3.amazonaws.com/100491/EMA_20161201T201948_0000_MRNMM0000000144
_PMS1004910000000412_PID24884_Visit_Final.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20210714T195441Z&
X-Amz-SignedHeaders=host&X-Amz-Expires=300&X-Amz-Credential=AKIA4...&X-Amz-Signature=a68bc...",
        "size": 102585,
        "title": "EMA_20161201T201948_0000_MRNMM0000000144_PMS1004910000000412_PID24884_Visit_Final.pdf",
        "creation": "2016-12-01T20:19:48+00:00"
      }
    }
  ],
  "context": {
    "encounter": [
      {
        "reference": "Encounter/81900",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/81900"
      }
    ]
  }
}
```


DocumentReference CREATE

Step	HTTP Request	Method	Action
1	{base url}/{firm_url_prefix}/ema/fhir/v2/Binary	POST	Retrieve S3 Bucket URL
2	{base_s3_url}/{auto-generated string} NOTE:'base_s3_url' refers to the URL you will get back from making the Binary POST. There will be different URL structures depending on whether you are POSTing to Development or Production environments. As an example, here is an example of the current development URL: https://modmed-prod-incoming-fhir-attachments.s3.amazonaws.com/{auto-generated string}	PUT	Upload the document to the S3 URL **Note:** If using Postman, or a similar solution, check your hidden headers as it may automatically add a Content-Type which may cause the upload to fail. Content-Type will need to equal "text/plain"
3	{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference	POST	Upload document from S3 URL to EMA

The attributes for creating a document are:

Name	Type	Description
identifier*	filename	The name of the file
content*	S3 URL returned via POST against the Binary resource in step 1	The actual contents of the document
subject	patient reference	Use this to associate the document to the correct patient. it is not required.

		Any document posted without a patient will go into an unassociated queue where someone at the practice will need to manually associate the document to a patient.
title	string	The title of the file - not required, but there is a title column in the UI. This could be used to give a little more information than what is in the name of the file.
creation	datetime	When passed in, this will set the 'Original Creation Date' in EMA so that when a user is searching for attachments in a patient's chart, the user will see this date as the date rather than the date the document was uploaded into EMA.

Step 1: We've added the 'Binary' resource as a mechanism to retrieve an S3 URL for your customer's site. You will need to create a POST to this Endpoint in order to retrieve the URL. The POST can simply be blank, however, here is a sample of a payload if you want to use something like this:

POST {base url}/{firm_url_prefix}/ema/fhir/v2/Binary

```
{
 "resourceType" : "Binary",
 "contentType" : "application/pdf",
 "securityContext" : null,
 "data" : null
}
```

Note: The generated S3 URL will expire after 5 minutes. You will then need to POST the Binary Resource for a new S3 URL.

Step 2: PUT Document to S3 URL. This will require you to place the document into the S3 bucket. This can be done a variety of ways - one example:

```
curl --location --request PUT '{base_s3_url}/{auto-generated string}' \
--header 'Content-Type: text/plain' \
--data-binary '@/Users/folder/Downloads/test.pdf'
```

Note: If using Postman, or a similar solution, check your hidden headers as it may automatically add a Content-Type which may cause the upload to fail. Content-Type will need to equal "text/plain"

Step 3: POST New Document with Patient ID

```
{
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/DocumentReference?patient=7132",
        "resourceType": "DocumentReference",
```

```
"identifier": [
    {
        "system": "filename",
        "value": "mikes-file.pdf"
    }
],
"status": "current",
"type": {
    "text": "application/pdf"
},
"category": [
{
"coding": [
{
"system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/document-category",
"code": "426",
"display": "External Visit Note"
}
],
"text": "External Visit Note"
}
],
"subject": {
    "reference": "{base url}/{firm_url_prefix}/Patient/7132",
    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/7132"
},

                "date": "2019-04-03T21:11:38.000+00:00",
"content": [
    {
        "attachment": {
            "title": "Mike's PDF",
            "contentType": "application/pdf",
            "url": "{base_s3_url}/{auto-generated string}/{auto-generated string}",
            "size": 383176,
            "creation": "2019-04-03T21:11:38+00:00"
        }
```

```
            }
          ]
    }
```

Patient Reported Outcomes (PROS)

In addition to being able to create attachments in the patient's chart, we've also enabled the ability to post documents into the EMA PRO module. In order to do this, you must send the category as defined in the payload below:

```
{
"resourceType": "DocumentReference",
  "identifier": [
    {
      "system": "filename",
      "value": "PRO-sample.pdf"
    }
  ],
  "status": "current",
  "type": {
    "text": "application/pdf"
  },
  "category": [
    {
      "coding": [
        {
          "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/document-type",
          "code": "PROS",
          "display": "Patient Reported Outcomes"
        }
      ],
      "text": "Patient Reported Outcomes"
    }
  ],
  "subject": {
    "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/6353",
    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/6353"
  },
  "date": "2021-03-10T18:04:09+00:00",
```

```
  "description": "PRO-sample",
  "content": [
    {
      "attachment": {
        "url": "{base_s3_url}/{auto-generated string}/{auto-generated string}",
        "size": 26654,
        "title": "PRO-sample",
        "creation": "2021-03-10T18:04:09+00:00"
      }
    }
  ],

  "context": {
    "encounter": [
      {
        "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/266237",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/266237"
      }
],

    "related": [
      {
        "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/1178",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/1178"
      }

    ]
  }

}
```

Appointments and Slots

Depending on your use case, it is important to understand that an Appointment cannot be booked into a practice unless there is a valid 'Slot' for that Appointment to go into. Slots are configured by the practice's calendar settings.

Different providers may have different appointment durations for the same Appointment Type.

In order for an Appointment to be booked, it requires an Appointment Type, Location, Provider, Patient, Date/Time, Duration.

In order for Slots to be queried, we need at least an Appointment Type. However, with the wide variety of how practices configure their calendars, you will get back better results if you put in more information. It is recommended that each call have at least 1 Practitoner, and 1 Location as well as a date/time range.

Appointment

- FHIR Specification: http://hl7.org/fhir/StructureDefinition/Appointment
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Appointment
- Appointment Type ValueSet: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type
    - Since appointment types are configured at the Firm level (ie. specific to each firm), the way to find these appointment types is to reference the appointment-type value set for the firm.
    - This ValueSet will only ever return 'Active' appointment types. If you are not seeing an appointment-type you are expecting, it is likely because the appointment-type is set to inactive.
- Reportable Reason Value Set: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason
    - Since Reportable Reasons can be configured at the Firm level (ie. specific to each firm), the way to find these Reportable Reasons is to reference the reportable-reason value set for the firm.
- Cancelation Reason Value Set: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-cancellation-reason

Common use cases include:
- Find all Appointments for a practice
- Find a specific Appointment
- Create an Appointment
- Update an Appointment's status

The following attributes are supported:

Field Name	Notes
id	The MMI-specific unique identifier for the Appointment
status	FHIR supports the following statuses: pending|booked|arrived|fulfilled|cancelled|noshow|entered-in-error|checked-in|waitlist These statuses are mapped as follows in Modernizing Medicine's Practice Management System UI: pending = pending booked = confirmed arrived = arrived fulfilled = checked-out cancelled = cancelled noshow = no show entered-in-error = NOT SUPPORTED in MMPM checked-in = checked in

	waitlist = NOT SUPPORTED in MMPM
cancelationReason	{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-cancellation-reason
appointment type	Appointment Type ValueSet: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type
reasonCode	Reportable Reason Value Set: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason
description	Free text field that is mapped to the “Reason for Visit” field in MMPM. Max length for description is 100 characters
supportingInformation	identifier: NEW_PATIENT (true/false) boolean
comment	Free Text field that is mapped to the “Appointment Notes” field in MMPM Max length for comment is 2048 characters
start	Start Time and Date for the appointment
end	End time and date for the appointment
minutesDuration	Duration of the appointment in minutes
created	Date and time the appointment was created
participant	References to the Actors for the appointment: • Location • Practitioner • Patient

The Following Operations are supported:

- Appointment READ
- Appointment SEARCH
- Appointment CREATE
- Appointment UPDATE

Appointment READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment	GET	Retrieve All Appointments for a Practice/Firm
{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment/{id}	GET	Retrieve details for a specific Appointment by ID

Example:
GET {base url}/{firm_url_prefix}/ema/fhir/v2/Appointment/405


```
{
 "resourceType": "Appointment",
 "id": "405",
 "meta": {
    "lastUpdated": "2019-11-13T17:48:50.000+00:00"
 },
 "status": "pending",
 "appointmentType": {
    "coding": [
       {
          "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
          "code": "11",
          "display": "New Patient"
       }
    ],
    "text": "New Patient"
 },
 "reasonCode": [
    {
       "coding": [
          {
             "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason",
             "code": "Other",
             "display": "OTHER"
          }
       ],
       "text": "OTHER"
    }
 ],
 "description": "some reason here",
 "supportingInformation": [
             {
                "identifier": {
                   "system": "NEW_PATIENT",
                   "value": "false"
                },
                "display": "New Patient: false"
             }
          ],
          "start": "2019-12-11T18:35:00.000+00:00",
          "end": "2019-12-11T18:45:00.000+00:00",
          "minutesDuration": 10,
          "created": "2019-12-12T19:29:38+00:00",
          "comment": "123456",
          "participant": [
             {


 "start": "2019-11-14T18:15:00.000+00:00",
 "minutesDuration": 15,
 "created": "2019-11-13T17:48:50+00:00",
 "participant": [
    {
       "actor": {
          "reference": "{base url}/{firm_url_prefix}/Location/24",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/24"
       }
    },
    {
       "actor": {
          "reference": "{base url}/{firm_url_prefix}/Practitioner/6115",
```

```
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/6115"
         }
      },
      {
         "actor": {
            "reference": "{base url}/{firm_url_prefix}/Patient/5812",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/5812"
         }
      }
   ]
}
```


Example of Read with header flag: Content-flag: Referral
GET {base url}/{firm_url_prefix}/ema/fhir/v2/Appointment/35912


```
{
  "resourceType": "Appointment",
  "id": "35912",
  "meta": {
     "lastUpdated": "2023-04-14T16:26:25.000+00:00"
  },
  "status": "pending",
  "appointmentType": {
     "coding": [
        {
           "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
           "code": "814",
           "display": "General"
        }
     ],
     "text": "General"
  },
  "reasonCode": [
     {
        "coding": [
           {
              "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason",
              "code": "Medical Non-emergency",
              "display": "MEDICAL_NON_EMERGENCY"
           }
        ],
        "text": "MEDICAL_NON_EMERGENCY"
     }
  ],
  "supportingInformation": [
     {
        "identifier": {
           "system": "NEW_PATIENT",
           "value": "false"
        },
        "display": "New Patient: false"
     },
     {
        "reference": "Practitioner/ref|68872"
     },
     {
        "identifier": {
           "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/referral-source",
           "value": "330"
        },
        "display": "newspaper"
     }
```

```
  ],
  "start": "2023-04-14T22:30:00.000+00:00",
  "end": "2023-04-14T22:45:00.000+00:00",
  "minutesDuration": 15,
  "created": "2023-04-14T16:26:25+00:00",
  "participant": [
    {
      "actor": {
        "reference": "Practitioner/7518",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/7518"
      }
    },
    {
      "actor": {
        "reference": "Location/49",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/49"
      }
    },
    {
      "actor": {
        "reference": "Patient/72687",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/72687"
      }
    }
  ]
}
```


Appointment SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment?{Parameter=Value}	GET	Retrieve Appointment resources meeting the specified search criteria

The Appointment resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 50
_lastUpdated	date	• _lastUpdated=2016-01-01T00:00:00.000Z (EXACT match) • _lastUpdated=ge2016-01-01T00:00:00.000Z (valid operators: eq, gt, ge, lt, le) • _lastUpdated=ge2016-01-01T00:00:00.000Z&_lastUpdated=le2016-06-01T00:00:00.000Z (if more than 2 are sent in you will get error)

		• ::it will also check to make sure the upperbound date is > then lowerbound date
appointment-type	string	The style of appointment or patient that has been booked in the slot (not service type) • appointment-type=ID (appointment-type=ID searches for the exact appointment-type with ID) • appointment-type=ID,ID,ID (appointment-type=ID,ID,ID would OR these ids • appointment-type=ID&appointment-type=ID (sending multiple appointment-type=ID entries would AND them)
date	date	Appointment date/time • date=2016-01-01T00:00:00.000Z (EXACT match) • date=ge2016-01-01T00:00:00.000Z (valid operators: eq, gt, ge, lt, le) • date=ge2016-01-01T00:00:00.000Z&date=le2016-06-01T00:00:00.000Z (if more than 2 are sent in you will get error) • ::it will also check to make sure the upperbound date is > then lowerbound date
location	reference	This location is listed in the participants of the appointment • location=ID (location=ID searches for the exact location with ID) • location=ID,ID,ID (location=ID,ID,ID would OR these ids) • location=ID&location=ID (sending multiple location=ID entries would AND them)
page	string	Page to be used for paginated search
patient	reference	One of the individuals of the appointment is this patient

		• patient=ID (patient=ID searches for the exact patient with ID) • patient=ID,ID,ID (patient=ID,ID,ID would OR these ids) • patient=ID&patient=ID (sending multiple patient=ID entries would AND them)
practitioner	reference	One of the individuals of the appointment is this practitioner • practitioner=ID (practioner=ID searches for the exact practioner with ID) • practitioner=ID,ID,ID (practioner=ID,ID,ID would OR these ids) • practioner=ID&practioner=ID (sending multiple practioner=ID entries would AND them)
status	string	The overall status of the appointment • status=ID (status=ID searches for the exact status with ID) • status=ID,ID,ID (status=ID,ID,ID would OR these ids) • status=ID&status=ID (sending multiple status=ID entries would AND them) ○ valid status (arrived, pending, booked, checked-in, fulfilled, noshow, cancelled)
supporting-info	string	Search By Referral Source: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/referral-source Search by Referring Provider: Practitioner/ref|1234

Examples:
GET {base url}/{firm_url_prefix}/ema/fhir/v2/Appointment?_lastUpdated=ge2020-12-01


```
{
  "resourceType": "Bundle",
  "id": "6e0ffb40-c426-4c4d-aaf4-e84dfebd2d27",
  "meta": {
```

```
    "lastUpdated": "2020-12-06T18:39:21.003+00:00"
  },
  "type": "searchset",
  "total": 70,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment?_lastUpdated=ge2020-12-01"
    },
    {
      "relation": "next",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment?_lastUpdated=ge2020-12-01&page=2"
    },
    {
      "relation": "last",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment?_lastUpdated=ge2020-12-01&page=2"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment/13281",
      "resource": {
        "resourceType": "Appointment",
        "id": "13281",
        "meta": {
          "lastUpdated": "2020-12-03T12:31:17.000+00:00"
        },
        "status": "arrived",
        "appointmentType": {
          "coding": [
            {
              "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
              "code": "67",
              "display": "Check-Up"
            }
          ],
          "text": "Check-Up"
        },
        "reasonCode": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason",
                "code": "Medical Non-emergency",
                "display": "MEDICAL_NON_EMERGENCY"
              }
            ],
            "text": "MEDICAL_NON_EMERGENCY"
          }
        ],
        "supportingInformation": [
          {
            "identifier": {
              "system": "NEW_PATIENT",
              "value": "false"
            },
            "display": "New Patient: false"
          }
        ],
        "start": "2020-12-11T17:50:00.000+00:00",
        "end": "2020-12-11T18:00:00.000+00:00",
        "minutesDuration": 10,
        "created": "2019-11-26T16:32:50+00:00",
        "participant": [
          {
```

```
            "actor": {
              "reference": "Location/152",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/152"
            }
          },
          {
            "actor": {
              "reference": "Practitioner/15941",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/15941"
            }
          },
          {
            "actor": {
              "reference": "Patient/28632",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/28632"
            }
          }
        ]
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment/20375",
      "resource": {
        "resourceType": "Appointment",
        "id": "20375",
        "meta": {
          "lastUpdated": "2020-12-02T22:21:15.000+00:00"
        },
        "status": "checked-in",
        "appointmentType": {
          "coding": [
            {
              "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
              "code": "5",
              "display": "Follow-up"
            }
          ],
          "text": "Follow-up"
        },
        "reasonCode": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason",
                "code": "Other",
                "display": "OTHER"
              }
            ],
            "text": "OTHER"
          }
        ],
        "supportingInformation": [
          {
            "identifier": {
              "system": "NEW_PATIENT",
              "value": "false"
            },
            "display": "New Patient: false"
          }
        ],
        "start": "2020-12-02T18:00:00.000+00:00",
        "end": "2020-12-02T18:15:00.000+00:00",
        "minutesDuration": 15,
        "created": "2020-11-16T16:31:17+00:00",
        "participant": [
```

