



# FHIR Consent Management Application Opt-Out

**Planning and Discussion Document**

**FHIR Consent External API Specification**

**CRISP Shared Services**

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For.Design?Planning.and.Discussion.Purposes.Only



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# 1. Introduction

The purpose of this document is to facilitate design, discussion, planning, and development of an externally facing FHIR Application Program Interface (API) to look up a patient's opt-out status.

## 1.1 Summary of Opt-Out Consent

When patients elect to Opt-Out of sharing their clinical data, they must complete an Opt-Out form. This form is unique to reflect the laws surrounding Protected Health Information (PHI) security. In Maryland, the patient's default status is opt in and the patient must opt out from sharing their clinical data with any of the HIEs in Maryland.

CRISP will not exchange any clinical data we received on patients who opt out. We will exchange the opt-out information with other HIEs per the law and regs.

## 1.2 Data Storage

CSS maintains patient demographics submitted in Optout Form (Name, DOB, Gender, Address, Phone), patient SMRNs (source and medical record numbers) from other sources that match to those on the OPTOUT record.

CSS keeps all available patient demographics that match those on a patient's OPTOUT record(s) so that CSS can accurately maintain a patient entity of SMRNs from multiple sources. This ensures our processes can remove and/or restrict clinical data relating to optout patients.

CSS does not maintain clinical information associated with the SMRNs in the optout patient's entity.

# 2. Opt-Out External Facing API Specifications

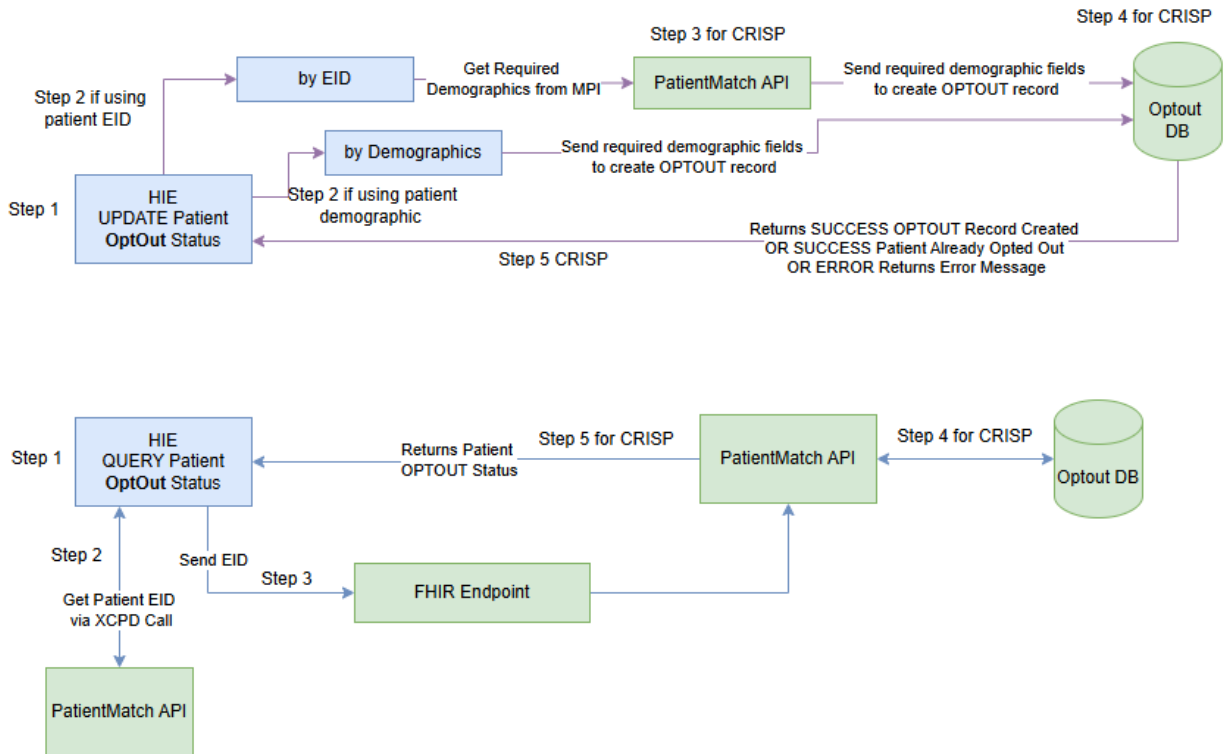
## 2.1 Assumption

- XCPD call should happen before any of the calls to get the EID of the patient.
- If the user does not want to call via XCPD, then they can query by demographics to match the patient.



