



ImmuCast 2.0: Getting Started Guide

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This document provides instructions and examples for getting started with the ImmuCast 2.0 WebService.

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Introduction

This document contains information on invoking the ImmuCast 2.0 Web Service. The purpose of this RESTful Web Service to evaluate patient and vaccination data (input) to produce a CDSi compatible forecast (output). Authorization via API keys is required to invoke the service (See below). The keys are used to obtain a JSON Web Token from the STC Authorization service. The JWT is then used to invoke the ImmuCast2 WS.

For details on the web service request, response, and operations, see the OpenAPI 3.0 Specifications below.

Prerequisites

Contact STC to obtain two API keys required to use the ImmuCast 2.0 Service.

```
AWS API Key (example my-aws-api-key)
STC API Key (example my-stc-api-key)
```

Step 1: Call Authorization Service to get JSON Web Token (JWT)

POST to <https://api.api-authorizer.stchome.net/auth> with the following Headers and Body

Headers: Use the Keys in the header like this

```
x-api-key: my-aws-api-key
Content-Type: application/json
```

Body: In addition to the headers, set the Keys in the request body like this

```
accountId: my-aws-api-key
apiKey: my-stc-api-key
```

Example using curl

```
curl --location --request POST 'https://api.api-authorizer.stchome.net/auth' \  
--header 'x-api-key: my-aws-api-key' \  
--header 'Content-Type: application/json' \  
--data-raw '{"accountId": "my-aws-api-key", "apiKey": "my-stc-api-key"}'  
  
# "my-jwt" returned
```

Where “my-jwt” is the token string returned by the authorization service.

Step 2: Call ImmuCast 2.0 Service to get forecast

POST to <https://api.immucast2.stchome.net/forecast/cdsi> with the following Headers and Body:

Headers: Use the AWS API Key (my-aws-api-key) and JSON Web Token (my-jwt) in the Header like this:

```
x-api-key: my-aws-api-key  
Authorization: my-jwt  
Content-Type: application/json
```

Body: Set the patient and vaccination history in the Request body

```
{  
  "evalDate": "20210119",  
  "patientSex": "M",  
  "patientDob": "20000101",  
  "scheduleType": "CDSI",  
  "immunizationList": [  
    {  
      "vaccineDate": "20210101",  
      "vaccineCvx": "208",  
      "vaccineMvx": "PFR"  
    }  
  ]  
}
```

Example using curl

```
curl --location --request POST 'https://api.immucast2.stchome.net/forecast/cdsi' \
\
--header 'x-api-key: my-aws-api-key' \
--header 'Content-Type: application/json' \
--header 'Authorization: my-jwt' \
--data-raw '{
  "evalDate": "20210119",
  "patientSex": "M",
  "patientDob": "20000101",
  "scheduleType": "CDSI",
  "immunizationList": [
    {
      "vaccineDate": "20210101",
      "vaccineCvx": "208",
      "vaccineMvx": "PFR"
    }
  ]
}'

# JSON response returned
```

See Example Forecast Response on page 21.