```
            {
               "actor": {
                  "reference": "Location/764",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/764"
               }
            },
            {
               "actor": {
                  "reference": "Practitioner/27470",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/27470"
               }
            },
            {
               "actor": {
                  "reference": "Patient/89145",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/89145"
               }
            }
         ]
      }
   },
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment/20541",
      "resource": {
         "resourceType": "Appointment",
         "id": "20541",
         "meta": {
            "lastUpdated": "2020-12-02T19:50:29.000+00:00"
         },
         "status": "cancelled",
         "cancelationReason": {
            "coding": [
               {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-cancellation-reason",
                  "code": "UNKNOWN",
                  "display": "Unknown"
               }
            ],
            "text": "Unknown"
         },
         "appointmentType": {
            "coding": [
               {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
                  "code": "465",
                  "display": "Calcium Check"
               }
            ],
            "text": "Calcium Check"
         },
         "reasonCode": [
            {
               "coding": [
                  {
                     "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason",
                     "code": "Medical Non-emergency",
                     "display": "MEDICAL_NON_EMERGENCY"
                  }
               ],
               "text": "MEDICAL_NON_EMERGENCY"
            }
         ],
         "supportingInformation": [
            {
               "identifier": {
```

```
                "system": "NEW_PATIENT",
                "value": "false"
            },
            "display": "New Patient: false"
        }
    ],
    "start": "2020-12-03T23:00:00.000+00:00",
    "end": "2020-12-03T23:10:00.000+00:00",
    "minutesDuration": 10,
    "created": "2020-11-24T17:33:24+00:00",
    "comment": "Test",
    "participant": [
        {
            "actor": {
                "reference": "Location/152",
                "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/152"
            }
        },
        {
            "actor": {
                "reference": "Practitioner/7518",
                "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/7518"
            }
        },
        {
            "actor": {
                "reference": "Patient/100549",
                "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/100549"
            }
        }
    ]
  }
},
```


Search by referral-source and referring provider:


```
{
    "resourceType": "Bundle",
    "id": "65e51d9f-c402-4b4f-8d14-9837f703f6e1",
    "meta": {
        "lastUpdated": "2023-04-14T16:36:48.664+00:00"
    },
    "type": "searchset",
    "total": 1,
    "link": [
        {
            "relation": "self",
            "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment?supporting-info={base
url}/{firm_url_prefix}/ema%2Ffhir%2Fv2%2FValueSet%2Freferral-source%7C330&supporting-info=Practitioner/ref%7C6
8872"
        }
    ],
    "entry": [
        {
            "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment/35912",
            "resource": {
                "resourceType": "Appointment",
                "id": "35912",
                "meta": {
                    "lastUpdated": "2023-04-14T16:26:25.000+00:00"
                },
                "status": "pending",
                "appointmentType": {
                    "coding": [
```

```
            {
              "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
              "code": "814",
              "display": "General"
            }
          ],
          "text": "General"
        },
        "reasonCode": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason",
                "code": "Medical Non-emergency",
                "display": "MEDICAL_NON_EMERGENCY"
              }
            ],
            "text": "MEDICAL_NON_EMERGENCY"
          }
        ],
        "supportingInformation": [
          {
            "identifier": {
              "system": "NEW_PATIENT",
              "value": "false"
            },
            "display": "New Patient: false"
          },
          {
            "reference": "Practitioner/ref|68872"
          },
          {
            "identifier": {
              "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/referral-source",
              "value": "330"
            },
            "display": "newspaper"
          }
        ],
        "start": "2023-04-14T22:30:00.000+00:00",
        "end": "2023-04-14T22:45:00.000+00:00",
        "minutesDuration": 15,
        "created": "2023-04-14T16:26:25+00:00",
        "participant": [
          {
            "actor": {
              "reference": "Practitioner/7518",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/7518"
            }
          },
          {
            "actor": {
              "reference": "Location/49",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/49"
            }
          },
          {
            "actor": {
              "reference": "Patient/72687",
              "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/72687"
            }
          }
        ]
      }
    }
```

```
  ]
}
```

Example query of Searching for Appointments that have a specific Referring Provider
supporting-info=https%3A%2F%2F{base_url}%2Fema%2Ffhir%2Fv2%2FValueSet%2Freferral-source%7C330&supporting-info=Practitioner/ref%7C68872

Example query of Searching for Appointments that have a specific Referring Organization
{base_url}/{firm_url_prefix}/ema/fhir/v2/Appointment?supporting-info=Organization/prov%7C451&patient=27517&location=299

Appointment CREATE

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment	POST	Create an Appointment

The minimum attributes for creating an appointment are:

Name	Type	Description
participant	reference	• Patient • Location • Practitioner
appointmentType	ValueSet	Appointment Type ValueSet: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type
start	datetime	start time and date for the appointment
end	datetime	end time and date for the appointment
minutesDuration	integer	Duration of the appointment in minutes
status	code	FHIR supports the following statuses: pending|booked|arrived|fulfilled|cancelled|noshow|entered-in-error|checked-in|waitlist These statuses are mapped as follows in Modernizing Medicine's Practice Management System UI: pending = pending booked = confirmed arrived = arrived fulfilled = checked-out

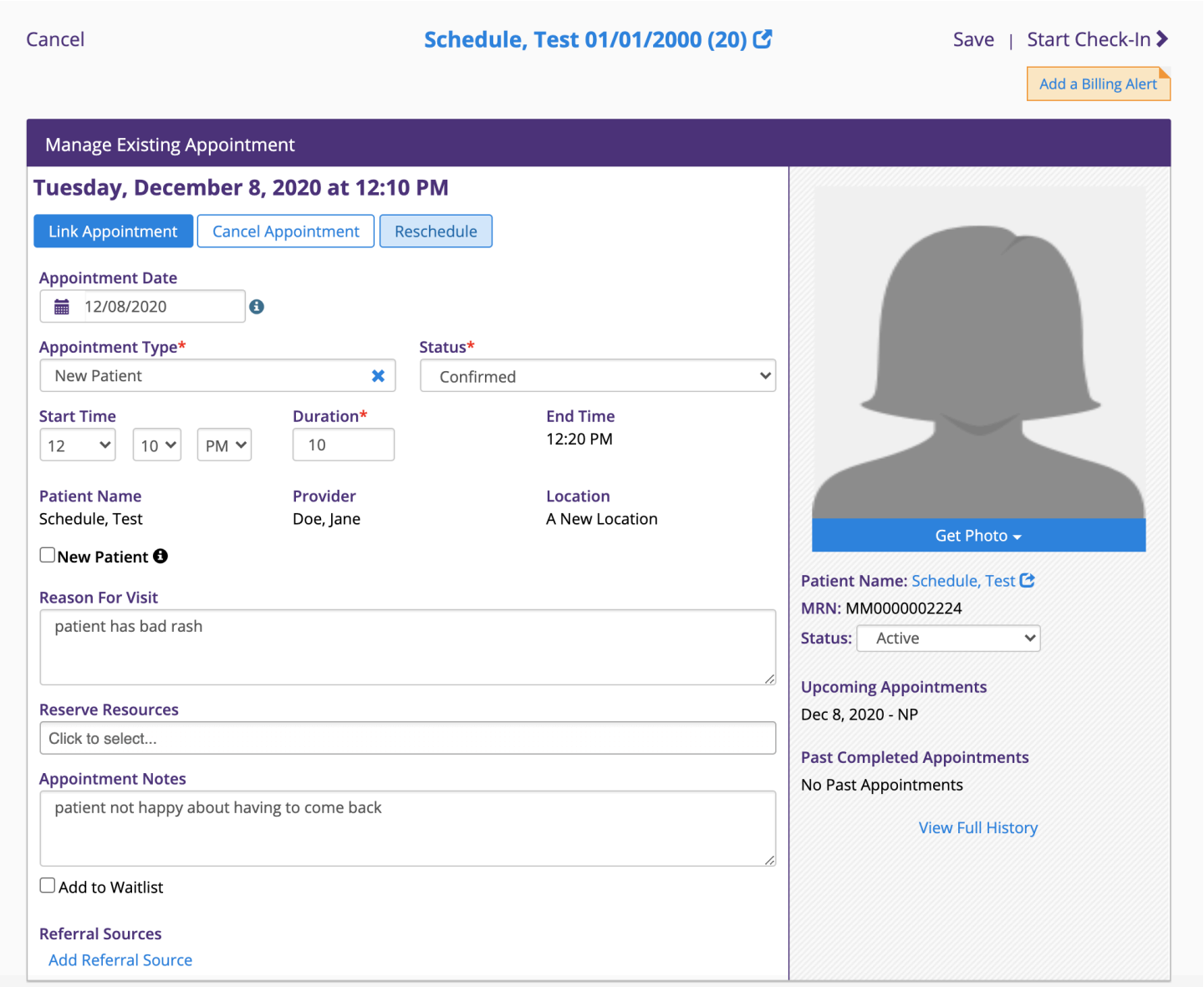
		cancelled = cancelled noshow = no show entered-in-error = NOT SUPPORTED in MMPM checked-in = checked in waitlist = NOT SUPPORTED in MMPM

POST {base url}/{firm_url_prefix}/ema/fhir/v2/Appointment


```
{
        "resourceType": "Appointment",
           "status": "booked",
           "appointmentType": {
              "coding": [
                 {
                    "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
                    "code": "4",
                    "display": "New Patient"
                 }
              ],
              "text": "New Patient"
           },
           "reasonCode": [
              {
                 "coding": [
                    {
                       "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason",
                       "code": "Medical Non-emergency",
                       "display": "MEDICAL_NON_EMERGENCY"
                    }
                 ],
                 "text": "MEDICAL_NON_EMERGENCY"
              }
           ],
           "description": "patient has bad rash",
           "supportingInformation": [
              {
                 "identifier": {
                    "system": "NEW_PATIENT",
                    "value": "false"
                 },
                 "display": "New Patient: false"
              }
           ],
           "start": "2020-12-08T17:10:00.000+00:00",
           "end": "2020-12-08T17:20:00.000+00:00",
           "minutesDuration": 10,
           "created": "2020-12-12T19:29:38+00:00",
           "comment": "patient not happy about having to come back",
           "participant": [
              {
                 "actor": {
                    "reference": "Location/1754",
                    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/152"
                 }
              },
              {
                 "actor": {
                    "reference": "Practitioner/7518",
                    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/7518"
```

```
            }
         },
         {
            "actor": {
               "reference": "Patient/87982",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/87982"
            }
         }
      ]
}
```

The payload above would generate this experience when someone at the practice went to view the created appointment:



When creating Appointments users will also be able to push ‘Referring Provider’ as well as ‘Referral Source’ data within the context of the Appointment. This data would be sent within the ‘supportingInformation’ field.

supportingInformation		identifier: NEW_PATIENT (true/false) boolean
		Reference to Practitioner(referring Provider) or Reference to Organization(Referring Institution). This is optional data.
		Referral-Source identifier which is a ValueSet {firm_url_prefix}/ema/fhir/v2/ValueSet/referral-source

POST {base url}/{firm_url_prefix}/ema/fhir/v2/Appointment


```
{
"resourceType": "Appointment",
"status": "pending",
"appointmentType": {
   "coding": [
      {
         "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
         "code": "814",
         "display": "General"
      }
   ],
   "text": "General"
},
"reasonCode": [
   {
      "coding": [
         {
            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/reportable-reason",
            "code": "Medical Non-emergency",
            "display": "MEDICAL_NON_EMERGENCY"
         }
      ],
      "text": "MEDICAL_NON_EMERGENCY"
   }
],
"supportingInformation": [
   {
      "identifier": {
         "system": "NEW_PATIENT",
         "value": "false"
      },
      "display": "New Patient: false"
   },
   {
      "reference": "Practitioner/ref|7518"
   },
```

```
    {
      "identifier": {
        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/referral-source",
        "value": "330"
      }
    }
  ],
  "start": "2023-03-18T01:00:00.000+00:00",
  "end": "2023-03-18T01:15:00.000+00:00",
  "minutesDuration": 15,
  "created": "2023-03-17T10:32:13+00:00",
  "description": "abcdef",
  "participant": [
    {
      "actor": {
        "reference": "Practitioner/7518",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/7518"
      }
    },
    {
      "actor": {
        "reference": "Location/49",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Location/49"
      }
    },
    {
      "actor": {
        "reference": "Patient/141149",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/141149"
      }
    }
  ]
}
```


Appointment UPDATE

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Appointment/{id}	PUT	Update an Appointment

Fields accepted for updating an appointment are:

Name	Type	Description
description	string	updates the “reason for visit” field in MMPM
minutesDuration	string	updates the duration of an appointment
start	datetime	

end	datetime	
status	code	FHIR supports the following statuses: pending|booked|arrived|fulfilled|cancelled|noshow|entered-in-error|checked-in|waitlist These statuses are mapped as follows in Modernizing Medicine's Practice Management System UI: pending = pending booked = confirmed arrived = arrived fulfilled = checked-out cancelled = cancelled noshow = no show entered-in-error = NOT SUPPORTED in MMPM checked-in = checked in waitlist = NOT SUPPORTED in MMPM
reportableReason		
description	string	
supportingInformation	identifier	identifier: NEW_PATIENT (true/false) boolean
comment	string	
cancelationReason	code	{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-cancellation-reason

Slot

- FHIR Specification: https://www.hl7.org/fhir/slot.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Slot

Common use cases include:
- Find available Slots for the purposes of booking an Appointment

The following attributes are supported:

Field Name	Notes
id	GUID for the Slot
identifier	• Location • Practitioner • appointment-type
schedule	display text
status	
start	start time and date
end	end time and date

The Following Operations are supported:

- Slot SEARCH

Slot SEARCH

Note: Slot Search is currently limited to 5 day increments. When looking for available slots please use time frames which are limited to 5 days or less.
Additionally, it is highly recommended that, while not required, you include at least one Practitioner and at least one Location in your query. Any query which does not contain those parameters may be unpredictable in terms of response times.

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Slot?{Parameter=Value}	GET	Search for a slot

The Slot resource is searchable by the following parameters:

Name	Type	Description
appointment-type*	token	Required The style of appointment or patient that may be booked in the slot

		Appointment Type ValueSet: {base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type Note: The API will only return 'Active' appointment-types - if you are not seeing an appointment-type you expect, it is likely because the Practice has it set to inactive in the UI.
identifier	token	List of identifiers to search by for Slots. Valid Identifier Systems are: • PRN with a system value of https://www.hl7.org/fhir/v2/0203/index.html#v2-0203-PRN which is used for Provider id • FI with a system value of https://www.hl7.org/fhir/v2/0203/index.html#v2-0203-FI which is used for Location id
date	datetime	The param "date" supports date with prefix of eq in yyyy-MM-dd'T'HH:mm:ss.SSSSSSSZ format AND date range with start date with ge prefix and yyyy-MM-dd'T'HH:mm:ss.SSSSSSSZ format and end date with le prefix and yyyy-MM-dd'T'HH:mm:ss.SSSSSSSZ format

Search Parameters

Search by appointment-type id(mandatory field)
{base url}/{firm_url_prefix}/ema/fhir/v2/Slot?appointment-type=9

Search by Identifier: Provider Id:
{base url}/{firm_url_prefix}/ema/fhir/v2/Slot?appointment-type=9&identifier=http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-PRN|23

Search by Identifier: Facility Id:
{base url}/{firm_url_prefix}/ema/fhir/v2/Slot?appointment-type=9&identifier=http://www.hl7.org/fhir/v2/0203/index.html%23v2-0203-FI|23

Search by date:
{base url}/{firm_url_prefix}/ema/fhir/v2/Slot?appointment-type=9&date=eq2019-02-21T00:00:00.000Z

Search by date range:
{base url}/{firm_url_prefix}/ema/fhir/v2/Slot?appointment-type=9&date=gt2019-02-14T00:00:00.000Z&date=lt2019-02-16T10:00:00.000Z

Note: You cannot do a search with only a single date if the prefix is <=, <, >=, or >. Valid prefixes for the date search are only 'eq' or no prefix at all.

Note: Slot Search is currently limited to 5 day increments. When looking for available slots please use time frames which are limited to 5 days or less.
Additionally, it is highly recommended that, while not required, you include at least one Practitioner and at least one Location in your query. Any query which does not contain those parameters may be unpredictable in terms of response times.

Sample Response:

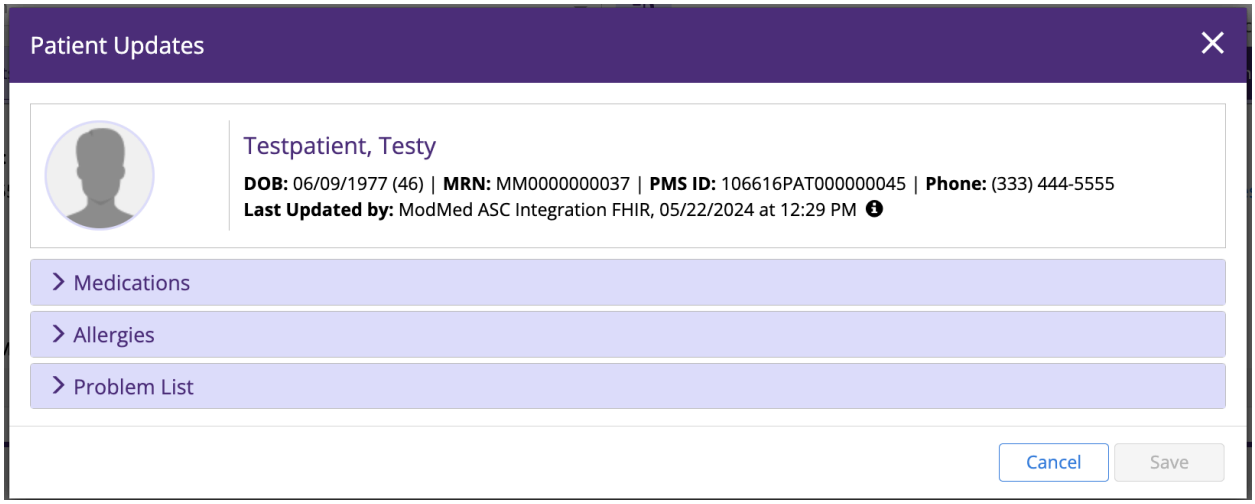