## 2.2 API Diagram

The following diagram provides a graphical representation of the API requests.



### HIE to Obtain OptOut

1. HIE will call via XCPD to get the patient EID
2. HIE obtained EID
3. HIE query a patient using the EID
4. CRISP FHIR endpoint matches the patient from the patient match API and from the optout database
5. CRISP returns patient optout status to the HIE



## 3. FHIR API Overview

The FHIR Consent API provides FHIR-compliant endpoints for managing patient consent (opt-out) status within the CRISP PatientMatch system. It supports submitting patient opt-out requests by EID or demographics and returns FHIR R4 resources.

### 3.1 Setup

### 3.2 API Versioning

- **Base Path:** <https://api.crisphealth.org/patientmatch>
- **Patient Match Version:**  $\geq 3.3.0$

### 3.3 Authentication & Authorization:

- All endpoints require secure access via SSL client certificate.
- Certificate to be issued by CSS infrastructure team.
- Certificate validation to be configured on API Management platform by CSS DevOps team.

### 3.4 Certificate Requirements:

**Any HIE calling CSS FHIR API will need to provide certificate with guidelines such as:**

- Base64 Encoded Public Key with EKU for Client Authentication.
- The certificates can be self or CA Signed (if CA Signed, the version provided to us needs to include the full certificate chain).
- All transactions are secured by mTLS authentication.

### 3.5 Latency/Delay on FHIR API Response:

- We will monitor and ensure that all outliers are identified and rectified. We will also collaborate with you in case there are cases that arise. Based upon how our API handles calls, we expect minimal latency.

### 3.6 Identify Patient with Similar Names

- If the patient's name is common or too close to existing patient in the MPI database, our search engine searches for all the attributes provided by the user and finds the closest match. If the patient demographic information is not matching with existing patient record, then CSS creates a new patient record in the MPI database.



## 3.7 Error Handling

- If the user is facing issues in getting response, they can email at: support@crisphealth.org or call the CSS Support number: 1877-952-7477.
- Another method is PHI safe. The user can navigate to InContext > 3 dots > Patient Information Issue > Comments or suggestions?
  - The user can add error example here: Optout PatientName 1985-05-05 is displaying as opted out. Patients say their twin is opted out, but they are not.

## 4. Endpoint Details

### 4.1 Opt-Out by Demographics

POST /fhir/consent/optout

#### Parameters

Name	Location	Type	Required	Description
SendingOrganization	header	string	yes	For capturing the organization sending optout data to CRISP
body	Body	JSON	yes	Patient demographics in JSON format

#### Description

Submits a patient as opt-out using demographic information to identify existing patient records.

If patient is not found, a new patient will be created and a new opt-out record will be created for that patient.

If patient is already opted-out, an OperationOutcome FHIR object will be returned with issue type conflict. A new opt-out record will NOT be created.

### 4.2 Request Body Model

#### 4.2.1 FHIR Patient Model

The FHIRPatient model represents patient demographic information in a FHIR-compatible structure. It is used as the request body for the opt-out-by-demographics endpoint.



The SSN is not required filed, it helps CSS to fully identify the patient.