OpenAPI 3.0 Specification, ImmuCast 2.0

```
{
  "openapi": "3.0.1",
  "info": {
    "title": "Immucast2-API",
    "version": "1.0.1"
  },
  "servers": [
    {
```

```
    "url": "https://api.immucast2.stchome.net"
  }
],
"paths": {
  "/forecast/job/{job-id}": {
    "get": {
      "parameters": [
        {
          "name": "job-id",
          "in": "path",
          "required": true,
          "schema": {
            "type": "string"
          }
        },
        {
          "name": "batch-key",
          "in": "query",
          "required": true,
          "schema": {
            "type": "string"
          }
        }
      ],
      "responses": {
        "200": {
          "description": "200 response",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/JobStatus"
              }
            }
          }
        },
        "303": {
          "description": "303 response",
          "headers": {
            "Location": {
              "schema": {
```

```
        "type": "string"
      }
    }
  },
  "content": {}
}
},
"security": [
  {
    "api-gw-custom-authorizer": []
  },
  {
    "api_key": []
  }
]
},
"/forecast/job": {
  "post": {
    "requestBody": {
      "content": {
        "application/json": {
          "schema": {
            "$ref": "#/components/schemas/JobStart"
          }
        }
      },
      "required": true
    },
    "responses": {
      "200": {
        "description": "200 response",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/JobDefinition"
            }
          }
        }
      }
    }
  }
}
```

```
    },
    "security": [
      {
        "api-gw-custom-authorizer": []
      },
      {
        "api_key": []
      }
    ]
  },
  "/forecast/cdsi": {
    "post": {
      "requestBody": {
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/ForecastRequest"
            }
          }
        },
        "required": true
      },
      "responses": {
        "200": {
          "description": "200 response",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/ForecastResponse"
              }
            }
          }
        },
        "400": {
          "description": "400 response",
          "content": {}
        },
        "404": {
          "description": "404 response",
```



```
"content": {
  "application/json": {
    "schema": {
      "$ref": "#/components/schemas/ForecastResponse"
    }
  }
},
"405": {
  "description": "405 response",
  "content": {
    "application/json": {
      "schema": {
        "$ref": "#/components/schemas/ForecastResponse"
      }
    }
  }
},
"422": {
  "description": "422 response",
  "content": {
    "application/json": {
      "schema": {
        "$ref": "#/components/schemas/ForecastResponse"
      }
    }
  }
},
"500": {
  "description": "500 response",
  "content": {
    "application/json": {
      "schema": {
        "$ref": "#/components/schemas/ForecastResponse"
      }
    }
  }
},
"security": [
```

```
    {
      "api-gw-custom-authorizer": []
    },
    {
      "api_key": []
    }
  ]
}
},
"/forecast/version": {
  "get": {
    "responses": {
      "200": {
        "description": "200 response",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/VersionInfo"
            }
          }
        }
      }
    }
  },
  "security": [
    {
      "api-gw-custom-authorizer": []
    },
    {
      "api_key": []
    }
  ]
}
},
"components": {
  "schemas": {
    "JobStatus": {
      "required": [
        "message",
        "status",