```
                        {
  "resourceType": "Bundle",
  "id": "d12cb702-55c0-4381-9841-8986087c7469",
  "meta": {
    "lastUpdated": "2020-04-17T12:20:26.193+00:00"
  },
  "type": "searchset",
  "total": 40,
  "link": [
    {
      "relation": "self",
      "url": "{base
url}/{firm_url_prefix}/ema/fhir/v2/Slot?appointment-type=436&identifier=http%3A%2F%2Fwww.hl7.org%2Ffhir%2Fv2%
2F0203%2Findex.html%23v2-0203-PRN%7C71096&identifier=http%3A%2F%2Fwww.hl7.org%2Ffhir%2Fv2%2F0203
%2Findex.html%23v2-0203-PRN%7C7518"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Slot/fd85fe8c-256a-4cb7-8849-56c795099ec1",
      "resource": {
        "resourceType": "Slot",
        "id": "fd85fe8c-256a-4cb7-8849-56c795099ec1",
        "identifier": [
          {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-FI",
            "value": "152"
          },
          {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-PRN",
            "value": "7518"
          },
          {
            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
            "value": "436"
          }
        ],
        "schedule": {
          "display": "Available Slot for Jane Doe at Boca Facility"
        },
        "status": "free",
        "start": "2020-04-17T14:00:00.000+00:00",
        "end": "2020-04-17T14:15:00.000+00:00"
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Slot/32d2f3e6-d875-4e43-a750-f61c585db186",
      "resource": {
        "resourceType": "Slot",
        "id": "32d2f3e6-d875-4e43-a750-f61c585db186",
```

```
        "identifier": [
          {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-FI",
            "value": "152"
          },
          {
            "system": "http://www.hl7.org/fhir/v2/0203/index.html#v2-0203-PRN",
            "value": "7518"
          },
          {
            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/appointment-type",
            "value": "436"
          }
        ],
        "schedule": {
          "display": "Available Slot for Jane Doe at Boca Facility"
        },
        "status": "free",
        "start": "2020-04-17T14:15:00.000+00:00",
        "end": "2020-04-17T14:30:00.000+00:00"
      }
    },
```

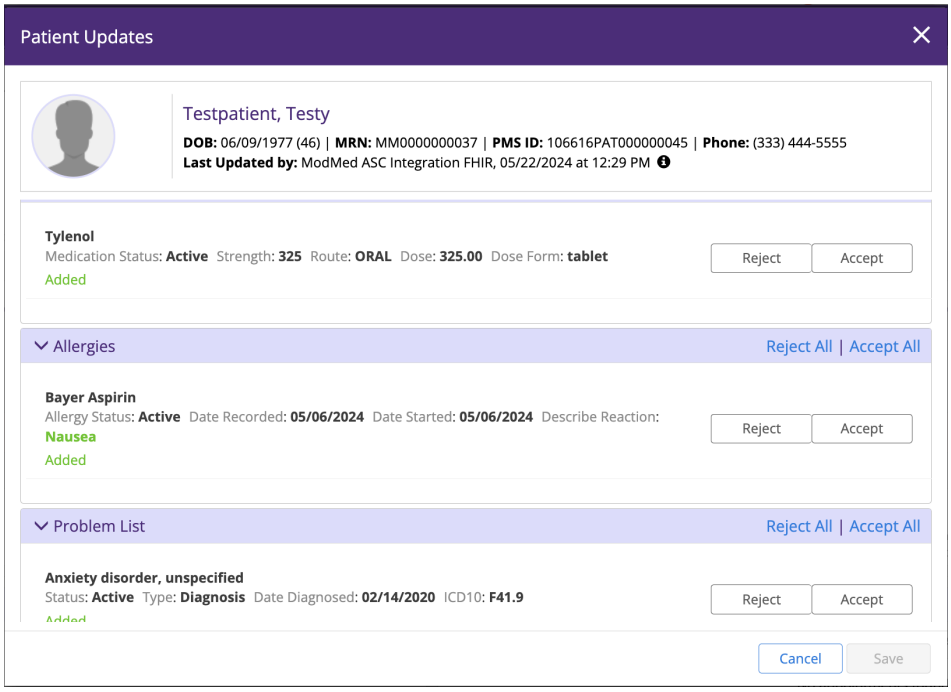
Clinical Data/Clipboard

MMI has developed functionality that allows 3rd party vendors to send structured data to the Clipboard. Currently, only Problem List, Medications, and Allergies are supported. However, we will be adding support for other elements of the clipboard in the near future.

User Experience:
When a vendor POSTs something new to a Patient, an EMA user will see a modal pop up the next time they visit that Patient's chart:



From there, any of the new items can either be individually reconciled or all can be accepted or rejected at once:



The following sections of the clipboard can be updated and a sample payload is provided for each type:

Problem List


```
{
   "resourceType": "Condition",
   "clinicalStatus": {
      "coding": [
         {
            "system": "http://hl7.org/fhir/ValueSet/condition-clinical",
            "code": "ACTIVE",
            "display": "Active"
         }
      ],
      "text": "Active"
   },
   "category": [
      {
         "coding": [
            {
               "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/condition-category",
               "code": "DIAGNOSIS",
               "display": "Diagnosis"
            }
         ],
         "text": "Diagnosis"
      }
   ],
   "code": {
      "coding": [
```

```
            {
                "system": "ICD10",
                "code": "F41.9",
                "display": "Anxiety Disorder, Unspecified"
            }
        ],
        "text": "Anxiety Disorder, Unspecified"
    },
    "subject": {
        "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/23715679",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/23715679"
    },
    "onsetDateTime": "2020-02-14T10:21:14+00:00",
    "recordedDate": "2020-02-14T15:21:14+00:00"
}
```


Allergies


```
{
    "resourceType": "AllergyIntolerance",
    "clinicalStatus": {
        "coding": [
            {
                "system": "https://www.hl7.org/fhir/valueset-allergyintolerance-clinical.html",
                "code": "active",
                "display": "Active"
            }
        ],
        "text": "Active"
    },
    "code": {
        "coding": [
            {
                "system": "RxNorm",
                "code": "211874",
                "display": "Bayer Aspirin"
            }
        ],
        "text": "Bayer Aspirin"
    },
    "patient": {
        "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/23715679",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/23715679"
    },
    "onsetDateTime": "2024-05-06T00:00:00+00:00",
```

```
    "recordedDate": "2024-05-06T00:00:00+00:00",
    "reaction": [
        {
            "substance": {
                "coding": [
                    {
                        "system": "RxNorm",
                        "code": "211874",
                        "display": "Bayer Aspirin"
                    }
                ],
                "text": "Bayer Aspirin"
            },
            "manifestation": [
                {
                    "coding": [
                        {
                            "system": "SNOMED CT",
                            "code": "422587007",
                            "display": "Nausea"
                        }
                    ],
                    "text": "Nausea"
                }
            ],
            "description": "Nausea"
        }
    ]
}
```


Medications


```
{
    "resourceType": "MedicationStatement",
    "status": "active",
    "medicationCodeableConcept": {
        "coding": [
            {
                "system": "RxNorm",
                "code": "209387",
                "display": "Tylenol"
            }
        ],
        "text": "Tylenol"
    },
    "subject": {
        "reference": "{base url}/{firm_url_prefix}/Patient/73337",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/73337"
    },
    "dosage": [
        {
            "route": {
                "coding": [
                    {
                        "system": "FDA RouteOfAdministration",
                        "code": "C38288",
                        "display": "ORAL"
```

```
                }
             ],
             "text": "ORAL"
          },
          "doseAndRate": [
             {
                "doseQuantity": {
                   "value": 325
                }
             }
          ]
       }
    ]
}
```


MedicationStatement

- FHIR Specification: https://www.hl7.org/fhir/medicationstatement.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement

Common use cases include:
- Find all Medications for a Patient
- Add a Medication to a Patient's record
- Update a Medication status in a Patient's record

The following attributes are supported:

Field Name	Notes
id	
status	**active** | completed | entered-in-error | intended | **stopped** | on-hold | unknown | not-taken Active and Stopped are the only statuses which our product currently supports. Any status other than stopped will be defaulted to Active in our system.
medicationCodeableConcept	system: rxnorm
subject	reference to patient
effectivePeriod - start - end	date/time
informationSource	reference to Practitioner
dosage - route - doseAndRate	
reasonCode	ICD-10 (ICD-9 for older diagnoses) - Note: this will only

- ICD Code - DisplayName - Text	appear if the medication was prescribed in EMA
note - sig - side effects	

The Following Operations are supported:

- MedicationStatement READ
- MedicationStatement SEARCH
- MedicationStatement CREATE
- MedicationStatement UPDATE

MedicationStatement READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement/{id}	GET	Retrieve MedicationStatement details for a Medication Statement ID

Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement/13951


```
{
  "resourceType": "MedicationStatement",
  "id": "13951",
  "status": "stopped",
  "medicationCodeableConcept": {
    "coding": [
      {
        "system": "RxNorm",
        "code": "209387",
        "display": "Tylenol (tablet)"
      }
    ],
    "text": "Tylenol (tablet)"
  },
  "subject": {
    "reference": "{base url}/{firm_url_prefix}/Patient/31045",
    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/31045"
  },
  "dosage": [
    {
      "route": {
        "coding": [
          {
            "system": "FDA RouteOfAdministration",
            "code": "C38288",
            "display": "ORAL"
          }
        ],
        "text": "ORAL"
      },
```

```
        "doseAndRate": [
          {
            "doseQuantity": {
              "value": 325
            }
          }
        ]
      }
    ]
}
```


MedicationStatement SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement?[parameter={value}	GET	Retrieve MedicationStatement resources by the specified search criteria

The MedicationStatement resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 50
page	string	Page to be used for paginated search
patient	reference	Returns statements for a specific patient.

Sample Response:
GET {base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement?patient=31045


```
{
  "resourceType": "Bundle",
  "id": "39b7bfe8-31c9-4f0a-ab43-94f6d44d3168",
  "meta": {
    "lastUpdated": "2019-09-09T21:52:59.562+00:00"
  },
  "type": "searchset",
  "total": 6,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement?patient=31045"
    }
  ],
  "entry": [
    {
```

```
    "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement/13951",
    "resource": {
      "resourceType": "MedicationStatement",
      "id": "13951",
      "status": "stopped",
      "medicationCodeableConcept": {
        "coding": [
          {
            "system": "RxNorm",
            "code": "209387",
            "display": "Tylenol (tablet)"
          }
        ],
        "text": "Tylenol (tablet)"
      },
      "subject": {
        "reference": "{base url}/{firm_url_prefix}/Patient/31045",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/31045"
      },
      "effectivePeriod": {
        "start": "2017-08-10T20:03:10+00:00"
      },
      "informationSource": {
        "reference": "{base url}/{firm_url_prefix}/Practitioner/23",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/23"
      },
      "dosage": [
        {
          "route": {
            "coding": [
              {
                "system": "FDA RouteOfAdministration",
                "code": "C38288",
                "display": "Oral"
              }
            ],
            "text": "Oral"
          },
          "doseAndRate": [
            {
              "doseQuantity": {
                "code": "325"
              }
            }
          ]
        }
      ]
    }
  },
  {
    "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement/14069",
    "resource": {
      "resourceType": "MedicationStatement",
      "id": "14069",
      "status": "active",
      "medicationCodeableConcept": {
        "coding": [
          {
            "system": "RxNorm",
            "code": "966178",
            "display": "Levo-T (tablet)"
          }
        ],
        "text": "Levo-T (tablet)"
      },
```

```
        "subject": {
          "reference": "{base url}/{firm_url_prefix}/Patient/31045",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/31045"
        },
        "effectivePeriod": {
          "start": "2017-08-16T19:10:34+00:00"
        },
        "dosage": [
          {
            "route": {
              "coding": [
                {
                  "system": "FDA RouteOfAdministration",
                  "code": "C38288",
                  "display": "Oral"
                }
              ],
              "text": "Oral"
            },
            "doseAndRate": [
              {
                "doseQuantity": {
                  "code": "100"
                }
              }
            ]
          }
        ]
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement/14070",
      "resource": {
        "resourceType": "MedicationStatement",
        "id": "14070",
        "status": "stopped",
        "medicationCodeableConcept": {
          "coding": [
            {
              "system": "RxNorm",
              "code": "1655728",
              "display": "Humira Pen (pen injector kit)"
            }
          ],
          "text": "Humira Pen (pen injector kit)"
        },
        "subject": {
          "reference": "{base url}/{firm_url_prefix}/Patient/31045",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/31045"
        },
        "effectivePeriod": {
          "start": "2017-08-16T19:23:56+00:00"
        },
        "dosage": [
          {
            "route": {
              "coding": [
                {
                  "system": "FDA RouteOfAdministration",
                  "code": "C38299",
                  "display": "Subcutaneous"
                }
              ],
              "text": "Subcutaneous"
            },
```

```
            "doseAndRate": [
              {
                "doseQuantity": {
                  "code": "40"
                }
              }
            ]
          }
        ]
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement/18678",
      "resource": {
        "resourceType": "MedicationStatement",
        "id": "18678",
        "status": "stopped",
        "medicationCodeableConcept": {
          "coding": [
            {
              "system": "RxNorm",
              "code": "966178",
              "display": "Levo-T (tablet)"
            }
          ],
          "text": "Levo-T (tablet)"
        },
        "subject": {
          "reference": "{base url}/{firm_url_prefix}/Patient/31045",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/31045"
        },
        "effectivePeriod": {
          "start": "2018-09-26T16:56:20+00:00"
        },
        "informationSource": {
          "reference": "{base url}/{firm_url_prefix}/Practitioner/23",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/23"
        },
        "dosage": [
          {
            "route": {
              "coding": [
                {
                  "system": "FDA RouteOfAdministration",
                  "code": "C38288",
                  "display": "Oral"
                }
              ],
              "text": "Oral"
            },
            "doseAndRate": [
              {
                "doseQuantity": {
                  "code": "0"
                }
              }
            ]
          }
        ]
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement/18679",
      "resource": {
        "resourceType": "MedicationStatement",
```

```
        "id": "18679",
        "status": "stopped",
        "medicationCodeableConcept": {
          "coding": [
            {
              "system": "RxNorm",
              "code": "209387",
              "display": "Tylenol (tablet)"
            }
          ],
          "text": "Tylenol (tablet)"
        },
        "subject": {
          "reference": "{base url}/{firm_url_prefix}/Patient/31045",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/31045"
        },
        "effectivePeriod": {
          "start": "2018-09-26T16:56:20+00:00"
        },
        "informationSource": {
          "reference": "{base url}/{firm_url_prefix}/Practitioner/23",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/23"
        },
        "dosage": [
          {
            "route": {
              "coding": [
                {
                  "system": "FDA RouteOfAdministration",
                  "code": "C38288",
                  "display": "Oral"
                }
              ],
              "text": "Oral"
            },
            "doseAndRate": [
              {
                "doseQuantity": {
                  "code": "0"
                }
              }
            ]
          }
        ]
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement/18680",
      "resource": {
        "resourceType": "MedicationStatement",
        "id": "18680",
        "status": "stopped",
        "medicationCodeableConcept": {
          "coding": [
            {
              "system": "RxNorm",
              "code": "1655728",
              "display": "Humira Pen (pen injector kit)"
            }
          ],
          "text": "Humira Pen (pen injector kit)"
        },
        "subject": {
          "reference": “{base url}/{firm_url_prefix}/Patient/31045",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/31045"
```

```
            },
            "effectivePeriod": {
               "start": "2018-09-26T16:56:20+00:00"
            },
            "informationSource": {
               "reference": "{base url}/{firm_url_prefix}/Practitioner/23",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/23"
            },
            "dosage": [
               {
                  "route": {
                     "coding": [
                        {
                           "system": "FDA RouteOfAdministration",
                           "code": "C38299",
                           "display": "Subcutaneous"
                        }
                     ],
                     "text": "Subcutaneous"
                  },
                  "doseAndRate": [
                     {
                        "doseQuantity": {
                           "code": "0"
                        }
                     }
                  ]
               }
            ]
         }
      }
   ]
}
```


MedicationStatement CREATE

Note that Medications added or updated through the API will need to be reconciled by the Practice before those additions or changes will be added to the Patient's chart. There is a UI to handle this on the front end.

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement	POST	Create MedicationStatement resource

The following attributes are supported with required fields marked with *:

Field Name	Notes
status*	will default to active if not passed in
subject*	patient reference
medicationCodeableConcept*	RxNorm is supported as a code at this time.
effectivePeriod - start - end	
dosage - route	

- doseAndRate	

POST {base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement


```
{
  "resourceType": "MedicationStatement",
  "status": "active",
  "medicationCodeableConcept": {
    "coding": [
      {
        "system": "RxNorm",
        "code": "209387",
        "display": "Tylenol"
      }
    ],
    "text": "Tylenol"
  },
  "subject": {
    "reference": "{base url}/{firm_url_prefix}/Patient/73337",
    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/73337"
  },
  "dosage": [
    {
      "route": {
        "coding": [
          {
            "system": "FDA RouteOfAdministration",
            "code": "C38288",
            "display": "ORAL"
          }
        ],
        "text": "ORAL"
      },
      "doseAndRate": [
        {
          "doseQuantity": {
            "value": 325
          }
        }
      ]
    }
  ]
}
```


MedicationStatement UPDATE

Note that Medications added or updated through the API will need to be reconciled by the Practice before those additions or changes will be added to the Patient's chart. There is a UI to handle this on the front end.

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement	PUT	Create MedicationStatement resource

For the purposes of clarity, the following fields are immutable:

Field Name	Notes
informationSource*	
subject*	
medicationCodeableConcept*	
dosage*	
reasonCode*	
note*	

For the purposes of clarity, the following fields are supported for UPDATE:

Field Name	Notes
status	
effectivePeriod - end	

PUT {base url}/{firm_url_prefix}/ema/fhir/v2/MedicationStatement/24976


```
{
  "resourceType": "MedicationStatement",
  "id": "24976",
  "status": "stopped",
  "medicationCodeableConcept": {
    "coding": [
      {
        "system": "RxNorm",
        "code": "209387",
        "display": "Tylenol"
      }
    ],
    "text": "Tylenol"
  },
  "subject": {
    "reference": "{base url}/{firm_url_prefix}/Patient/73337",
    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/73337"
  },
  "dosage": [
    {
      "route": {
        "coding": [
          {
            "system": "FDA RouteOfAdministration",
            "code": "C38288",
            "display": "ORAL"
          }
        ],
        "text": "ORAL"
      },
      "doseAndRate": [
        {
```

```
            "doseQuantity": {
               "value": 325
            }
         }
      ]
   }
]
}
```


AllergyIntolerance

- FHIR Specification: https://www.hl7.org/fhir/allergyintolerance.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/AllergyIntolerance

The following attributes are supported:

Field Name	Notes
clinicalStatus	active | inactive | resolved
code	MMI uses several sources to populate Allergies in EMA. RxNorm is used for medication allergies. You may see additional codes returned for other allergy types.
patient	Reference to Patient
onset - onsetDateTime - lastOccurrence	
recordedDate	Date Recorded
reaction	
reaction.manifestation	Anaphylaxis (417516000) |Angioedema(41291007) |Diarrhea(62315008) |Dizziness(404640003) |Fatigue(84229001) |GI upset(162059005) | Hives(126485001) |Liver toxicity (197354009) |Nausea(422587007) |Rash (162415008) |Shortness of breath(267036007) |Swelling(65124004) |Weal(247472004) |Other(419199007) - SNOMED CT (these are mapped in EMA)
reaction.severity	unspecified|mild|mild to moderate|moderate|moderate to

	severe|severe|fatal - Use SNOMED CT PLEASE NOTE: Since FHIR only supports mild|moderate|severe, EMA fields are mapped as followed: • unspecified - will return no value • mild=mild • mild to moderate = mild • moderate =moderate • moderate to severe = moderate • severe = severe • fatal = severe
reaction.substance	code
reaction.description	narrative text box

The Following Operations are supported:

- AllergyIntolerance READ
- AllergyIntolerance SEARCH
- AllergyIntolerance CREATE
- AllergyIntolerance UPDATE

AllergyIntolerance READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/AllergyIntolerance/{id}	GET	Retrieve AllergyIntolerance details for an AllergyIntolerance ID


```
{
  "resourceType": "Bundle",
  "id": "54d34c4f-5964-45c3-9af3-fca2c9614445",
  "meta": {
    "lastUpdated": "2020-04-17T13:31:36.803+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/AllergyIntolerance?patient=3140046"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/AllergyIntolerance/55066",
      "resource": {
        "resourceType": "AllergyIntolerance",
        "id": "55066",
        "clinicalStatus": {
          "coding": [
```

```
            {
               "system": "https://www.hl7.org/fhir/valueset-allergyintolerance-clinical.html",
               "code": "inactive",
               "display": "Inactive"
            }
         ],
         "text": "Inactive"
      },
      "code": {
         "coding": [
            {
               "system": "EMA External Value Set for FDB Allergens",
               "code": "17081",
               "display": "Monopril HCT"
            }
         ],
         "text": "Monopril HCT"
      },
      "patient": {
         "reference": "{base url}/{firm_url_prefix}/Patient/3140046",
         "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3140046"
      },
      "onsetDateTime": "2013-04-17T00:00:02+00:00",
      "recordedDate": "2013-04-17T00:00:02+00:00",
      "reaction": [
         {
            "substance": {
               "coding": [
                  {
                     "system": "EMA External Value Set for FDB Allergens",
                     "code": "17081",
                     "display": "Monopril HCT"
                  }
               ],
               "text": "Monopril HCT"
            },
            "manifestation": [
               {
                  "coding": [
                     {
                        "system": "SNOMED CT",
                        "code": "417516000",
                        "display": "Anaphylaxis"
                     }
                  ],
                  "text": "Anaphylaxis"
               }
            ],
            "description": "Anaphylaxis"
         }
      ]
   }
```


AllergyIntolerance SEARCH

HTTP Request	Method	Action

{base url}/{firm_url_prefix}/ema/fhir/v2/AllergyIntolerance?[parameter={value}	GET	Retrieve AllergyIntolerance resources by the specified search criteria

The AllergyIntolerance resource is searchable by the following parameters:

Name	Type	Description
patient	reference	Patient id

AllergyIntolerance CREATE

Note that Allergies added or updated through the API will need to be reconciled by the Practice before those additions or changes will be added to the Patient's chart. There is a UI to handle this on the front end.

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/AllergyIntolerance	POST	Create AllergyIntolerance resource


```
{
        "resourceType": "AllergyIntolerance",
        "clinicalStatus": {
          "coding": [
            {
              "system": "https://www.hl7.org/fhir/valueset-allergyintolerance-clinical.html",
              "code": "active",
              "display": "Active"
            }
          ],
          "text": "Active"
        },
        "code": {
          "coding": [
            {
              "system": "RxNorm",
              "code": "2670",
              "display": "codeine"
            }
          ],
          "text": "codeine"
        },
        "patient": {
          "reference": "Patient/72687",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/72687"
        },
        "onsetDateTime": "2020-12-06T00:00:00+00:00",
        "recordedDate": "2020-12-06T00:00:00+00:00",
        "reaction": [
          {
            "substance": {
              "coding": [
                {
                  "system": "RxNorm",
```

```
                        "code": "2670",
                        "display": "codeine"
                    }
                ],
                "text": "codeine"
            },
            "manifestation": [
                {
                    "coding": [
                        {
                            "system": "SNOMED CT",
                            "code": "422587007",
                            "display": "Nausea"
                        }
                    ],
                    "text": "Nausea"
                }
            ],
            "description": "Nausea"
        }
]
}
```


AllergyIntolerance UPDATE

Note that Allergies added or updated through the API will need to be reconciled by the Practice before those additions or changes will be added to the Patient's chart. There is a UI to handle this on the front end.

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/AllergyIntolerance	PUT	Update AllergyIntolerance resource

Condition

- FHIR Specification: https://www.hl7.org/fhir/condition.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Condition

Common use cases include:

- Find all Conditions for a Patient
- Add a Condition to a Patient's record
- Update a Condition's status

The following attributes are supported:

Field Name	Notes
clinicalStatus	Active, Inactive, Resolved
subject	Reference to Patient
code	ICD-9, ICD-10, SNOMED Name
onset	startdate/enddate
recordedDate	Date Recorded
category	Problem Type: Problem|Condition|Diagnosis|Symptom|Finding|Complaint|Functional Limitation|Health Status

The Following Operations are supported:

- Condition READ
- Condition SEARCH
- Condition CREATE
- Condition UPDATE

Condition READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/{id}	GET	Retrieve Condition details for an ID


```
{
  "resourceType": "Bundle",
  "id": "422ac5b4-1ebc-4d39-9598-b00f2905b007",
  "meta": {
```

```
    "lastUpdated": "2020-04-17T13:36:21.244+00:00"
  },
  "type": "searchset",
  "total": 6,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition?patient=3140046"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/121023236",
      "resource": {
        "resourceType": "Condition",
        "id": "121023236",
        "clinicalStatus": {
          "coding": [
            {
              "system": "http://hl7.org/fhir/ValueSet/condition-clinical",
              "code": "ACTIVE",
              "display": "Active"
            }
          ],
          "text": "Active"
        },
        "category": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/condition-category",
                "code": "DIAGNOSIS",
                "display": "Diagnosis"
              }
            ],
            "text": "Diagnosis"
          }
        ],
        "code": {
          "coding": [
            {
              "system": "ICD10",
              "code": "D48.5",
              "display": "Neoplasm of uncertain behavior of skin"
            }
          ],
          "text": "Neoplasm of uncertain behavior of skin"
        },
        "subject": {
          "reference": "{base url}/{firm_url_prefix}/Patient/3140046",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3140046"
        },
        "onsetDateTime": "2020-04-15T13:30:00+00:00",
        "recordedDate": "2020-04-15T17:30:00+00:00"
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/120390359",
      "resource": {
        "resourceType": "Condition",
        "id": "120390359",
        "clinicalStatus": {
          "coding": [
            {
              "system": "http://hl7.org/fhir/ValueSet/condition-clinical",
```

```
                "code": "ACTIVE",
                "display": "Active"
              }
            ],
            "text": "Active"
          },
          "category": [
            {
              "coding": [
                {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/condition-category",
                  "code": "DIAGNOSIS",
                  "display": "Diagnosis"
                }
              ],
              "text": "Diagnosis"
            }
          ],
          "code": {
            "coding": [
              {
                "system": "ICD10",
                "code": "I87.2",
                "display": "Venous insufficiency (chronic) (peripheral)"
              }
            ],
            "text": "Venous insufficiency (chronic) (peripheral)"
          },
          "subject": {
            "reference": "{base url}/{firm_url_prefix}/Patient/3140046",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3140046"
          },
          "onsetDateTime": "2020-02-28T07:44:00+00:00",
          "recordedDate": "2020-02-28T12:44:00+00:00"
        }
      },
      {
        "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/267256",
        "resource": {
          "resourceType": "Condition",
          "id": "267256",
          "clinicalStatus": {
            "coding": [
              {
                "system": "http://hl7.org/fhir/ValueSet/condition-clinical",
                "code": "ACTIVE",
                "display": "Active"
              }
            ],
            "text": "Active"
          },
          "category": [
            {
              "coding": [
                {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/condition-category",
                  "code": "DIAGNOSIS",
                  "display": "Diagnosis"
                }
              ],
              "text": "Diagnosis"
            }
          ],
          "code": {
            "coding": [
```

```
            {
               "system": "ICD9",
               "code": "709.09",
               "display": "Other dyschromia"
            }
         ],
         "text": "Other dyschromia"
      },
      "subject": {
         "reference": "{base url}/{firm_url_prefix}/Patient/3140046",
         "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3140046"
      },
      "onsetDateTime": "2013-04-16T20:00:02+00:00",
      "recordedDate": "2013-04-17T00:00:02+00:00"
   }
},
{
   "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/267257",
   "resource": {
      "resourceType": "Condition",
      "id": "267257",
      "clinicalStatus": {
         "coding": [
            {
               "system": "http://hl7.org/fhir/ValueSet/condition-clinical",
               "code": "ACTIVE",
               "display": "Active"
            }
         ],
         "text": "Active"
      },
      "category": [
         {
            "coding": [
               {
                  "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/condition-category",
                  "code": "DIAGNOSIS",
                  "display": "Diagnosis"
               }
            ],
            "text": "Diagnosis"
         }
      ],
      "code": {
         "coding": [
            {
               "system": "ICD9",
               "code": "706.2",
               "display": "Sebaceous cyst"
            }
         ],
         "text": "Sebaceous cyst"
      },
      "subject": {
         "reference": "{base url}/{firm_url_prefix}/Patient/3140046",
         "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3140046"
      },
      "onsetDateTime": "2013-04-16T20:00:02+00:00",
      "recordedDate": "2013-04-17T00:00:02+00:00"
   }
},
{
   "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/120390360",
   "resource": {
      "resourceType": "Condition",
```

```
        "id": "120390360",
        "clinicalStatus": {
          "coding": [
            {
              "system": "http://hl7.org/fhir/ValueSet/condition-clinical",
              "code": "ACTIVE",
              "display": "Active"
            }
          ],
          "text": "Active"
        },
        "category": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/condition-category",
                "code": "PROBLEM",
                "display": "Problem"
              }
            ],
            "text": "Problem"
          }
        ],
        "code": {
          "coding": [
            {
              "system": "SNOMED CT",
              "code": "195967001",
              "display": "Asthma (disorder)"
            }
          ],
          "text": "Asthma (disorder)"
        },
        "subject": {
          "reference": "{base url}/{firm_url_prefix}/Patient/3140046",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3140046"
        },
        "onsetDateTime": "2020-02-28T13:29:40+00:00"
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Condition/120390361",
      "resource": {
        "resourceType": "Condition",
        "id": "120390361",
        "clinicalStatus": {
          "coding": [
            {
              "system": "http://hl7.org/fhir/ValueSet/condition-clinical",
              "code": "ACTIVE",
              "display": "Active"
            }
          ],
          "text": "Active"
        },
        "category": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/condition-category",
                "code": "PROBLEM",
                "display": "Problem"
              }
            ],
            "text": "Problem"
```

```
            }
          ],
          "code": {
            "coding": [
              {
                "system": "SNOMED CT",
                "code": "24184005",
                "display": "Finding of increased blood pressure (finding)"
              }
            ],
            "text": "Finding of increased blood pressure (finding)"
          },
          "subject": {
            "reference": "{base url}/{firm_url_prefix}/Patient/3140046",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3140046"
          },
          "onsetDateTime": "2020-02-28T13:29:40+00:00"
        }
      }
  ]
}
```


Condition SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Condition?[parameter={value}	GET	Retrieve Condition resources by the specified search criteria

The Condition resource is searchable by the following parameters:

Name	Type	Description
patient	reference	Patient id

Condition CREATE

Note that Conditions added or updated through the API will need to be reconciled by the Practice before those additions or changes will be added to the Patient's chart. There is a UI to handle this on the front end.

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Condition	POST	Create Condition resource

The following attributes are required for a CREATE:

Field Name	Notes
*clinicalStatus	Active, Inactive, Resolved
*subject	Reference to Patient
*code	ICD-9, ICD-10, SNOMED Name

POST: {base url}/{firm_url_prefix}/ema/fhir/v2/Condition


```
{
  "resourceType": "Condition",
  "clinicalStatus": {
    "coding": [
      {
        "system": "http://hl7.org/fhir/ValueSet/condition-clinical",
        "code": "ACTIVE",
        "display": "Active"
      }
    ],
    "text": "Active"
  },
  "category": [
    {
      "coding": [
        {
          "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/condition-category",
          "code": "DIAGNOSIS",
          "display": "Diagnosis"
        }
      ],
      "text": "Diagnosis"
    }
  ],
  "code": {
    "coding": [
      {
        "system": "ICD10",
        "code": "F41.9",
        "display": "Anxiety Disorder, Unspecified"
      }
    ],
    "text": "Anxiety Disorder, Unspecified"
  },
  "subject": {
    "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/72687",
    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/72687"
  },
  "onsetDateTime": "2020-02-14T10:21:14+00:00",
  "recordedDate": "2020-02-14T15:21:14+00:00"
}
```


Condition UPDATE

Note that Conditions added or updated through the API will need to be reconciled by the Practice before those additions or changes will be added to the Patient's chart. There is a UI to handle this on the front end.

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Condition	PUT	Update Condition resource

For the purposes of clarity, the following fields are immutable:

Field Name	Notes
subject*	
code*	
recordedDate*	

For the purposes of clarity, the following fields are supported for UPDATE:

Field Name	Notes
abatement	
clinicalStatus	
category	

FamilyMemberHistory

- FHIR Specification: https://www.hl7.org/fhir/familymemberhistory.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/FamilyMemberHistory

Common use cases include:
- Find the Family History of a Patient

The following attributes are supported:

Field Name	Notes
patient	reference
status	Supported Statuses: • Active = partial • Completed = completed • Prior History No longer Active = health-unknown
relationship	• Mother - 72705000 • Father - 66839005 • Sister - 27733009 • Brother - 70924004 • Daughter - 66089001 • Son - 65616008 • Uncle - 38048003 • Aunt - 25211005 • Nephew - 83559000 • Niece - 34581001 • Grandmother - 113157001 • Grandfather - 34871008 • Granddaughter - 44181008 • Grandson - 70578009 • Other - 35359004
date	datetime
note	string
condition	code + name

The Following Operations are supported:

- FamilyMemberHistory READ
- FamilyMemberHistory SEARCH

FamilyMemberHistory READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/FamilyMemberHistory/{id}	GET	Retrieve FamilyMemberHistory details for an ID


```
{
  "resourceType": "Bundle",
  "id": "54958128-6246-4d6f-a85d-065d61168a7c",
  "meta": {
    "lastUpdated": "2020-04-17T13:40:42.598+00:00"
  },
  "type": "searchset",
  "total": 2,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/FamilyMemberHistory?patient=3094714"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/FamilyMemberHistory/762347",
      "resource": {
        "resourceType": "FamilyMemberHistory",
        "id": "762347",
        "status": "partial",
        "patient": {
          "reference": "{base url}/{firm_url_prefix}/Patient/3094714",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3094714"
        },
        "date": "2015-11-10T15:46:09+00:00",
        "relationship": {
          "coding": [
            {
              "system": "SNOMED CT",
              "code": "66839005",
              "display": "FATHER"
            }
          ],
          "text": "FATHER"
        },
        "condition": [
          {
            "code": {
              "coding": [
                {
                  "system": "SNOMED CT",
                  "code": "160250007",
                  "display": "No family history of malignancy (situation)"
                }
              ],
              "text": "No family history of malignancy (situation)"
            }
          }
        ]
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/FamilyMemberHistory/762348",
```