### 0;8;8.Structure

Property	Type	Required	Description	Example Value
name	List of Name	yes	Patient names. Each name includes given, family, prefix, suffix, and use.	See below
birthDate	date	yes	Patient's date of birth in yyyy-MM-dd format.	"1980-01-01"
dateOfDeath	date	no	Patient's date of death in yyyy-MM-dd format.	"2026-01-01"
gender	code	yes	Patient's gender. Valid values: "MALE", "FEMALE", "OTHER", "UNKNOWN"	"MALE"
address	List of Addresses	no	Patient addresses. Each address includes line, city, state, postalCode, country, and use.	See below
telecom	List of Telecom	no	Contact information (e.g., phone, email). Each telecom includes value, system, and use.	See below
identifier	List of Identifier	no	Patient identifiers such as Social Security Number. Each identifier includes system and value.	See below



### 0;8;9.Name

Property	Type	Required	Description	Example Value
prefix	List of string	no	Name prefixes	["Mr."]
given	List of string	yes	Given (first/middle) names	["John"]
family	string	yes	Family (last) name	"Doe"
suffix	List of string	no	Name suffixes	["Jr."]
use	string	no	Name use (e.g., "official")	"official"

### 0;8;0.Address

Property	Type	Description	Example Value
line	List of string	Street address lines	["123 Main St"]
city	string	City	"Baltimore"
state	string	State	"MD"
postalCode	string	Postal code	"21201"
country	string	Country	"USA"
use	string	Address use (e.g., "home")	"home"



### 0;8;0 Telecom

Property	Type	Description	Example Value
value	string	Contact value (phone/email)	"555-123-4567"
system	string	System type ("phone", "email")	"phone"
use	string	Use ("home", "work", etc.)	"mobile"

### 0;8;2 Identifier

Property	Type	Description	Example Value
system	string	Identifier system URI	"http://hl7.org/fhir/sid/us-ssn"
value	string	Identifier value	"123456789"

## 5. Opt-Out by EID

**POST** /fhir/consent/optout/{eid}

### 1;7.Parameters

Name	Location	Type	Required	Description
eid	Path	string	Yes	Patient Enterprise ID

### 1;8.Description

Submits a patient as opt-out using their Enterprise ID (EID) to identify existing patient records.



- If patient is not found, an OperationOutcome FHIR object will be returned with issue type not-found. A new opt-out record will NOT be created.
- If patient is already opted-out, an OperationOutcome FHIR object will be returned with issue type conflict. A new opt-out record will NOT be created.

## 6. Request Examples

### 6.1 Opt-Out by Demographics

#### 7.7. Request

POST /api/fhir/Consent/optout

Content-Type: application/json

Body:

```
{
  "name": [
    {
      "given": [
        "John"
      ],
      "family": "Doe",
      "use": "official"
    }
  ],
  "birthDate": "1980-01-01",
  "gender": "male",
  "address": [
    {
      "line": [
        "123 Main St"
      ],
      "city": "Baltimore",
      "state": "MD",
      "postalCode": "21201",
      "country": "USA",
      "use": "home"
    }
  ],
  "telecom": [
    {
      "value": "555-123-4567",
      "system": "phone",
      "use": "mobile"
    }
  ],
  "identifier": [
    {
      "system": "http://hl7.org/fhir/sid/us-ssn",
```



```
      "value": "123456789"
    }
  ]
}
```

## 6.2 Opt-Out by EID

### 6.2.1 Request:

POST /api/fhir/Consent/optout/

Body:

```
"Identifier": [
  {
    "System": "https://api.crisphealth.org/definitions/identifier/eid",
    "Value": "83065175"
  }
]
```

## 6.3 Opt-Out by EID and Demographics

### 6.3.1 Request:

POST /api/fhir/Consent/optout/

Body:

```
{
  "Identifier": [
    {
      "System": "https://api.crisphealth.org/definitions/identifier/eid",
      "Value": "83065175"
    }
  ],
  "name": [
    {
      "family": "SwapnaTest",
      "given": [
        "Testerrrrr"
      ],
      "use": "official"
    }
  ],
  "gender": "",
  "birthDate": "02/02/2001",
  "address": [
    {
      "use": "home",
      "line": [
        "1234 Nascar Lane"
      ],
      "city": "Columbia",

```



```
    "state": "MD",  
    "postalCode": "21045"  
  }  
]  
}
```

Note if both EID AND Demographics are sent in the request body, EID will take priority.