```

```
    "statusCode"
  ],
  "type": "object",
  "properties": {
    "data": {
      "type": "object",
      "properties": {
        "jobId": {
          "type": "string"
        },
        "statusDetail": {
          "type": "string"
        },
        "percentComplete": {
          "type": "number"
        },
        "partnerJobId": {
          "type": "string"
        },
        "status": {
          "type": "string"
        }
      }
    },
    "message": {
      "type": "string"
    },
    "status": {
      "type": "string"
    },
    "statusCode": {
      "type": "number"
    }
  }
},
"VersionInfo": {
  "required": [
    "status"
  ],
  "type": "object",
```

```
"properties": {
  "data": {
    "type": "object",
    "properties": {
      "apiVersion": {
        "type": "string",
        "description": "Physical build version number of the web service
API"
      },
      "specificationVersion": {
        "type": "string",
        "description": "Version number of the forecast specification
implemented"
      },
      "specificationName": {
        "type": "string",
        "description": "Name of the forecast specification implemented"
      }
    },
    "description": "Version information details"
  },
  "message": {
    "type": "string",
    "description": "Human consumable description of request outcome"
  },
  "status": {
    "type": "string",
    "description": "Result status of request SUCCESS on HTTP 200 FAIL on
HTTP 5XX\\ \\ ERROR on all others",
    "enum": [
      "SUCCESS",
      "FAIL",
      "ERROR"
    ]
  }
},
"JobStart": {
  "type": "object",
  "properties": {
```

```
    "partnerJobId": {
      "type": "string",
      "description": "For integration partners, this id is exclusively for
their use.\\ \\ The id is returned on the response, thus, it allows clients to
match up\\ \\ their requests with their responses. Internal processing does not
depend\\ \\ on this property."
    }
  },
  "description": "Request object for creation of a new job"
},
"ForecastResponse": {
  "type": "object",
  "properties": {
    "patientDob": {
      "type": "string",
      "description": "patientDob from request"
    },
    "patientSex": {
      "type": "string",
      "description": "patientSex from request"
    },
    "evalDate": {
      "type": "string",
      "description": "evalDate value from request"
    },
    "immunizationEvaluationList": {
      "type": "array",
      "description": "List of immunizations from request, evaluated as
they apply to the forecast",
      "items": {
        "type": "object",
        "properties": {
          "vaccineCondition": {
            "type": "string",
            "description": "vaccineCondition from request"
          },
          "vaccineName": {
            "type": "string",
            "description": "Evaluated name of vaccine"
          }
        }
      }
    }
  }
}
```

```
"vaccineDoseVolume": {
  "type": "string",
  "description": "vaccineDoseVolume from request"
},
"antigenEvaluationList": {
  "type": "array",
  "description": "Evaluation of antigens in vaccine",
  "items": {
    "type": "object",
    "properties": {
      "targetDoseNumber": {
        "type": "object",
        "properties": {},
        "description": "This number represents the dose required
by this specific patient to satisfy a recommendation of the ACIP"
      },
      "seriesCompletedByDose": {
        "type": "boolean",
        "description": "This dose completes the series"
      },
      "antigenName": {
        "type": "string",
        "description": "Name of the antigen evaluated"
      },
      "evaluationReason": {
        "type": "string",
        "description": "Reason for the evaluationStatus",
        "enum": [
          "TOO_YOUNG",
          "GRACE_PERIOD",
          "TOO_OLD",
          "TOO_SOON",
          "LESS_THAN_RECOMMENDED_VOLUME",
          "INCORRECT_GENDER",
          "INADVERTENT_ADMINISTRATION"
        ]
      },
      "evaluationStatus": {
        "type": "string",
        "description": "Status of the evaluated antigen",
```

```
        "enum": [
            "EXTRANEOUS",
            "NOT_VALID",
            "VALID",
            "SUB_STANDARD"
        ]
    }
}
},
"vaccineCvx": {
    "type": "string",
    "description": "vaccineCvx from request"
},
"vaccineDate": {
    "type": "string",
    "description": "vaccineDate from request"
}
}
},
"forecastEvaluationList": {
    "type": "array",
    "description": "Forecast for each Series",
    "items": {
        "type": "object",
        "properties": {
            "recommendedDate": {
                "type": "string",
                "description": "This date represents the preferred date for
administration based on the ACIP"
            },
            "latestDate": {
                "type": "string",
                "description": "This date rerpresents the latest point in time
at which the next target dose could be given, based on restrictions, such as
manufacturer label"
            },
            "earliestDate": {
                "type": "string",
```

```
        "description": "This date represents the earliest point in
time at which the next target dose could be given"
    },
    "targetDoseNumberInSeries": {
        "type": "number",
        "description": "This number represents the dose required by
this specific patient to satisfy the recommended series"
    },
    "assessmentDate": {
        "type": "string",
        "description": "Evaluation date from request"
    },
    "pastDueDate": {
        "type": "string",
        "description": "This date represents the date at which the
target dose should have been given. The dose is now considered to be overdue"
    },
    "seriesGuidanceList": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "seriesName": {
                    "type": "string"
                },
                "adminGuidance": {
                    "type": "array",
                    "items": {
                        "type": "string"
                    }
                }
            }
        }
    },
    "seriesStatus": {
        "type": "string",
        "description": "Evaluated forecast status of series.",
        "enum": [
            "COMPLETE",
            "CONTRAINDICATED",
```



```
        "IMMUNE",
        "NOT_COMPLETE",
        "NOT_RECOMMENDED",
        "AGED_OUT"
    ]
},
"vaccineGroup": {
    "type": "string",
    "description": "This name represents the list of individual
vaccines which can be used to vaccinate against a disease"
},
"totalDosesInSeries": {
    "type": "number",
    "description": "Number of doses required to complete the
series for this forecast"
}
}
}
},
"JobDefinition": {
    "required": [
        "batchKey",
        "jobId",
        "uploadUrl"
    ],
    "type": "object",
    "properties": {
        "batchKey": {
            "type": "string"
        },
        "jobId": {
            "type": "string"
        },
        "uploadUrl": {
            "type": "string"
        }
    }
},
},
```

```

"ForecastRequest": {
  "required": [
    "patientDob"
  ],
  "type": "object",
  "properties": {
    "patientDob": {
      "type": "string",
      "description": "Patient's data of birth, yyyyMMdd format"
    },
    "includeLogging": {
      "type": "boolean",
      "description": "Include verbose decision logic logging in response"
    },
    "patientSex": {
      "type": "string",
      "description": "Gender of patient, unspecified if empty or not
present",
      "enum": [
        "M",
        "F",
        "U"
      ]
    },
    "immunizationList": {
      "type": "array",
      "items": {
        "required": [
          "vaccineCvx",
          "vaccineDate"
        ],
        "type": "object",
        "properties": {
          "vaccineCondition": {
            "type": "string",
            "description": "Table 6-2 Dose Administered Condition
Attribute",
            "enum": [
              "YES",
              "NO"
            ]
          }
        }
      }
    }
  }
}