```
        "resource": {
          "resourceType": "FamilyMemberHistory",
          "id": "762348",
          "status": "partial",
          "patient": {
            "reference": "{base url}/{firm_url_prefix}/Patient/3094714",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3094714"
          },
          "date": "2015-11-10T15:46:09+00:00",
          "relationship": {
            "coding": [
              {
                "system": "SNOMED CT",
                "code": "72705000",
                "display": "MOTHER"
              }
            ],
            "text": "MOTHER"
          },
          "condition": [
            {
              "code": {
                "coding": [
                  {
                    "system": "SNOMED CT",
                    "code": "160250007",
                    "display": "No family history of malignancy (situation)"
                  }
                ],
                "text": "No family history of malignancy (situation)"
              }
            }
          ]
        }
      }
    ]
}
```


FamilyMemberHistory SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/FamilyMemberHistory?[parameter={value}	GET	Retrieve FamilyMemberHistory resources by the specified search criteria

The FamilyMemberHistory resource is searchable by the following parameters:

Name	Type	Description
patient	reference	Patient id

ServiceRequest (Orders)

- FHIR Specification: https://www.hl7.org/fhir/servicerequest.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/ServiceRequest

ServiceRequest can be used to retrieve any order which can be 'electronically ordered' in EMA. This resource can be configured in several ways as there are several use cases to consider. The first, and most typical way vendors are using is when the vendor needs to become aware that there is a new order for them (ie. I need to know when there is something specific to me - all other orders are of no concern to me other than the ones to be performed by my organization). So this comes in handy for things like lab orders where a practice may send lab orders to several labs, but only want lab a to receive lab orders for lab 'a' and not be aware of lab 'b'. In this case, we will set the vendor up in a certain way so that when they query for a ServiceRequest, they will only see ServiceRequests for where the ordering practitioner has selected them as the performer. The second use case is for vendors who need to be aware of ALL orders regardless of where they are being performed. In these cases, the vendor would be configured in a different way to allow for all ServiceRequests to be queried. For vendors interested in this functionality, it's important to let MMI know which configuration you'll need for your specific use case. By default, when we provision a generic sandbox, you will likely have access to see ALL ServiceRequests unless you explicitly ask for a vendor specific setup.

The following attributes are supported:

Field Name	Notes
id	
lastUpdated	
basedOn	RequestGroup Reference
requisition	string - the requisition (order) number in EMA
status	draft, active, closed
intent	order
category	Type of Order - ValueSet/service-request-category-type Current supported types: - Surgical - Therapies - Radiology
priority	
code	Orderable Code - likely CPT, LOINC, or Compendium code
subject	Reference to Encounter
occurrenceDateTime	
authoredOn	datetime
requester	Reference to Practitioner
reasonCode	Typically an ICD10 diagnosis

insurance	Reference to Coverage
bodySite	If the practitioner selected a body location in EMA, that will appear here
note	Additional clinically relevant data
supportingInfo	Reference to the Order PDF Document

ServiceRequest READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/ServiceReuest/{id}	GET	Retrieve ServiceRequest for an ID

Example:

GET {base url}/{firm_url_prefix}ema/fhir/v2/ServiceRequest/7532-27792

Sample Response:


```
"entry": [
    {
        "fullUrl": "{base url}/{firm_url_prefix}ema/fhir/v2/ServiceRequest/7532-27792",
        "resource": {
            "resourceType": "ServiceRequest",
            "id": "7532-27792",
            "meta": {
                "lastUpdated": "2020-08-05T14:53:55.000+00:00"
            },
            "basedOn": [
                {
                    "reference": "{base url}/{firm_url_prefix}/RequestGroup/49811",
                    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/RequestGroup/49811"
                }
            ],
            "requisition": {
                "system": "https://www.hl7.org/fhir/request.html#requisitionid",
                "value": "7532"
            },
            "status": "draft",
            "intent": "order",
            "category": [
                {
                    "coding": [
                        {
                            "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/service-request-category-type",
                            "code": "SURGICAL",
                            "display": "Surgical"
                        }
                    ]
                }
```

```
            ],
            "priority": "routine",
            "code": {
               "coding": [
                  {
                     "system": "CPT-4",
                     "code": "27792",
                     "display": "Order Surgery: Ankle Fracture"
                  }
               ],
               "text": "Order Surgery: Ankle Fracture"
            },
            "subject": {
               "reference": "{base url}/{firm_url_prefix}/Patient/249853",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/249853"
            },
            "encounter": {
              "reference":      "{base url}/{firm_url_prefix}/Encounter/3324316",
               "display": "{base url}/{firm_url_prefix}Encounter/3324316"
            },

            "occurrenceDateTime": "2020-08-05T14:04:57+00:00",
            "authoredOn": "2020-08-05T14:06:00+00:00",
            "requester": {
               "reference": "{base url}/{firm_url_prefix}/Practitioner/1178",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/1178"
            },
            "reasonCode": [
               {
                  "coding": [
                     {
                        "system": "ICD10",
                        "code": "S82.842P",
                        "display": "Displaced bimalleolar fracture of left lower leg, subsequent encounter for closed fracture
with malunion"
                     }
                  ],
                  "text": "Fracture, Bimalleolar, Closed"
               }
            ],
            "insurance": [
               {
                  "reference": "{base url}/{firm_url_prefix}/Coverage/8629",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Coverage/8629"
               }
            ],
            "bodySite": [
               {
                  "text": "left distal fibula"
               }
            ],
            "note": [
               {
                  "text": "clinical_note|{Complexity (necessary for coding)=major (90 day global period), Recovery
Facility=Recovery Facility, Estimated Length of Stay (days)=1, Surgery Time=1:00pm ET, Scheduler=Scheduler,
Estimated Length of Surgery (hours)=1, Surgical Discussion=Risks and benefits, Instructions, Comments, Major surgery
(90 day global surgeries only) to be performed today or tomorrow=no, Admission Status=23 hour observation,
Anesthesia (Check all that apply)=General, Anesthesiologist NPI=789965321, Surgery to be ordered=Open Reduction
Internal Fixation (ORIF) Lateral Malleolus Ankle Fracture (27792), Anesthesiologist=Miller, Rescheduled Surgery=No,
Detail Level=Simple, Photos Needed?=no, Position=Lateral Decubitus, Neuromonitoring=no, Perform at=Everett Koop,
MD, Implants Required (List)=Arthrex, Priority=normal, Audit Log=0, Specify type of preoperative clearance (Specify
MD)=Anesthesia, Surgeon=Levine, Preoperative Imaging Needed?=Needs CT Right Ankle, Provider=Jane Doe, MD,
Surgery Date=08/19/2020, Render Order Details in Note?=render full order details, Surgeon NPI=67898765434, OR
Equipment Required=Radiolucent Triangles, Coordination With=Coordination With, Time frame unit=day(s)}"
               },
```

```
            {
              "text": "relevantClinicalInformation|Surgery Date:08/19/2020 Surgery Time:1:00pm ET"
            }
          ]
        }
      }
    ]
}
```


ServiceRequest SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/ServiceReuest?{Parameter=Value}	GET	Search ServiceRequests by certain parameters

The ServiceRequest resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 50
_lastUpdated	datetime	
authored	date	Page to be used for paginated search
category	string	SURGICAL THERAPIES RADIOLOGY CLINICAL PATHOLOGY
encounter	reference	reference to the encounter where the ServiceRequest was made
page	string	
patient	reference	Search for ServiceRequests by patient ID
requester	reference	Search for ServiceRequests by ordering practitioner ID
requisition	string	Search for ServiceRequest with a specific requisition ID.
status	string	draft|active|completed|cancelled

Examples:

GET {base url}/{firm_url_prefix}ema/fhir/v2/ServiceRequest?_lastUpdated=ge2020-08-01&category=THERAPIES

Sample Response:


```
{
   "resourceType": "Bundle",
   "id": "6f6dbcc2-4076-4efe-ac6f-03f328563c59",
   "meta": {
      "lastUpdated": "2020-08-19T16:04:07.411+00:00"
   },
   "type": "searchset",
   "total": 30,
   "link": [
      {
         "relation": "self",
         "url": "{base
url}/{firm_url_prefix}/ema/fhir/v2/ServiceRequest?_lastUpdated=ge2020-08-01&category=THERAPIES"
      }
   ],
   "entry": [
      {
         "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/ServiceRequest/859",
         "resource": {
            "resourceType": "ServiceRequest",
            "id": "859",
            "meta": {
               "lastUpdated": "2020-08-03T15:40:23.000+00:00"
            },
            "basedOn": [
               {
                  "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/RequestGroup/296377",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/RequestGroup/296377"
               }
            ],
            "requisition": {
               "system": "https://www.hl7.org/fhir/request.html#requisitionid",
               "value": "859"
            },
            "status": "active",
            "intent": "order",
            "category": [
               {
                  "coding": [
                     {
                        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/service-request-category-type",
                        "code": "THERAPIES",
                        "display": "Therapies"
                     }
                  ]
               }
            ],
            "priority": "routine",
            "code": {
               "text": "Occupational Therapy Rx"
            },
            "subject": {
               "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/1870191",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/1870191"
            },
            "occurrenceDateTime": "2020-08-03T14:26:25+00:00",
```

```
        "authoredOn": "2020-08-03T15:40:23+00:00",
        "requester": {
          "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/922461",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/922461"
        },
        "reasonCode": [
          {
            "coding": [
              {
                "system": "ICD10",
                "code": "M65.311",
                "display": "Trigger thumb, right thumb"
              }
            ],
            "text": "Trigger Finger"
          }
        ],
        "bodySite": [
          {
            "text": "right thumb (first finger)"
          }
        ],
        "note": [
          {
            "text": "Trigger Finger: "
          }
        ]
      }
    },
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/ServiceRequest/861",
      "resource": {
        "resourceType": "ServiceRequest",
        "id": "861",
        "meta": {
          "lastUpdated": "2020-08-03T17:17:01.000+00:00"
        },
        "basedOn": [
          {
            "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/RequestGroup/296389",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/RequestGroup/296389"
          }
        ],
        "requisition": {
          "system": "https://www.hl7.org/fhir/request.html#requisitionid",
          "value": "861"
        },
        "status": "active",
        "intent": "order",
        "category": [
          {
            "coding": [
              {
                "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/service-request-category-type",
                "code": "THERAPIES",
                "display": "Therapies"
              }
            ]
          }
        ],
        "priority": "routine",
        "code": {
          "text": "PT Rx"
        },
        "subject": {
```

```
            "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/1870319",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/1870319"
         },
         "occurrenceDateTime": "2020-08-03T16:53:56+00:00",
         "authoredOn": "2020-08-03T17:17:01+00:00",
         "requester": {
            "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/926566",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/926566"
         },
         "reasonCode": [
            {
               "coding": [
                  {
                     "system": "ICD10",
                     "code": "S93.431A",
                     "display": "Sprain of tibiofibular ligament of right ankle, initial encounter"
                  }
               ],
               "text": "High Ankle Sprain"
            }
         ],
         "bodySite": [
            {
               "text": "right ankle joint"
            }
         ],
         "note": [
            {
               "text": "High Ankle Sprain: "
            }
         ]
      }
   },
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/ServiceRequest/863",
      "resource": {
         "resourceType": "ServiceRequest",
         "id": "863",
         "meta": {
            "lastUpdated": "2020-08-03T17:36:18.000+00:00"
         },
         "basedOn": [
            {
               "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/RequestGroup/296394",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/RequestGroup/296394"
            }
         ],
         "requisition": {
            "system": "https://www.hl7.org/fhir/request.html#requisitionid",
            "value": "863"
         },
         "status": "active",
         "intent": "order",
         "category": [
            {
               "coding": [
                  {
                     "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/service-request-category-type",
                     "code": "THERAPIES",
                     "display": "Therapies"
                  }
               ]
            }
         ],
         "priority": "routine",
```

```
        "code": {
          "text": "PT Rx"
        },
        "subject": {
          "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/1870349",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/1870349"
        },
        "occurrenceDateTime": "2020-08-03T17:19:17+00:00",
        "authoredOn": "2020-08-03T17:36:18+00:00",
        "requester": {
          "reference": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/926566",
          "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/926566"
        },
        "reasonCode": [
          {
            "coding": [
              {
                "system": "ICD10",
                "code": "M17.10",
                "display": "Unilateral primary osteoarthritis, unspecified knee"
              }
            ],
            "text": "Knee Osteoarthritis"
          }
        ],
        "bodySite": [
          {
            "text": "right knee joint"
          }
        ],
        "note": [
          {
            "text": "Knee Osteoarthritis: "
          }
        ]
      }
    },
```

DiagnosticReport (Results)

- FHIR Specification: https://www.hl7.org/fhir/diagnosticreport.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/DiagnosticReport

DiagnosticReport can be used to find Results PDFs for patients in EMA.

The following attributes are supported:

Field Name	Notes
id	
lastUpdated	
identifier	Reference to the RequisitionID
basedOn	Reference to ServiceRequest
status	final|preliminary|correction|partial
code	Orderable Code - likely CPT, LOINC, or Compendium code
subject	Reference to Patient
encounter	Reference to Encounter
effectiveDateTime	Date and Time the report was processed by the reporting entity
issued	Date and Time the report was delivered to EMA
performer	Performing Entity (whoever performed the study)
presentedForm	PDF or document of the report

DiagnosticReport READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/DiagnosticReport/{id}	GET	Retrieve DiagnosticReport for an ID

Example:

GET {base url}/{firm_url_prefix}ema/fhir/v2/DiagnosticReport/LAB|36028633

Sample Response:


```
{
   "resourceType": "DiagnosticReport",
   "id": "LAB|36028633",
   "meta": {
      "lastUpdated": "2021-02-27T13:14:09.000+00:00"
   },
   "identifier": [
      {
         "system": "https://www.hl7.org/fhir/request.html#requisitionid",
         "value": "279720"
      }
   ],
   "basedOn": [
      {
         "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/ServiceRequest/279720-303756",
         "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/ServiceRequest/279720-303756"
      }
   ],
   "status": "final",
   "code": {
      "coding": [
         {
            "system": "COMPENDIUM",
            "code": "303756",
            "display": " Lipid Panel"
         }
      ],
      "text": " Lipid Panel"
   },
   "subject": {
      "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872",
      "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872"
   },
   "encounter": {
      "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601",
      "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601"
   },
   "effectiveDateTime": "2021-02-26T09:37:00+00:00",
   "issued": "2021-02-27T13:14:09.000+00:00",
   "performer": [
      {
         "display": "LabCorp"
      }
   ],
   "presentedForm": [
      {
         "contentType": "application/pdf",
         "data":
"JVBERi0xLjQKJeLjMDAgbg0KdHJhaWxlcgo8PAovU2I6ZSA2MQovUm9vdCA2MCAwIFIKL0luZm8gMzIgMCBSCi9JRCBbPDk5NGI5YzA0YWExNDM1NDZhZWQ5OGRhZGE0OGQ1ZGEzPiA8OTk0YjljMDRhYTE0MzU0NmFlZDk4ZGFkYTQ4ZDVkYTM+XQo+PgpzdGFydHhyZWYKMzUwNDYKJSVFT0YK",
         "size": 48564,
         "title": "labAttachment_6424714.pdf",
         "creation": "2021-02-27T13:14:09+00:00"
      }
   ]
}
```

DiagnosticReport SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/DiagnosticReport ?{Parameter=Value}	GET	Search DiagnosticReport by certain parameters

The DiagnosticReport resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 50
_lastUpdated	datetime	
encounter	reference	reference to the encounter where the DiagnosticReport was made
page	string	
patient	reference	Search for DiagnosticReports by patient ID
requisition	string	Search for DiagnosticReport with a specific requisition ID.
type	string	lab|log

Examples:

GET {base url}/{firm_url_prefix}ema/fhir/v2/DiagnosticReport?requisition=279720

Sample Response:


```
{
  "resourceType": "Bundle",
  "id": "32d696c3-8349-4dbb-a0e4-d6d336cdfe63",
  "meta": {
    "lastUpdated": "2021-05-03T19:44:32.696+00:00",
    "tag": [
      {
        "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
        "code": "SUBSETTED",
        "display": "Resource encoded in summary mode"
      }
    ]
  },
  "type": "searchset",
  "total": 4,
```