## 7. Response Examples

### 7.1 OptOut Processed Successfully

#### 7.1.1 Response:

HTTP 200: OK

```
{  
  "resourceType": "Bundle",  
  "type": "searchset",  
  "timestamp": "2026-02-05T21:00:37.3126774+00:00",  
  "total": 1,  
  "entry": [  
    {  
      "resource": {  
        "resourceType": "Consent",  
        "meta": {  
          "lastUpdated": "2026-02-05T21:00:37.2882124+00:00"  
        },  
        "status": "active",  
        "scope": {  
          "coding": [  
            {  
              "system": "http://terminology.hl7.org/CodeSystem/consentscope",  
              "code": "patient-privacy"  
            }  
          ]  
        },  
        "category": [  
          {  
            "coding": [  
              {  
                "system": "http://loinc.org",  
                "code": "59284-0"  
              }  
            ]  
          }  
        ],  
        "patient": {  
          "identifier": {  
            "system": "https://api.crisphealth.org/definitions/identifier/smrn",  
            "value": "OPTOUT^0S2E4T1Z4E113T1T2YS"  
          }  
        }  
      }  
    ],  
  ],  
}
```



```
1.pdf"
    "policy": [
      {
        "authority": "https://health.maryland.gov",
        "uri": "https://health.maryland.gov/oig/HIPAA/Documents/Document
      }
    ],
    "provision": {
      "type": "deny"
    }
  }
}
]
```

## 8. Patient Already Opted Out

### 8.1 Response:

HTTP 200: OK

```
{
  "resourceType": "Bundle",
  "type": "searchset",
  "timestamp": "2026-02-05T21:15:22.217309+00:00",
  "total": 1,
  "entry": [
    {
      "resource": {
        "resourceType": "OperationOutcome",
        "issue": [
          {
            "severity": "information",
            "code": "conflict",
            "details": {
              "text": "The patient has already opted out."
            }
          }
        ]
      }
    }
  ]
}
```



## 9. Patient Not Found (when submitting opt-out by EID)

### 9.1 Response:

HTTP 200:OK

```
{
  "resourceType": "Bundle",
  "type": "searchset",
  "timestamp": "2026-02-05T20:01:09.4559802+00:00",
  "total": 1,
  "entry": [
    {
      "resource": {
        "resourceType": "OperationOutcome",
        "issue": [
          {
            "severity": "warning",
            "code": "not-found",
            "details": {
              "text": "The requested patient was not found."
            }
          }
        ]
      }
    }
  ]
}
```

## 10. Missing Header

HTTP 400: BadRequest

```
{
  "resourceType": "Bundle",
  "type": "searchset",
  "timestamp": "2026-02-05T20:01:09.4559802+00:00",
  "total": 1,
  "entry": [
    {
      "resourceType": "OperationOutcome",
      "issue": [
        {
          "severity": "error",
          "code": "invalid",
          "details": {
            "text": "Missing required 'SendingOrganization' header in request."
          }
        }
      ]
    }
  ]
}
```



## 11. Error Handling

OptOut Error	HTTP Code	Issue Code	Issue Severity	Issue Details
Network Connectivity Issue	500	exception	fatal	Unable to reach MPI or dependent services
Malformed Response	500	exception	fatal	Received an invalid response from MPI or downstream service
Patient Not Found	200	not-found	warning	No patient found for the provided identifier
Ambiguous Patient	200	suppressed	warning	Multiple patients matched; unable to determine unique patient
InvalidSmrn				Provided SMRN is invalid
MpiWriteFailed				Failed to record opt-out in MPI
Patient Already OptedOut	200	conflict	information	Patient is already opted out
Malformed Request	400	invalid	error	Request body or parameters are malformed
Other	500	exception	fatal	Internal or unexpected error

### 10.1 Example Error Responses:

If incomplete demographics:



## HTTP 400: BadRequest

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "invalid",
      "details": {
        "text": "Patient's name is required."
      }
    }
  ]
}
```

If missing any patient identifiers (EID or Demos):

## HTTP 400: BadRequest