```

```

    ]
  },
  "vaccineLotExpirationDate": {
    "type": "string",
    "description": "Expiration date of vaccine lot, yyyyMMdd
format"
  },
  "vaccineDoseVolume": {
    "type": "string",
    "description": "Amount (volume) of vaccine administered,
ignored if not"
  },
  "vaccineMvx": {
    "type": "string",
    "description": "Manufacture/Trade name of vaccine"
  },
  "antigenSeriesToIncludeList": {
    "type": "array",
    "description": "Limit forecast evaluation for the specified
Antigen Series\\ \\ name(s)",
    "items": {
      "type": "string"
    }
  },
  "vaccineCvx": {
    "type": "string",
    "description": "Code representation of vaccine"
  },
  "vaccineDate": {
    "type": "string",
    "description": "Date immunization administered"
  }
}
}
},
"scheduleType": {
  "type": "string",
  "description": "The schedule to be used in evaluation and forecast",
  "enum": [
    "CDSI"
  ]
}

```

```
    ],
    "default": "CDSI"
  },
  "evalDate": {
    "type": "string",
    "description": "Forecast evaluated relative to this date, yyyyMMdd
format"
  },
  "observationList": {
    "type": "array",
    "description": "0 or more Observations",
    "items": {
      "type": "object",
      "properties": {
        "observationDate": {
          "type": "string",
          "description": "Date of observation, yyyyMMdd format"
        },
        "observationCode": {
          "type": "string",
          "description": "Observation Code"
        }
      }
    }
  }
},
"securitySchemes": {
  "api-gw-custom-authorizer": {
    "type": "apiKey",
    "name": "Authorization",
    "in": "header",
    "x-amazon-apigateway-authtype": "custom"
  },
  "api_key": {
    "type": "apiKey",
    "name": "x-api-key",
    "in": "header"
  }
}
```

```
}  
}  
}
```

Example Forecast Response

```
{  
  "status": "SUCCESS",  
  "message": "ok",  
  "data": {  
    "evalDate": "20210119",  
    "patientSex": "Male",  
    "patientDob": "20000101",  
    "immunizationEvaluationList": [  
      {  
        "vaccineDate": "20210101",  
        "vaccineCvx": "208",  
        "vaccineMvx": "PFR",  
        "vaccineName": "COVID-19, mRNA, LNP-S, PF, 30 mcg/0.3 mL dose",  
        "antigenEvaluationList": [  
          {  
            "evaluationStatus": "VALID",  
            "evaluationReason": "LESS_THAN_RECOMMENDED_VOLUME",  
            "antigenName": "COVID-19",  
            "seriesCompletedByDose": false,  
            "seriesName": "2-dose Pfizer series",  
            "vaccineGroup": "COVID-19",  
            "targetDoseNumber": 1  
          }  
        ]  
      }  
    ],  
  },  
}
```

```

"forecastEvaluationList": [
  {
    "targetDoseNumber": 2,
    "targetDoseNumberInSeries": 2,
    "totalDosesInSeries": 2,
    "earliestDate": "20210122",
    "recommendedDate": "20210122",
    "latestDate": "29991231",
    "assessmentDate": "20210119",
    "vaccineGroup": "COVID-19",
    "seriesStatus": "NOT_COMPLETE",
    "seriesType": "Standard",
    "seriesGuidanceList": [
      {
        "seriesName": "2-dose Pfizer series",
        "adminGuidance": [
          "Pfizer-BioNTech COVID-19 vaccine should be
administered alone with a minimum interval of 14 days before or after
administration with any other vaccines. If Pfizer-BioNTech COVID-19 vaccine is
inadvertently administered within 14 days of another vaccine, doses do not need
to be repeated for either vaccine",
          "Vaccination should be deferred until recovery from
acute illness (if person had symptoms) and criteria have been met to discontinue
isolation.",
          "Currently no data on safety or efficacy of COVID-19
vaccination in persons who received monoclonal antibodies or convalescent plasma
as part of COVID-19 treatment. Vaccination should be deferred for at least 90
days to avoid interference of the treatment with vaccine-induced immune
responses."
        ]
      }
    ],
    "recommendedVaccinesList": [
      {
        "vaccineCvx": "208",
        "vaccineName": "COVID-19, mRNA, LNP-S, PF, 30 mcg/0.3 mL
dose"
      }
    ]
  },
]