```
"link": [
    {
        "relation": "self",
        "url": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/DiagnosticReport?requisition=279720"
    }
],
"entry": [
    {
        "fullUrl": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/DiagnosticReport/LAB%7C36028631",
        "resource": {
            "resourceType": "DiagnosticReport",
            "id": "LAB|36028631",
            "meta": {
                "lastUpdated": "2021-02-27T13:14:08.000+00:00",
                "tag": [
                    {
                        "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                        "code": "SUBSETTED",
                        "display": "Resource encoded in summary mode"
                    }
                ]
            },
            "identifier": [
                {
                    "system": "https://www.hl7.org/fhir/request.html#requisitionid",
                    "value": "279720"
                }
            ],
            "status": "final",
            "code": {
                "coding": [
                    {
                        "system": "COMPENDIUM",
                        "code": "004416",
                        "display": " hCG,Beta Subunit, Qnt, Serum"
                    }
                ],
                "text": " hCG,Beta Subunit, Qnt, Serum"
            },
            "subject": {
                "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872",
                "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872"
            },
            "encounter": {
                "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601",
                "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601"
            },
            "effectiveDateTime": "2021-02-26T09:37:00+00:00",
            "issued": "2021-02-27T13:14:08.000+00:00",
            "performer": [
                {
                    "display": "LabCorp"
                }
            ]
        }
    },
    {
        "fullUrl": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/DiagnosticReport/LAB%7C36028632",
        "resource": {
            "resourceType": "DiagnosticReport",
            "id": "LAB|36028632",
            "meta": {
                "lastUpdated": "2021-02-27T13:14:09.000+00:00",
                "tag": [
                    {
```

```
                    "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                    "code": "SUBSETTED",
                    "display": "Resource encoded in summary mode"
                }
            ]
        },
        "identifier": [
            {
                "system": "https://www.hl7.org/fhir/request.html#requisitionid",
                "value": "279720"
            }
        ],
        "status": "final",
        "code": {
            "coding": [
                {
                    "system": "COMPENDIUM",
                    "code": "005009",
                    "display": " CBC With Differential/Platelet"
                }
            ],
            "text": " CBC With Differential/Platelet"
        },
        "subject": {
            "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872",
            "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872"
        },
        "encounter": {
            "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601",
            "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601"
        },
        "effectiveDateTime": "2021-02-26T09:37:00+00:00",
        "issued": "2021-02-27T13:14:09.000+00:00",
        "performer": [
            {
                "display": "LabCorp"
            }
        ]
    }
},
{
    "fullUrl": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/DiagnosticReport/LAB%7C36028633",
    "resource": {
        "resourceType": "DiagnosticReport",
        "id": "LAB|36028633",
        "meta": {
            "lastUpdated": "2021-02-27T13:14:09.000+00:00",
            "tag": [
                {
                    "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                    "code": "SUBSETTED",
                    "display": "Resource encoded in summary mode"
                }
            ]
        },
        "identifier": [
            {
                "system": "https://www.hl7.org/fhir/request.html#requisitionid",
                "value": "279720"
            }
        ],
        "status": "final",
        "code": {
            "coding": [
                {
```

```
                    "system": "COMPENDIUM",
                    "code": "303756",
                    "display": " Lipid Panel"
                }
            ],
            "text": " Lipid Panel"
        },
        "subject": {
            "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872",
            "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872"
        },
        "encounter": {
            "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601",
            "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601"
        },
        "effectiveDateTime": "2021-02-26T09:37:00+00:00",
        "issued": "2021-02-27T13:14:09.000+00:00",
        "performer": [
            {
                "display": "LabCorp"
            }
        ]
    }
},
{
    "fullUrl": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/DiagnosticReport/LAB%7C36028634",
    "resource": {
        "resourceType": "DiagnosticReport",
        "id": "LAB|36028634",
        "meta": {
            "lastUpdated": "2021-02-27T13:14:09.000+00:00",
            "tag": [
                {
                    "system": "http://terminology.hl7.org/CodeSystem/v3-ObservationValue",
                    "code": "SUBSETTED",
                    "display": "Resource encoded in summary mode"
                }
            ]
        },
        "identifier": [
            {
                "system": "https://www.hl7.org/fhir/request.html#requisitionid",
                "value": "279720"
            }
        ],
        "status": "final",
        "code": {
            "coding": [
                {
                    "system": "COMPENDIUM",
                    "code": "322000",
                    "display": " Comp. Metabolic Panel (14)"
                }
            ],
            "text": " Comp. Metabolic Panel (14)"
        },
        "subject": {
            "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872",
            "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Patient/17039872"
        },
        "encounter": {
            "reference": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601",
            "display": "{base url}/{firm_url_prefix}/firm/ema/fhir/v2/Encounter/30312601"
        },
        "effectiveDateTime": "2021-02-26T09:37:00+00:00",
```

```
            "issued": "2021-02-27T13:14:09.000+00:00",
            "performer": [
              {
                "display": "LabCorp"
              }
            ]
          }
        }
      ]
}
```


Charges/Financial

ChargeItem

- FHIR Specification: https://www.hl7.org/fhir/chargeitem.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/ChargeItem

Common use cases include:
- Find Charges for a Patient
- Find Charges from an Encounter
- Add Charges to a Patient's account

Modernizing Medicine has several different flavors of ChargeItem depending on each practice's unique configuration.
- Practices which have EMA-only (no MMPM) will notice the following:
  - Charges are only available once an encounter is finalized
  - Charges cannot be created for these practices (since they do not have MMPM, you're application should be sending charges to the practice's PM system)
  - There are no INBOUND charges for these practices
  - All charges will reference an encounter in EMA as this is the only way to generate a ChargeItem.
- Practices which use MMPM as their PM system will notice the following:
  - INBOUND charges may be coming from other applications
  - Not all Charges will be associated to an encounter

The following attributes are supported:

Field Name	Notes
id	The unique ID for a ChargeItem
financialTransaction*	Custom Extension designed to replicate HL7 DFT
financialTransactionId	ID of the transaction. This is not used for CREATE. One will be returned to you upon a CREATE.
transactionStatus	Charged|

totalCost	The totalCost of a financialTransaction if it cannot or will not be computed by other inputs. valueMoney: currency USD
attendingProviderId	Attending Provider NPI or PMSID Goes here
referralProviderId	Referral Provider NPI or PMSID Goes here
locationId	Location NPI or PMSID Goes here
businessUnitId	Business Unit Id Goes here
transactionId	Transaction Id Goes here
sendingFacility	Global Code from MSH Header Goes here
receivingFacility	Firm Code from MSH Header Goes here
financialTransactionDetail*	Custom Extension designed to replicate FT1 segment of an HL7 DFT NOTE: You can add multiple financialTransactionDetail(s).
financialTransactionDetailId	ID of the transaction. This is not used for CREATE. One will be returned to you upon a CREATE. This will be used to support the READ in the future.
transactionType	CG - Charge is the only type supported at this time.
performingProviderId	Performing Provider NPI or PMSID Goes here
code	CPT Code
unitCost	valueMoney
quantity	valueDecimal
description	valueString
postingDate	valueDateTime
transactionPeriod	valuePeriod
diagnosisDetail	Custom Extension designed to replicate the DG1 segment of an HL7 DFT NOTE: You can add multiple diagnosisDetail(s)
diagnosisDetailId	valueString ID of the diagnosis. This is not used for CREATE. One will be returned to you upon a CREATE. This will be used to support the READ in the future.
diagnosisDetailCode	valueCoding

	ICD-10 codes are supported at this time.
procedureDetail*	Custom Extension designed to replicate FT1 segment of an HL7 DFT NOTE: You can add multiple procedureDetail(s)
procedureDetailId	ID of the procedure. This is not used for CREATE. One will be returned to you upon a CREATE. This will be used to support the READ in the future.
procedureCode	valueCoding
anesthesiaCode	valueCoding
anesthesiaMinutes	valueString
anesthesiaProviderId	valueString Anesthesia Provider NPI Goes Here
procedureType	valueString
procedureCodeModifier	valueString Procedure Charge Code Modifier Goes here NOTE: You can add multiple procedureCodeModifier(s).
status	planned | **billable** | not-billable | aborted | billed | entered-in-error | unknown NOTE: Only 'billable' is supported at this time.
occurrenceDateTime	valueDateTime
subject	Patient Reference
context	Encounter ID (if known) NOTE: This is to be built out in the next release.
reason	valueCoding NOTE: Only ICD-10 codes are supported at this time.

The Following Operations are supported:

- ChargeItem READ
- ChargeItem SEARCH
- ChargeItem CREATE

ChargeItem READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/ChargeItem	GET	Get All ChargeItems for a Practice
{base url}/{firm_url_prefix}/ema/fhir/v2/ChargeItem/CHG|{id}	GET	Get a specific ChargeItem
{base url}/{firm_url_prefix}/ema/fhir/v2/ChargeItem/INBOUND	GET	Get all Inbound Charges for a Practice
{base url}/{firm_url_prefix}/ema/fhir/v2/ChargeItem/INBOUND|{id}	GET	Get a specific inbound Charge for a Practice


```
{
  "resourceType": "Bundle",
  "id": "235cc2d1-000f-4f05-a97f-2548dc9bcef6",
  "meta": {
    "lastUpdated": "2020-04-17T13:55:46.866+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/ChargeItem?context=30351971"
    }
  ],
  "entry": [
    {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/ChargeItem/CHG%7C5183261",
      "resource": {
        "resourceType": "ChargeItem",
        "id": "CHG|5183261",
        "extension": [
          {
            "url": "financialTransaction",
            "extension": [
              {
                "url": "financialTransactionId",
                "valueString": "CHG|5183261"
              },
              {
                "url": "transactionStatus",
                "valueString": "Charged"
              },
              {
                "url": "attendingProviderId",
                "valueString": "1821037664"
              },
              {
                "url": "locationId",
                "valueString": "309"
              },
              {
                "url": "businessUnitId",
                "valueString": "272373546"
              },
              {
                "url": "transactionId",
                "valueString": "27644"
              },
```

```
{
   "url": "totalCost",
   "valueMoney": {
      "value": 195,
      "currency": "USD"
   }
},
{
   "url": "financialTransactionDetail",
   "extension": [
      {
         "url": "performingProviderId",
         "valueString": "1821037664"
      },
      {
         "url": "code",
         "valueCoding": {
            "system": "CPT-4",
            "code": "99213",
            "display": "OFFICE/OUTPATIENT VISIT EST"
         }
      },
      {
         "url": "unitCost",
         "valueMoney": {
            "value": 195,
            "currency": "USD"
         }
      },
      {
         "url": "quantity",
         "valueDecimal": 1
      },
      {
         "url": "description",
         "valueString": "99213"
      },
      {
         "url": "postingDate",
         "valueDateTime": "2020-03-11T00:00:00+00:00"
      },
      {
         "url": "transactionPeriod",
         "valuePeriod": {
            "start": "2020-03-10T00:00:00+00:00",
            "end": "2020-03-10T00:00:00+00:00"
         }
      },
      {
         "url": "procedureDetail",
         "extension": [
            {
               "url": "procedureDetailId",
               "valueString": "CHG|5183261"
            },
            {
               "url": "procedureCode",
               "valueCoding": {
                  "system": "CPT-4",
                  "code": "99213",
                  "display": "OFFICE/OUTPATIENT VISIT EST"
               }
            }
         ]
      }
```

```
                    ]
                }
            ]
        }
    ],
    "status": "billable",
    "subject": {
        "reference": "{base url}/{firm_url_prefix}/Patient/3089889",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/3089889"
    },
    "context": {
        "reference": "{base url}/{firm_url_prefix}/Encounter/30351971",
        "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Encounter/30351971"
    },
    "reason": [
        {
            "coding": [
                {
                    "system": "ICD10",
                    "code": "L20.84",
                    "display": "Intrinsic (allergic) eczema"
                }
            ],
            "text": "Intrinsic (allergic) eczema"
        }
    ]
  }
 }
]
}
```


ChargeItem SEARCH

The ChargeItem resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 50
context	string	Encounter reference url in format : /resourcename/id or id.
page	string	Page to be used for paginated search
patient	string	Patient reference url in format : /resourcename/id or id.
type	string	Charge Item Type Search Parameter.

ChargeItem CREATE

If your application is planning on sending charges into MMPM, this will require some additional setup and configuration. It is recommended that you speak with whomever provided you access to the MMI Sandbox.

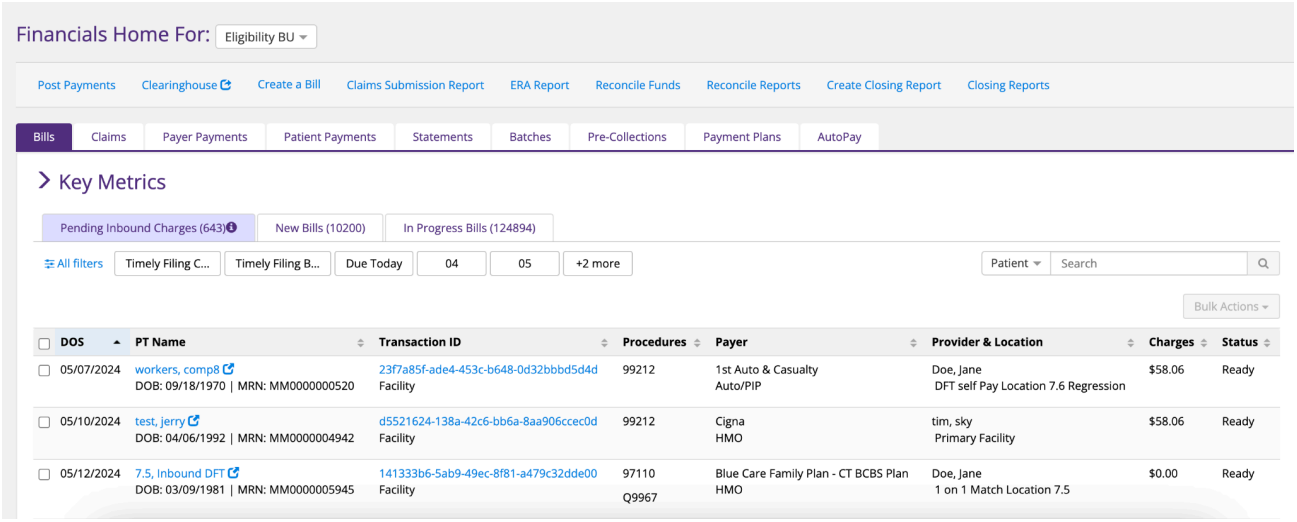
- Practices which have EMA-only (no MMPM) will notice the following:
  - Charges are only available once an encounter is finalized
  - Charges cannot be created for these practices (since they do not have MMPM, you're application should be sending charges to the practice's PM system)
  - There are no INBOUND charges for these practices
  - All charges will reference an encounter in EMA as this is the only way to generate a ChargeItem.
- Practices which use MMPM as their PM system will notice the following:
  - INBOUND charges may be coming from other applications
  - Not all Charges will be associated to an encounter

When generating charges for a customer, here are a few things you'll want to consider. First, if you pass in a 'unitCost' value, it will override the 'Fee Schedule' that the customer has configured for the particular CPT code. So, if you want to do that (which may be the case in some scenarios), be sure to pass it in. It will take the Quantity and multiply it by that value. If you do not know or want to use the Fee Schedule already configured for that CPT code, do not pass in 'unitCost' - that way it will simply default to what the customer has configured.

The 'transactionID' is something you would pass in that may mean something to you or your customer. It will appear in the UI and they can search on it if you need to reference it for any reason.

Some customers have a setting which automatically creates bills from Charges assuming the information needed is there.

Customers that use this functionality have an 'Inbound Charges' queue in their 'Financials' experience:



If they are Auto-creating bills from charges, you may want to instruct your customers to check the New Bills tab if they are looking for something they are expecting to be here.

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/ChargeItem	POST	Create Charges Into ModMedPM

```
{
  "resourceType": "ChargeItem",
        "extension": [
                {
```

```
"url": "financialTransaction",
"extension": [
        {
                "url": "totalCost",
                "valueMoney": {
                        "value": "66.00",
                        "currency": "USD"
                }
        },
        {
                "url": "attendingProviderId",
                "valueString": "100491PRV000001158"
        },
        {
                "url": "referralProviderId",
                "valueString": "100002PRV000000031"
        },
        {
                "url": "locationId",
                "valueString": "100491000000158"
        },
        {
                "url": "transactionId",
                "valueString": "05081977"
        },
        {
                "url": "sendingFacility",
                "valueString": "vendor1"
        },
        {
                "url": "receivingFacility",
                "valueString": "firm_url_prefix"
        },
        {
                "url": "financialTransactionDetail",
                "extension": [
                        {
                                "url": "transactionType",
                                "valueString": "CG"
                        },
                        {
                                "url": "performingProviderId",
                                "valueString": "100491PRV000001158"
                        },
                        {
                                "url": "code",
                                "valueCoding": {
                                        "system": "CPT",
                                        "code": "V2020",
                                        "display": "CPT4"
                                }
                        },
                        {
                                "url": "unitCost",
                                "valueMoney": {
                                        "value": "66.00",
                                        "currency": "USD"
                                }
                        },
                        {
                                "url": "quantity",
                                "valueDecimal": "1.0"
                        },
                        {
                                "url": "description",
```

```
                                                "valueString": "Patient Own Frame"
                                        },
                                        {
                                                "url": "postingDate",
                                                "valueDateTime": "2019-12-06T10:00:00-05:00"
                                        },
                                        {
                                                "url": "transactionPeriod",
                                                "valuePeriod": {
                                                        "start": "2019-12-06T10:00:00-05:00",
                                                        "end": "2019-12-06T10:00:00-05:00"
                                                }
                                        },
                                        {
                                                "url": "diagnosisDetail",
                                                "extension": [