```
{
  "resourceType": "Bundle",
  "type": "searchset",
  "timestamp": "2026-02-05T20:01:09.4559802+00:00",
  "total": 1,
  "entry": [
    {
      "resourceType": "OperationOutcome",
      "issue": [
        {
          "severity": "error",
          "code": "invalid",
          "details": {
            "text": "Either a valid patient identifier (EID) or complete patient
demographics are required. Demographics must include name (family and given), date of birth,
and gender."
          }
        }
      ]
    }
  ]
}
```

## 12. Limitations & Special Conditions

- **Mandatory Parameters:**
  - For opt-out: Either EID (path) or patient demographics (body) are required.
  - For opt-out by EID: ID value passed must be of type long int.



- For opt-out by demographics: given name, family name, birthdate, and gender must be included in JSON object.
- **Optional Parameters:**
  - See FHIR Patient Model above for full list of parameters.
- **Ambiguous Matches:** If multiple patients are found (i.e., patient is ambiguous), a warning response is returned, and the patient cannot be opted-out.
- **Already OptedOut Patients:** If a patient has already been opted-out, a conflict response is returned, and a second opt-out record will not be created for the patient.

## 13. Opt-Out Internal Facing API Specifications

This section contains CSS internal API specifications that currently enable OptOut lookup requests. In order to access a patient's OptOut status, the patient's Enterprise Identifying Number (EIN) must be identified either by retrieving the patient record leveraging Demographics or combination of the organization's source code and medical record number (SMRN).

Summary Patient-Match Operations include the following:

1. Patient-match byDemographics
2. Patient-match bySMRN
3. Patient-match byEID

Summary Patient Opt-Out lookup includes:

1. Opt-Out lookup by EID

```
"homeAddress": [{
  "city": "", //City
  "stLine1": "", //Street Line 1
  "stLine2": "", //Street Line 2
  "stLine3": "",
  "stLine4": "",
  "state": "", //State
  "zipCode": "" //Zip
}],
"patientName": [{
  "onmFirst": "", //FirstName
  "onmLast": "", //LastName
  "onmMiddle": "", //MiddleName
  "onmSuffix": ""
}],
"ssn": [{
```



```
        "idIssuer": "SSA", //keep this as is
        "idNumber": "" //SSN goes here
    }},
    "homePhone": [{
        "phArea": "", // area code goes here
        "phCmnt": "",
        "phExtn": "",
        "phIcc": "",
        "phNumber": "" // number goes here
    }},
    "mobilePhone": [{
        "phArea": "", //area code goes here
        "phCmnt": "",
        "phExtn": "",
        "phIcc": "",
        "phNumber": "" // number goes here
    }},
    "otherPhone": [{
        "phArea": "",
        "phCmnt": "",
        "phExtn": "",
        "phIcc": "",
        "phNumber": ""
    }
  ]
}
```

## 12.1 Consent by EID:

To check patient consent, you will need the Patient's EID (which can be retrieved using the Patient-Match APIs listed above).

### 12.1.1 Returns:

1. Optout: true - means that the patient has opted out of CRISP data sharing
2. Optout: false - means that the CRISP has no record of patient requesting opt-out of CRISP data sharing (patient by default allows CRISP data sharing)

## 14. API Sample request and response (CSS DEV environment)

1. GET consent optout by EID – FHIR
2. POST Consent API by SMRN



## 15. PatientMatch XCPD

### 14.1 XCPD Request

Endpoint: POST <https://patientmatch.crisphealth-build.org/xcpd/FindPatientInfo>

Request body: XML