```

```
{
  "targetDoseNumber": 1,
  "targetDoseNumberInSeries": 6,
  "totalDosesInSeries": 10,
  "earliestDate": "20070101",
  "recommendedDate": "20070101",
  "pastDueDate": "20070101",
  "latestDate": "29991231",
  "assessmentDate": "20210119",
  "vaccineGroup": "DTaP/Tdap/Td",
  "seriesStatus": "NOT_COMPLETE",
  "seriesType": "Standard",
  "seriesGuidanceList": [
    {
      "seriesName": "Diphtheria start at 12 months series"
    },
    {
      "seriesName": "Pertussis start at 12 months series"
    },
    {
      "seriesName": "Tetanus start at 12 months series"
    }
  ]
},
{
  "targetDoseNumber": 1,
  "targetDoseNumberInSeries": 1,
  "totalDosesInSeries": 3,
  "earliestDate": "20150101",
  "recommendedDate": "20150101",
  "pastDueDate": "20150101",
  "latestDate": "20261231",
  "assessmentDate": "20210119",
  "vaccineGroup": "HPV",
  "seriesStatus": "NOT_COMPLETE",
  "seriesType": "Standard",
  "seriesGuidanceList": [
    {
      "seriesName": "HPV male 3-dose series"
    }
  ]
}
```

```
]
},
{
  "totalDosesInSeries": 2,
  "assessmentDate": "20210119",
  "vaccineGroup": "HepA",
  "seriesStatus": "AGED_OUT",
  "seriesType": "Standard",
  "seriesGuidanceList": [
    {
      "seriesName": "HepA 2-dose series",
      "forecastReason": "Patient has exceeded the maximum age"
    }
  ]
},
{
  "totalDosesInSeries": 3,
  "assessmentDate": "20210119",
  "vaccineGroup": "HepB",
  "seriesStatus": "AGED_OUT",
  "seriesType": "Standard",
  "seriesGuidanceList": [
    {
      "seriesName": "HepB 3-dose series",
      "forecastReason": "Patient has exceeded the maximum age"
    }
  ]
},
{
  "totalDosesInSeries": 4,
  "assessmentDate": "20210119",
  "vaccineGroup": "Hib",
  "seriesStatus": "AGED_OUT",
  "seriesType": "Standard",
  "seriesGuidanceList": [
    {
      "seriesName": "Hib start at 2 months 4-dose series",
      "forecastReason": "Patient has exceeded the maximum age"
    }
  ]
}
```



```
    },
    {
      "targetDoseNumber": 1,
      "targetDoseNumberInSeries": 2,
      "totalDosesInSeries": 2,
      "earliestDate": "20200701",
      "recommendedDate": "20200701",
      "latestDate": "29991231",
      "assessmentDate": "20210119",
      "vaccineGroup": "Influenza",
      "seriesStatus": "NOT_COMPLETE",
      "seriesType": "Standard",
      "seriesGuidanceList": [
        {
          "seriesName": "Influenza standard series",
          "adminGuidance": [
            "Persons with a history of egg allergy may receive any licensed, recommended influenza vaccine that is otherwise appropriate for their age and health status.",
            "Persons who report having had reactions to egg involving symptoms other than urticaria (e.g., angioedema or swelling, respiratory distress, lightheadedness, or recurrent emesis) or who required epinephrine or another emergency medical intervention should be vaccinated in an inpatient or outpatient medical setting (including, but not necessarily limited to, hospitals, clinics, health departments, and physician offices). Vaccine administration should be supervised by a health care provider who is able to recognize and manage severe allergic reactions."
          ]
        }
      ]
    },
    {
      "targetDoseNumber": 1,
      "targetDoseNumberInSeries": 1,
      "totalDosesInSeries": 2,
      "earliestDate": "20010101",
      "recommendedDate": "20010101",
      "pastDueDate": "20010528",
      "latestDate": "29991231",
      "assessmentDate": "20210119",
```

```

"vaccineGroup": "MMR",
"seriesStatus": "NOT_COMPLETE",
"seriesType": "Standard",
"seriesGuidanceList": [
  {
    "seriesName": "Rubella 2-dose series",
    "adminGuidance": [
      "For women of childbearing age, regardless of birth
year, rubella immunity should be determined. If there is no evidence of
immunity, women who are not pregnant should be vaccinated. Pregnant women who do
not have evidence of immunity should receive MMR vaccine upon completion or
termination of pregnancy and before discharge from the health care facility."
    ]
  },
  {
    "seriesName": "Measles 2-dose series"
  },
  {
    "seriesName": "Mumps 2-dose series",
    "adminGuidance": [
      "Persons identified as being at increased risk who
have received less than or equal to 2 doses of mumps virus-containing vaccine
should receive 1 dose."
    ]
  }
],
{
  "totalDosesInSeries": 2,
  "assessmentDate": "20210119",
  "vaccineGroup": "Meningococcal",
  "seriesStatus": "AGED_OUT",
  "seriesType": "Standard",
  "seriesGuidanceList": [
    {
      "seriesName": "Meningococcal ACWY 2-dose series",
      "forecastReason": "Patient has exceeded the maximum age"
    }
  ]
},