                                                        {
                                                                "url": "diagnosisCode",
                                                                "valueCoding": {
                                                                        "system": "I10",
                                                                        "code": "H52.229",
                                                                        "display": "Regular
astigmatism, unspecified eye"
                                                                }
                                                        }
                                                ]
                                        }
                                ]
                        }
                ]
        }
    ],
    "status" : "billable",
    "occurrenceDateTime": "2019-12-06T10:00:00-05:00",
    "subject" : { "reference" : "{base url}/{firm_url_prefix}/Patient/30967" },
    "context" : { "display": "656" },
    "supportingInformation" : [
                {
                        "reference" : "{base url}/{firm_url_prefix}/Coverage/5479"
                },
                {
                        "reference" : "{base url}/{firm_url_prefix}/Coverage/5480"
                }
        ],
    "reason": [
                {
                        "coding": [
                                {
                                        "system": "I10",
                                        "code": "H52.229"
                                }
                        ]
                }
        ]
}
```

Account

- FHIR Specification: https://www.hl7.org/fhir/account.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Account

Common use cases include:
- Find outstanding balances for a Patient

The following attributes are supported:

Field Name	Notes
id	GUID for the Account
subject	Account.subject refers to the Patient. It is a FHIR Reference object. http://www.hl7.org/fhir/references.html#Reference
guarantor	party will reference Patient if the Guarantor is set to SELF party will reference RelatedPerson if Guarantor is someone else

The following extensions to the Account resource have been created and are supported in order to support the desired functionality:

Field Name	Notes
outstandingBalance	Data Type = Money - http://www.hl7.org/fhir/datatypes.html#Money
unusedFunds	Data Type = Money - http://www.hl7.org/fhir/datatypes.html#Money
businessUnitId	Unique identifier for the practice which must be included in all posted PaymentReconciliation objects
businessUnitName	

The Following Operations are supported:

- Account SEARCH

Account SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Account?{Parameter=Value}	GET	Search for a patient's account

The Account resource is searchable by the following parameters:

Name	Type	Description
patient*	string	Account resources can be searched by patient id, which is a required field.

Example:

GET {base url}/{firm_url_prefix}/ema/fhir/v2/Account?patient=39291

Sample Response:


```
{
   "resourceType": "Bundle",
   "id": "bd56a79d-221b-467a-b6ff-c129dff58e86",
   "meta": {
      "lastUpdated": "2019-08-30T16:34:06.844+00:00"
   },
   "type": "searchset",
   "total": 4,
   "link": [
      {
         "relation": "self",
         "url": "{base url}/{firm_url_prefix}/ema/fhir/v2/Account?patient=39291"
      }
   ],
   "entry": [
      {
         "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Account/680d3c22-4aba-4f8c-919d-82fb5d2f4430",
         "resource": {
            "resourceType": "Account",
            "id": "680d3c22-4aba-4f8c-919d-82fb5d2f4430",
            "subject": [
               {
                  "reference": "{base url}/{firm_url_prefix}/Patient/39291",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
               }
            ],
            "guarantor": [
               {
                  "party": {
                     "reference": "{base url}/{firm_url_prefix}/RelatedPerson/218",
                     "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/RelatedPerson/218"
                  }
               }
            ],
            "outstandingBalance": [
               {
                  "value": 0,
                  "currency": "USD"
               }
            ],
            "unusedFunds": [
               {
                  "value": 0,
                  "currency": "USD"
               }
            ],
            "businessUnitId": [
```

```
            "1"
         ],
         "businessUnitName": [
            "Main Business Unit"
         ]
      }
   },
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Account/4d2437e5-5c34-412a-83ca-d7b30a07b81f",
      "resource": {
         "resourceType": "Account",
         "id": "4d2437e5-5c34-412a-83ca-d7b30a07b81f",
         "subject": [
            {
               "reference": "{base url}/{firm_url_prefix}/Patient/39291",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
            }
         ],
         "guarantor": [
            {
               "party": {
                  "reference": "{base url}/{firm_url_prefix}/RelatedPerson/218",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/RelatedPerson/218"
               }
            }
         ],
         "outstandingBalance": [
            {
               "value": 0,
               "currency": "USD"
            }
         ],
         "unusedFunds": [
            {
               "value": 0,
               "currency": "USD"
            }
         ],
         "businessUnitId": [
            "241"
         ],
         "businessUnitName": [
            "Closing Report Test BU"
         ]
      }
   },
   {
      "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Account/0e114ea5-2b4f-4aa5-a287-f1ff1eb2a7f8",
      "resource": {
         "resourceType": "Account",
         "id": "0e114ea5-2b4f-4aa5-a287-f1ff1eb2a7f8",
         "subject": [
            {
               "reference": "{base url}/{firm_url_prefix}/Patient/39291",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
            }
         ],
         "guarantor": [
            {
               "party": {
                  "reference": "{base url}/{firm_url_prefix}/RelatedPerson/218",
                  "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/RelatedPerson/218"
               }
            }
         ],
```

```
                "outstandingBalance": [
                  {
                    "value": 0,
                    "currency": "USD"
                  }
                ],
                "unusedFunds": [
                  {
                    "value": 0,
                    "currency": "USD"
                  }
                ],
                "businessUnitId": [
                  "21"
                ],
                "businessUnitName": [
                  "Maverick Business Unit"
                ]
              }
            },
            {
              "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Account/12bafb4b-88ab-4721-abfa-c4a080d02cd8",
              "resource": {
                "resourceType": "Account",
                "id": "12bafb4b-88ab-4721-abfa-c4a080d02cd8",
                "subject": [
                  {
                    "reference": "{base url}/{firm_url_prefix}/Patient/39291",
                    "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
                  }
                ],
                "guarantor": [
                  {
                    "party": {
                      "reference": "{base url}/{firm_url_prefix}/RelatedPerson/218",
                      "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/RelatedPerson/218"
                    }
                  }
                ],
                "outstandingBalance": [
                  {
                    "value": 0,
                    "currency": "USD"
                  }
                ],
                "unusedFunds": [
                  {
                    "value": 0,
                    "currency": "USD"
                  }
                ],
                "businessUnitId": [
                  "249"
                ],
                "businessUnitName": [
                  "PLA BU Ashley"
                ]
              }
            }
          ]
        }
```

RelatedPerson

- FHIR Specification: https://www.hl7.org/fhir/relatedperson.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/RelatedPerson

The following attributes are supported:

Field Name	Notes
id	
patient	reference to patient
relationship	http://hl7.org/fhir/ValueSet/relatedperson-relationshiptype The following codes are supported: self|spouse|child|other|employee
name	• family • given
telecom	
gender	
address	will only display if the address is different than the patient
birthDate	

The Following Operations are supported:

- RelatedPerson READ

RelatedPerson READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/RelatedPerson/{id}	GET	Retrieve RelatedPerson for an ID

Example:

GET {base url}/{firm_url_prefix}ema/fhir/v2/RelatedPerson/218

Sample Response:

```
{
```

```
  "resourceType": "RelatedPerson",
  "id": "218",
  "patient": {
     "reference": "{base url}/{firm_url_prefix}/Patient/39291",
     "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/39291"
  },
  "relationship": [
     {
        "coding": [
           {
              "system": "http://hl7.org/fhir/ValueSet/relatedperson-relationshiptype",
              "code": "SPO",
              "display": "Spouse"
           }
        ],
        "text": "Spouse"
     }
  ],
  "name": [
     {
        "family": "Abernathy",
        "given": [
           "Linda"
        ]
     }
  ],
  "telecom": [
     {
        "system": "phone",
        "value": "2345695444",
        "use": "mobile"
     }
  ],
  "gender": "unknown",
  "birthDate": "1982-06-30",
  "address": [
     {
        "type": "both",
        "line": [
           "1 Tin St"
        ],
        "city": "San Antonio",
        "state": "TX",
        "postalCode": "22334",
        "country": "United States of America"
     }
  ]
}
```

Tasks (for Recalls)

- FHIR Specification: https://www.hl7.org/fhir/task.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Task
- Value Set: ValueSet/recall-action
- Value Set: ValueSet/task-type
- Value Set: ValueSet/recall-type

Currently the 'Task' resource can only be used to query and find Recalls in the ModMed Practice Management system. We will be expanding on the Task resource to include other types of tasks in the future, so if you are looking for additional functionality, be sure to check back.

The following attributes are supported:

Field Name	Notes
id	unique identifier for the specific Task
lastUpdated	datetime the resource as last updated
status	ready|in-progress|completed These are the fhir supported status fields they map in MMPM as follows: ready -> Open in-progress -> Scheduled completed -> closed (overdue remains in 'ready' status)
statusReason	ValueSet: {base_url}/{firm_url_prefix}ema/fhir/v2/ValueSet/recall-action
intent	'unknown' is the only supported value currently
code	ValueSet: {base_url}/{firm_url_prefix}ema/fhir/v2/ValueSet/task-type PMRECALL is the only supported type currently
description	string - free text field in MMPM for the 'Reason' for recall
for	reference to Patient
authoredOn	datetime

lastModified	datetime
requester	reference to Practitioner
reasonCode	ValueSet: {base_url}/{firm_url_prefix}ema/fhir/v2/ValueSet/recall-type
note	string - free text field in MMPM for the Appt Notes in a recall
period	datetime - due date for the Recall

Task READ

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Task/{id}	GET	Retrieve Task for an ID

Example:

GET {base url}/{firm_url_prefix}ema/fhir/v2/Task/PMRECALL-1

Sample Response:


```
"entry": [
      {
         "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Task/PMRECALL-1”,
         "resource": {
            "resourceType": "Task",
            "id": "PMRECALL-1",
            "meta": {
               "lastUpdated": "2020-11-19T19:59:43.000+00:00"
            },

            "status": "ready",
            "statusReason": [
                {
                  "coding": [
                     {
                        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/recall-action",
                        "code": "Phone",
                        "display": "Phone Call"
                     }
                  ]
               }
            ],

            "intent": "unknown",
            "code": {
               "coding": [
                  {
                     "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/task-type",
                     "code": "PMRECALL",
                     "display": "PM Recall"
                  }
```

```
            ],
            "text": "PM Recall"
        },
        "description": "patient needs to be seen soon",
        "for": {
            "reference": "Patient/2537",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/2537"
        },
        "authoredOn": "2020-11-19T19:59:07+00:00",
        "lastModified": "2020-11-19T19:59:07+00:00",
        "requester": {
            "reference": "Practitioner/89",
            "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/89"
        },

        "reasonCode": [
            {
                "coding": [
                    {
                        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/recall-type",
                        "code": "1 Month",
                        "display": "1 Month"
                    }
                ]
            }
        ],

        "note": [
            {
                "text": "patient doesn't like to be called after dinner time "
            }
        ],
        "period": "2020-12-19"
    }
},
```


Task SEARCH

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Task?{Parameter=Value}	GET	Search Tasks by certain parameters

The Task resource is searchable by the following parameters:

Name	Type	Description
_count	string	Number of records to use as the page size for paginated search. The maximum page size for this Resource is 50
_lastUpdated	datetime	
page	string	

code	Valueset	{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/task-type Currently only PMRECALL is supported.

Examples:

GET {base url}/{firm_url_prefix}ema/fhir/v2/Task?code=PMRECALL&patient=3084&_lastUpdated=ge2021-04-15

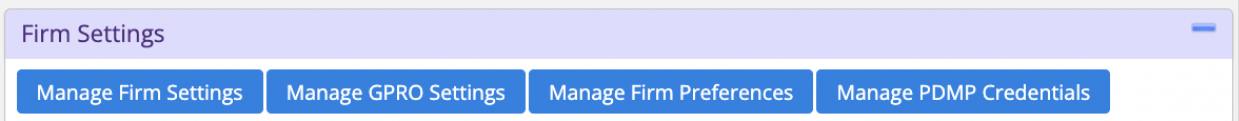
Sample Response:


```
"entry": [
      {
         "fullUrl": "{base url}/{firm_url_prefix}/ema/fhir/v2/Task/PMRECALL-1”,
         "resource": {
            "resourceType": "Task",
            "id": "PMRECALL-1",
            "meta": {
               "lastUpdated": "2020-11-19T19:59:43.000+00:00"
            },

            "status": "ready",
            "statusReason": [
                {
                  "coding": [
                     {
                        "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/recall-action",
                        "code": "Phone",
                        "display": "Phone Call"
                     }
                  ]
               }
            ],

            "intent": "unknown",
            "code": {
               "coding": [
                  {
                     "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/task-type",
                     "code": "PMRECALL",
                     "display": "PM Recall"
                  }
               ],
               "text": "PM Recall"
            },
            "description": "patient needs to be seen soon",
            "for": {
                "reference": "Patient/2537",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Patient/2537"
            },
            "authoredOn": "2020-11-19T19:59:07+00:00",
            "lastModified": "2020-11-19T19:59:07+00:00",
            "requester": {
               "reference": "Practitioner/89",
               "display": "{base url}/{firm_url_prefix}/ema/fhir/v2/Practitioner/89"
            },

            "reasonCode": [
```

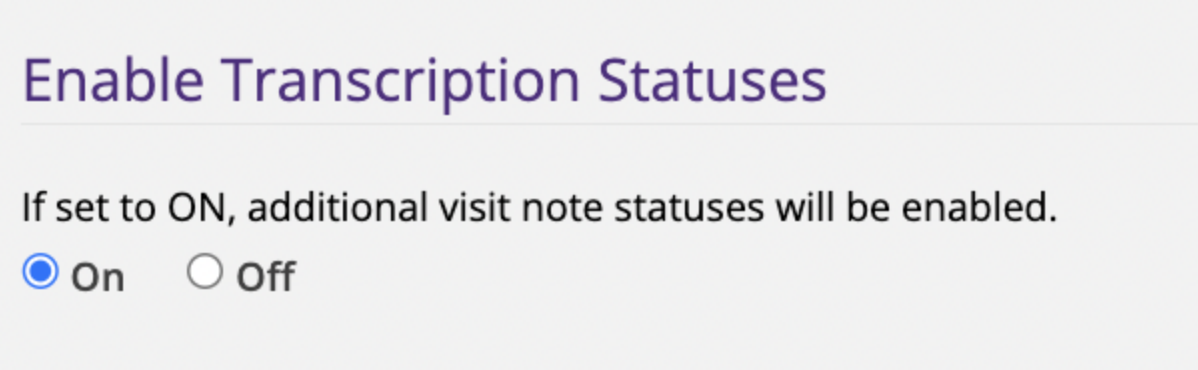
```
            {
               "coding": [
                  {
                     "system": "{base url}/{firm_url_prefix}/ema/fhir/v2/ValueSet/recall-type",
                     "code": "1 Month",
                     "display": "1 Month"
                  }
               ]
            }
         ],