```
<?xml version="1.0" encoding="UTF-8"?>
  <s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing" xmlns:xcpd="urn:ihe:iti:xcpd:2009"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:ihe:iti:xcpd:2009">
  <s:Header>
    <a:Action s:mustUnderstand="1">urn:h17-
org:v3:PRPA_IN201305UV02:CrossGatewayPatientDiscovery</a:Action>
    <a:MessageID>urn:uuid:a02ca8cd-86fa-4afc-a27c-16c183b2055</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
    <a:To
s:mustUnderstand="1">https://localhost:5001/api/xcpd/FindPatientInfo</a:To>
    <!-- Recommend a 7 day cache for correlations resulting from this request. -->
    <xcpd:CorrelationTimeToLive>P0Y0M7D</xcpd:CorrelationTimeToLive>
  </s:Header>
  <s:Body>
    <PRPA_IN201305UV02 xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
xsi:schemaLocation="urn:h17-org:v3
../../../../schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201305UV02.xsd"
xmlns="urn:h17-org:v3"
ITSVersion="XML_1.0">
      <id root="1.2.840.114350.1.13.0.1.7.1.1" extension="35423"/>
      <creationTime value="20090417150301"/>
      <interactionId root="2.16.840.1.113883.1.6"
extension="PRPA_IN201305UV02"/>
      <processingCode code="P"/>
      <processingModeCode code="T"/>
      <acceptAckCode code="AL"/>
      <receiver typeCode="RCV">
        <device classCode="DEV" determinerCode="INSTANCE">
          <id root="1.2.840.114350.1.13.999.234"/>
          <telecom value="http://servicelocation/IHEXCPDRespondingGateway"/>
        </device>
      </receiver>
      <sender typeCode="SND">
        <device classCode="DEV" determinerCode="INSTANCE">
          <id root="1.2.840.114350.1.13.999.567"/>
          <!-- Used to carry the homeCommunityId -->
          <asAgent classCode="AGNT">
            <representedOrganization classCode="ORG"
determinerCode="INSTANCE">
              <!-- homeCommunityId=urn:oid:1.2.3.928.955 -->
              <id root="1.2.3.928.955"/>
            </representedOrganization>
```



```
</asAgent>
</device>
</sender>
<controlActProcess classCode="CACT" moodCode="EVN">
  <code code="PRPA_TE201305UV02"
  codeSystem="2.16.840.1.113883.1.6"/>
  <!-- Identifies one of LivingSubjectID for use by responder in XCA Query
  - provisioning the opposite direction -->
  <authorOrPerformer typeCode="AUT">
    <assignedDevice>
      <id root="1.2.840.114350.1.13.99997.2.3412"/>
    </assignedDevice>
  </authorOrPerformer>
  <queryByParameter>
    <queryId root="1.2.840.114350.1.13.28.1.18.5.999" extension="18204"/>
    <!-- <statusCode code="new"/><responsePriorityCode
    code="I"/><responseModalityCode
    code="R"/><matchCriterionList><minimumDegreeMatch><value xsi:type="INT"
value="75"/><semanticsText>MinimumDegreeMatch</semanticsText></minimumDegreeMatch>
  </matchCriterionList> -->
    <parameterList>
      <livingSubjectAdministrativeGender>
        <value code="F"/>
        <semanticsText>LivingSubject.administrativeGender</semanticsText>
      </livingSubjectAdministrativeGender>
      <livingSubjectBirthTime>
        <value value="19841116"/>
        <semanticsText>LivingSubject.birthTime</semanticsText>
      </livingSubjectBirthTime>
      <livingSubjectName>
        <value>
          <given>Anna</given>
          <family>Cadence</family>
        </value>
        <semanticsText>LivingSubject.name</semanticsText>
      </livingSubjectName>
      <patientAddress>
        <value>
          <city>Columbia</city>
          <streetAddressLine>1021 Main St</streetAddressLine>
          <state>MD</state>
          <postalCode>21046</postalCode>
        </value>
      </patientAddress>
      <livingSubjectId>
        <value root="1.2.840.114350.1.13.99997.2.3412" extension="1234"/>
        <semanticsText>LivingSubject.id</semanticsText>
      </livingSubjectId>
    </parameterList>
  </queryByParameter>
</controlActProcess>
</PRPA_IN201305UV02>
</s:Body>
</s:Envelope>
```



## 14.2 XCPD Response

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">urn:h17
org:v3:PRPA_IN201306UV02:CrossGatewayPatientDiscovery</a:Action>
    <a:RelatesTo>urn:uuid:a02ca8cd-86fa-4afc-a27c-16c183b2055</a:RelatesTo>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <PRPA_IN201306UV02 ITSVersion="XML_1.0" xmlns="urn:h17-org:v3">
      <id root="2.16.840.1.113883.3.651" extension="175632"/>
      <creationTime value="202508110135"/>
      <interactionId root="2.16.840.1.113883.1.6" extension="PRPA_IN201306UV02"/>
      <processingCode code="P"/>
      <processingModeCode code="T"/>
      <acceptAckCode code="NE"/>
      <receiver typeCode="RCV">
        <device classCode="DEV" determinerCode="INSTANCE">
          <id root="1.2.840.114350.1.13.999.567"/>
          <asAgent classCode="AGNT">
            <representedOrganization classCode="ORG"
determinerCode="INSTANCE">
              <id root="1.2.3.928.955"/>
              <notificationParty xsi:nil="true"/>
            </representedOrganization>
          </asAgent>
        </device>
      </receiver>
      <sender typeCode="SND">
        <device classCode="DEV"
determinerCode="INSTANCE">
          <id root="2.16.840.1.113883.3.651"/>
          <telecom value="https://tinithub1.test.local/xcpd-responding-gateway-service-
0.1.0/ws"/>
          <asAgent classCode="AUT">
            <representedOrganization classCode="ORG"
determinerCode="INSTANCE">
              <id root="2.16.840.1.113883.3.651"/>
              <notificationParty xsi:nil="true"/>
            </representedOrganization>
          </asAgent>
        </device>
      </sender>
      <acknowledgement>
        <typeCode code="AA"/>
        <targetMessage>
          <id root="1.2.840.114350.1.13.0.1.7.1.1" extension="35423"/>
        </targetMessage>
      </acknowledgement>
      <controlActProcess classCode="CACT" moodCode="EVN">
        <code code="PRPA_TE201306UV02"
codeSystem="2.16.840.1.113883.1.6"/>
        <authorOrPerformer typeCode="AUT">
          <assignedDevice>
```



```
<id root="2.16.840.1.113883.3.651"/>
<assignedDevice xsi:nil="true"/>
<representedOrganization xsi:nil="true"/>
</assignedDevice>
</authorOrPerformer>
<subject typeCode="SUBJ">
<registrationEvent classCode="REG" moodCode="EVN">
<statusCode code="active"/>
<subject1 typeCode="SBJ">
<patient classCode="PAT">
<id root="2.16.840.1.113883.3.651" extension="82175974"
assigningAuthorityName="SMPI"/>
<statusCode code="active"/>
<patientPerson classCode="PSN" determinerCode="INSTANCE">
<name>
<given>Anna</given>
<family>Cadence</family>
</name>
<administrativeGenderCode code="F"/>
<birthTime value="1984-11-16"/>
<addr>
<streetAddressLine>1021 Main St</streetAddressLine>
<city>Columbia</city>
<state>MD</state>
<postalCode>21046</postalCode>
</addr>
<birthPlace xsi:nil="true"/>
</patientPerson>
<providerOrganization classCode="ORG"
determinerCode="INSTANCE">
<id root="2.16.840.1.113883.3.651"/>
<contactParty classCode="CON">
<contactPerson xsi:nil="true"/>
</contactParty>
</providerOrganization>
<subjectOf1>
<queryMatchObservation classCode="OBS" moodCode="EVN">
<code code="IHE_PDQ"
codeSystem="2.16.840.1.113883.1.11.19914"/>
<value xsi:type="INT" value="100"/>
</queryMatchObservation>
</subjectOf1>
</patient>
</subject1>
<author xsi:nil="true"/>
<custodian typeCode="CST">
<assignedEntity classCode="ASSIGNED">
<id root="2.16.840.1.113883.3.651"/>
<code code="NotHealthDataLocator"
codeSystem="1.3.6.1.4.1.19376.1.2.27.2"/>
<representedOrganization classCode="ORG"
determinerCode="INSTANCE">
<id root="2.16.840.1.113883.3.651.2.1"/>
<name>SMPI</name>
<contactParty classCode="CON">
<contactPerson xsi:nil="true"/>
```



```
</contactParty>
</representedOrganization>
</assignedEntity>
</custodian>
</registrationEvent>
</subject>
<queryAck>
<queryId root="null" extension="null"/>
<statusCode code="OK"/>
<queryResponseCode code="OK"/>
</queryAck>
<queryByParameter>
<queryId root="1.2.840.114350.1.13.28.1.18.5.999" extension="18204"/>
<matchCriterionList xsi:nil="true"/>
<parameterList>
<livingSubjectAdministrativeGender>
<value code="F"/>
<semanticsText>LivingSubject.administrativeGender</semanticsText>
</livingSubjectAdministrativeGender>
<livingSubjectBirthTime>
<value value="19841116"/>
<semanticsText>LivingSubject.birthTime</semanticsText>
</livingSubjectBirthTime>
<livingSubjectId>
<value root="1.2.840.114350.1.13.99997.2.3412" extension="1234"/>
<semanticsText>LivingSubject.id</semanticsText>
</livingSubjectId>
<livingSubjectName>
<value>
<given>Anna</given>
<family>Cadence</family>
</value>
<semanticsText>LivingSubject.name</semanticsText>
</livingSubjectName>
<patientAddress>
<value>
<city>Columbia</city>
<streetAddressLine>1021 Main St</streetAddressLine>
<state>MD</state>
<postalCode>21046</postalCode>
</value>
</patientAddress>
</parameterList>
</queryByParameter>
</controlActProcess>
</PRPA_IN201306UV02>
</s:Body>
</s:Envelope>
```