         "note": [
            {
               "text": "patient doesn't like to be called after dinner time "
            }
         ],
         "period": "2020-12-19"
      }
   }
```

Transcription

MMI has developed functionality which allows 3rd party vendors to send transcribed or 'textual' content either directly into an unfinalized visit note or as a stand-alone chart note. IF the customer wants to use the Transcription workflows, a Firm Admin can also navigate to: 'Manage Firm Preferences':

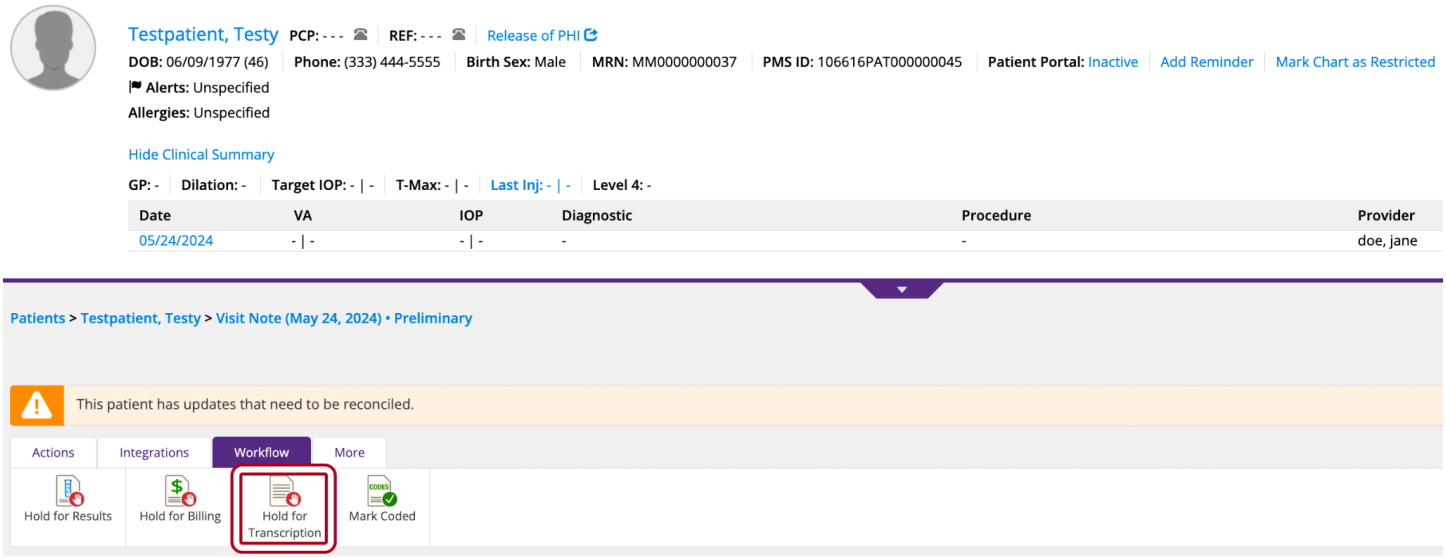


and set Enable Transcription Status to 'ON':

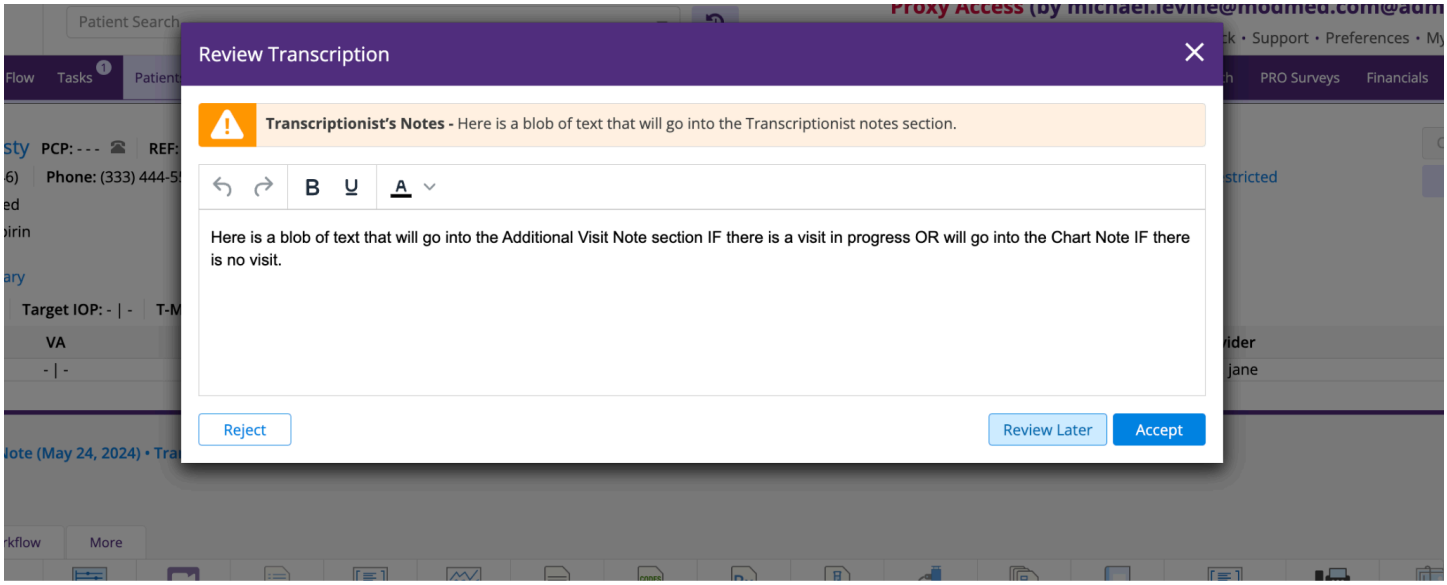


User Experience

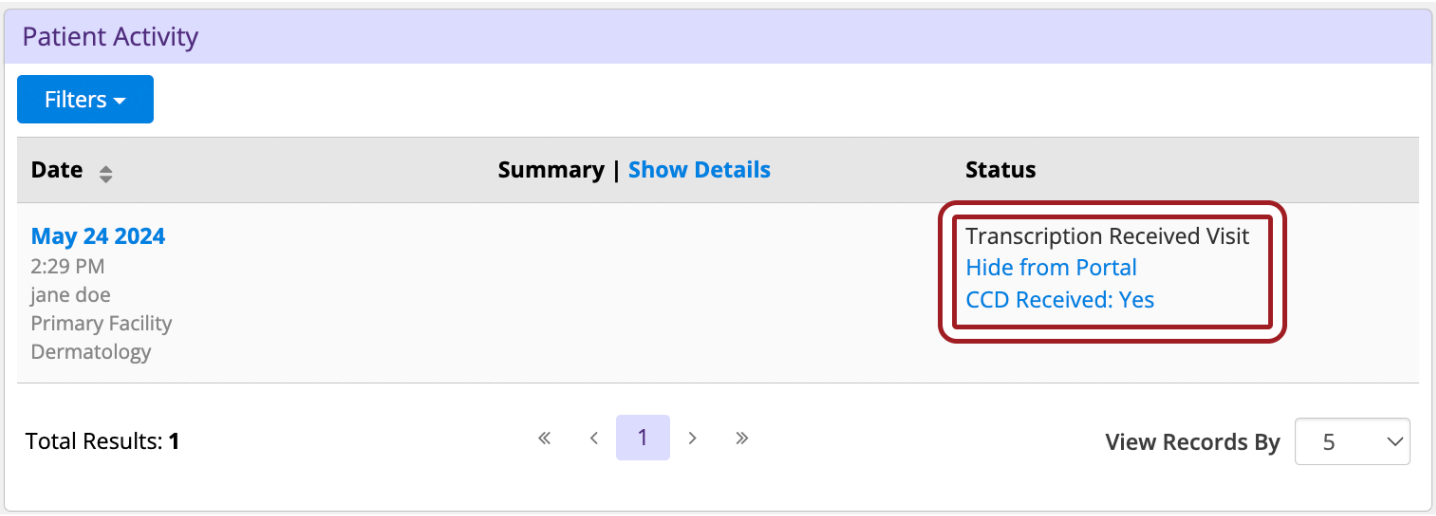
Depending on the customer and or workflow, either of these experiences can be or may be accommodated. IF there is an unfinalized encounter (visit) for a patient, AND the provider has marked the encounter as 'HELD FOR TRANSCRIPTION':



THEN, the vendor can send in text that will appear inside the 'Additional Visit Notes' section of the Visit note:



An end user will know IF transcription has been received:



Once the transcription has been received,, the provider can either accept it or edit it to their liking before accepting the text into the Visit Note.

You will notice that a Transcriptionist also has a space to add notes to the Provider. This is helpful for situations where perhaps the provider was dictating, but the transcriptionist wasn't sure about something the provider had said. They could communicate something like that in this space.

Once it has been accepted, it will appear here in the visit note:

Testpatient, Testy

Visit Note - May 24, 2024

PMS ID:	Sex:	DOB:	Phone:	MRN:
106616PAT000000045	Male	06/09/1977	(333) 444-5555	MM0000000037

Medical History
Chronic disease of cardiovascular system

Surgical History
Bypass of stomach

Social History
Smoking status - Unspecified

Medications
Tylenol 325 ORAL - Dose: 325.00 tablet

Allergies
Bayer Aspirin - Nausea

Family History
No family history of malignancy (situation)
- Father

Ocular History
Asthma

Ocular Surgery
Bypass of stomach

Data Reviewed:

3 Ordering of each unique test (CBC W Auto Differential panel - Blood, Hepatic function 2000 panel - Serum or Plasma, Lipid panel with direct LDL - Serum or Plasma)

Impression/Plan:

1. **Acne**
   (L70.0)

Plan: Counseling.
I counseled the patient regarding the following:
Skin care: I discussed with the patient the importance of using cleansers, moisturizers and cosmetics that are non-comedogenic.
Expectations: The patient is aware that it may take up to 2-3 months to see a 60-80% improvement of acne.
Contact office if: Acne worsens or fails to improve despite months of treatment; patient develops new scars, significantly more nodules or cysts.

I recommended the following:
Benzoyl Peroxide
Cleansers

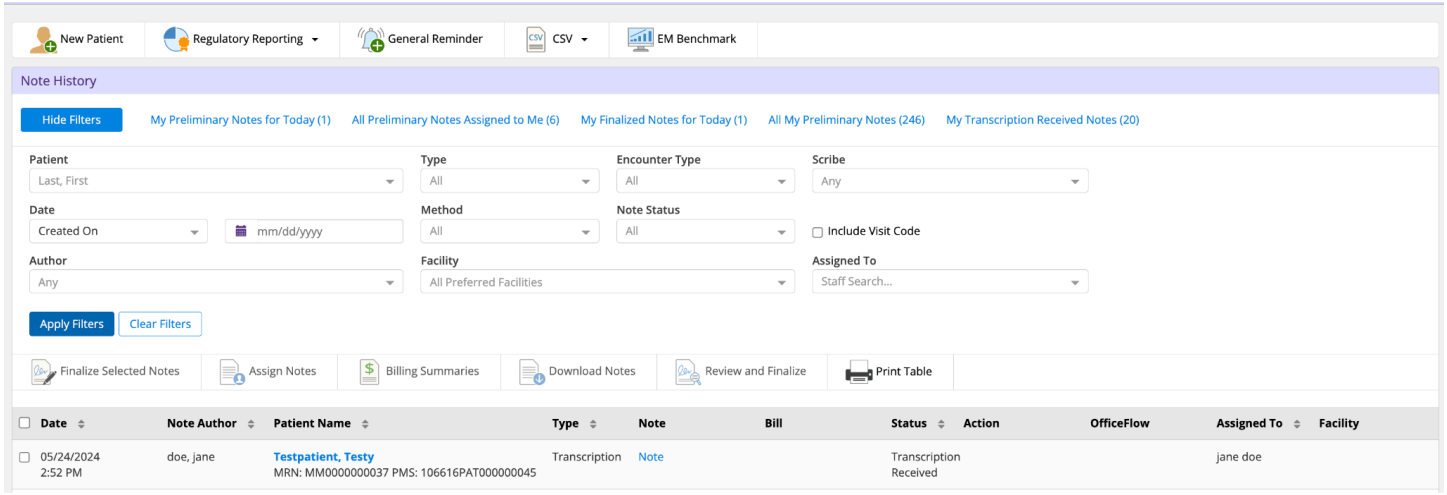
Plan: Order Tests.
Labs:
57021-8 - CBC W Auto Differential panel - Blood
24325-3 - Hepatic function 2000 panel - Serum or Plasma
57698-3 - Lipid panel with direct LDL - Serum or Plasma

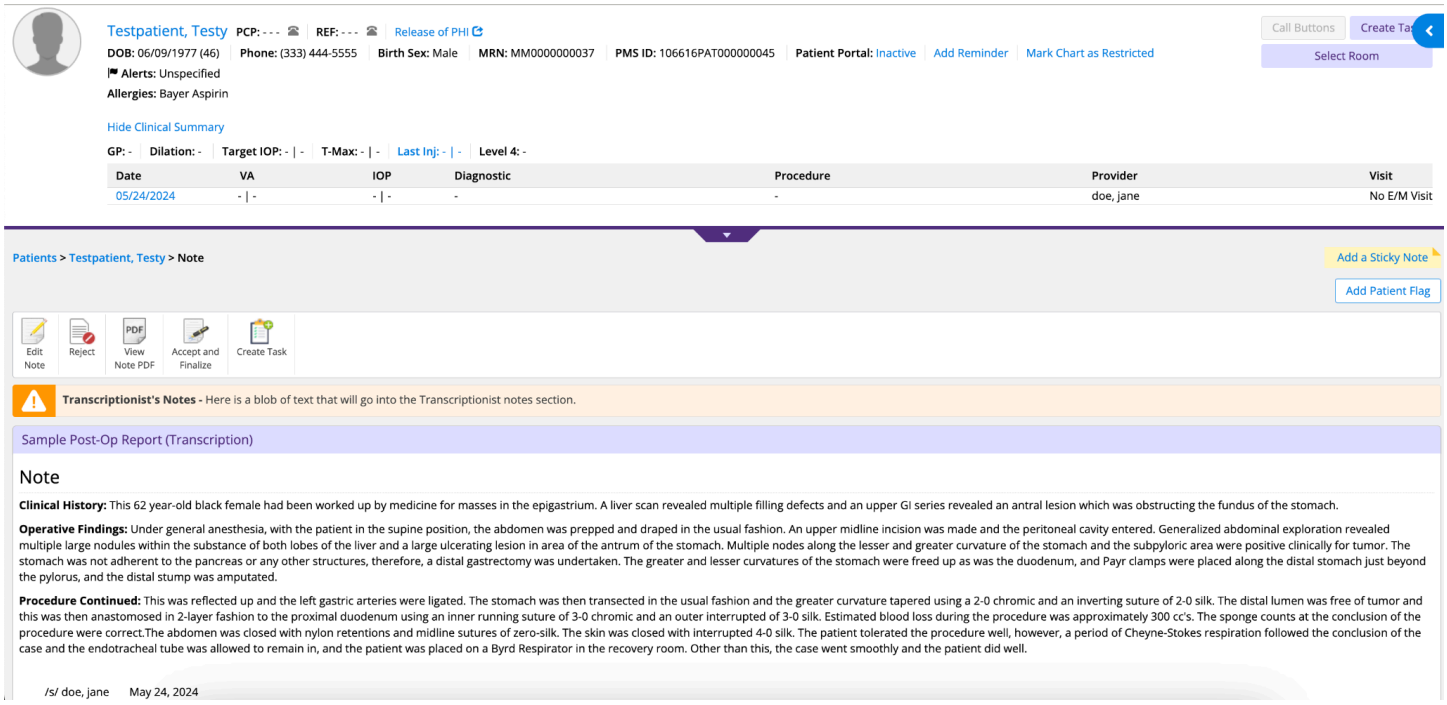
Follow up in 1 year

PRELIMINARY

Note:
Here is a blob of text that will go into the Additional Visit Note section IF there is a visit in progress OR will go into the Chart Note IF there is no visit.

IF there is no visit or the visit is not marked as ‘HELD FOR TRANSCRIPTION’, then when the vendor sends text, it will create a new Chart Note:





From this screen, the provider can either accept it or edit it to their liking before finalizing the Chart Note.

Composition

- FHIR Specification: https://www.hl7.org/fhir/composition.html
- Base URL: {base url}/{firm_url_prefix}/ema/fhir/v2/Composition

Currently the ‘Composition’ resource is only being used to facilitate Inbound Transcription. We will be expanding upon its capabilities in upcoming releases, so be sure to check back.

The basic functionality will allow for text to either be placed into the ‘Additional Visit Notes’ of an in-progress Visit Note OR, if no in-progress Visit is available, have a Chart Note created for the patient with the text. In either case, the end user will be presented with a reconciliation experience in the user interface so they can make any necessary edits before bringing the text into the note.

IF you want to add text to an in-progress visit, you will need to pass in the ‘encounter’ reference. If there is no ‘encounter’ OR if that ‘encounter’ has a status of ‘finished’, you will no longer be able to edit that Visit Note. In that case when there is either no ‘encounter’ OR the ‘encounter’ which was passed in is in ‘finished’ status, then the payload will create a new Chart Note for the patient.

The following attributes are supported:

Field Name	Notes
status	preliminary - this is the only supported value at this time

type	{
	"system": "http://loinc.org",
	"code": "11488-4",
	"display": "Consult note"
	}
	this is the only supported type at this time

category	{
	"system": "http://loinc.org",
	"code": "LP173421-1",
	"display": "Report"
	}
	this is the only supported category at this time

subject	reference to Patient
encounter	reference to Encounter
date	datetime
author	reference to the Practitioner
title	This is a string which will become the Title of the Chart Note.

section	2 Sections are currently supported:
	
	{
	"title": "Plan of treatment (narrative)",
	"code": {
	"text": "Use this section as the body of your text",
	"coding": [
	{
	"system": "http://loinc.org",
	"code": "18776-5",
	"display": "Plan of treatment (narrative)"
	}

	{
	"title": "Instructions",
	"code": {
	"text": "Use this section to communicate notes from the transcriptionist to the end user",
	"coding": [
	{
	"system": "http://loinc.org",
	"code": "69730-0",
	"display": "Instructions"
	}

The Following Operations are supported:

- Composition CREATE

Composition CREATE

HTTP Request	Method	Action
{base url}/{firm_url_prefix}/ema/fhir/v2/Composition	POST	Create Composition

The following attributes are required:

Name	Type	Description
status *	code	preliminary is the only supported value at this time

type *	code	{
		"system": "http://loinc.org",
		"code": "11488-4",
		"display": "Consult note"
		}
		this is the only supported type at this time

category *	code	{
		"system": "http://loinc.org",
		"code": "LP173421-1",
		"display": "Report"
		}
		this is the only supported category at this time

subject *	reference	Patient Reference
date*	datetime	datetime
author *	reference	Practitioner Reference

Here is a sample Composition POST:


```
{
 "resourceType": "Composition",
 "status": "preliminary",
 "type": {
  "coding": [
   {
    "system": "http://loinc.org",
    "code": "11488-4",
    "display": "Consult note"
   }
  ]
 },
 "category": [
  {
   "coding": [
    {
     "system": "http://loinc.org",
     "code": "LP173421-1",
     "display": "Report"
    }
   ]
  }
 ],
 "subject": {
  "reference": "Patient/6353",
  "display": "Patient/6353"
 },
 "encounter": {
  "reference": "Encounter/289317"
 },
 "date": "2021-06-04T09:10:14Z",
 "author": [
  {
   "reference": "Practitioner/1178",
   "display": "Practitioner/1178"
  }
 ],
 "title": "This title will appear as the title of the Chart Note IF (and only IF) a Chart Note is created as a result of this POST  ",
 "section": [
  {
   "title": "Plan of treatment (narrative)",
   "code": {
    "text": "This is the text string you will want to use to create the BODY of your content",
    "coding": [
     {
      "system": "http://loinc.org",
      "code": "18776-5",
      "display": "Plan of treatment (narrative)"
     }
    ]
   }
  },
```

```
   {
     "title": "Instructions",
     "code": {
       "text": "This is the text string you will want to use IF you have notes to send along that will NOT appear in the note, but WILL appear in the UI when the provider goes to reconcile this so it should be used to communicate something to someone working with this content.",
       "coding": [
         {
           "system": "http://loinc.org",
           "code": "69730-0",
           "display": "Instructions"
         }
       ]
     }
   }
 ]
}
```