## 16. Example Response 1 - POST Submit Consent by Demographics (FHIR)

**Patient may or may not exist at CRISP and they get OPTed out (while previously being opted in)**

HTTP/1.1 200 OK

```
{
  "resourceType": "Parameters",
  "parameter": [
    {
      "name": "outcome",
      "resource": {
        "resourceType": "OperationOutcome",
        "issue": [
          {
            "severity": "success",
            "code": "success",
            "details": {
              "text": "Patient has been successfully opted out."
            }
          }
        ]
      }
    }
  ]
}
```

## 17. Example Response 2 - POST Submit Consent by Demographics (FHIR)

**Patient is already opted out via CRISP**

HTTP/1.1 200 OK

```
{
  "resourceType": "Parameters",
  "parameter": [
    {
      "name": "outcome",
      "resource": {
        "resourceType": "OperationOutcome",
        "issue": [
          {
            "severity": "information",
            "code": "informational",

```



```
"details":{
  "text":"Patient is already opted out."
}
}
]
}
}
]
}
```

## 18. Example Response 3 - POST Submit Consent by Demographics (FHIR)

**CRISP sees multiple matches given the patient resource**

HTTP/1.1 422 Unprocessable Entity

```
{
  "resourceType": "Parameters",
  "parameter": [
    {
      "name": "outcome",
      "resource":{
        "resourceType":"OperationOutcome",
        "issue":[
          {
            "severity":"error",
            "code": "multiple-matches",
            "details":{
              "text":"Found multiple patients matching the given identifiers."
            }
          }
        ]
      }
    }
  ]
}
```

## 19. Example Response 4 - POST Submit Consent by Demographics (FHIR)

**We could not find a patient with the given identifiers and the demographics are not sufficient**

HTTP/1.1 422 Unprocessable Entity



```
{
  "resourceType": "Parameters",
  "parameter": [
    {
      "name": "outcome",
      "resource": {
        "resourceType": "OperationOutcome",
        "issue": [
          {
            "severity": "error",
            "code": "not-found",
            "details": {
              "text": "Could not find specified patient."
            }
          }
        ]
      }
    }
  ]
}
```

## 20. Flow Documentation

1. **Client requests SSL certificate** from CSS point of contact.
2. **Client sends request** with valid certificate to the appropriate endpoint with required parameters and headers.
3. **CSS API validates** input, queries MPI, and processes opt-out logic.
4. **CSS API returns response** as a FHIR resource bundle (Consent or OperationOutcome).
5. **CSS API handles errors** and returns them as FHIR OperationOutcome resource with standardized codes.

## 21. Terminology & Naming Conventions

- **EID:** Enterprise Identifier
- **SMRN:** Source Medical Record Number
- **FHIRPatient:** Patient demographics in FHIR format
- **Consent:** FHIR resource indicating opt-out status
- **OperationOutcome:** FHIR resource for error reporting