```

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{
  "targetDoseNumber": 1,
  "targetDoseNumberInSeries": 1,
  "totalDosesInSeries": 1,
  "earliestDate": "20650101",
  "recommendedDate": "20650101",
  "latestDate": "29991231",
  "assessmentDate": "20210119",
  "vaccineGroup": "Pneumococcal",
  "seriesStatus": "NOT_COMPLETE",
  "seriesType": "Standard",
  "seriesGuidanceList": [
    {
      "seriesName": "Pneumococcal 65+ 1-dose PPSV23"
    }
  ],
  "recommendedVaccinesList": [
    {
      "vaccineCvx": "33",
      "vaccineName": "pneumococcal polysaccharide PPV23"
    }
  ]
},
{
  "totalDosesInSeries": 2,
  "assessmentDate": "20210119",
  "vaccineGroup": "Pneumococcal",
  "seriesStatus": "AGED_OUT",
  "seriesType": "Standard",
  "seriesGuidanceList": [
    {
      "seriesName": "Pneumococcal start at 24 months series",
      "forecastReason": "Patient has exceeded the maximum age"
    }
  ]
},
{
  "totalDosesInSeries": 4,
  "assessmentDate": "20210119",
  "vaccineGroup": "Polio",
```

```

"seriesStatus": "AGED_OUT",
"seriesType": "Standard",
"seriesGuidanceList": [
  {
    "seriesName": "Polio 4-dose series",
    "adminGuidance": [
      "When evaluating doses of oral polio vaccine (OPV),
only documentation specifying receipt of trivalent vaccine (tOPV) constitutes
proof of vaccination according to the U.S. polio vaccination recommendations. As
of April 2016, tOPV is no longer available or in use."
    ],
    "forecastReason": "Patient has exceeded the maximum age"
  }
],
{
  "totalDosesInSeries": 3,
  "assessmentDate": "20210119",
  "vaccineGroup": "Rotavirus",
  "seriesStatus": "AGED_OUT",
  "seriesType": "Standard",
  "seriesGuidanceList": [
    {
      "seriesName": "Rotavirus 3-dose series",
      "adminGuidance": [
        "For children with known or suspected altered
immunocompetence, ACIP advises consultation with an immunologist or infectious
diseases specialist before administration of rotavirus vaccine. Children who
are immunocompromised because of congenital immunodeficiency, or hematopoietic
stem cell or solid organ transplantation sometimes experience severe, prolonged,
and even fatal wild-type rotavirus gastroenteritis."
      ],
      "forecastReason": "Patient has exceeded the maximum age"
    }
  ]
},
{
  "targetDoseNumber": 1,
  "targetDoseNumberInSeries": 1,
  "totalDosesInSeries": 2,

```

```

    "earliestDate": "20130101",
    "recommendedDate": "20130101",
    "pastDueDate": "20130101",
    "latestDate": "29991231",
    "assessmentDate": "20210119",
    "vaccineGroup": "Varicella",
    "seriesStatus": "NOT_COMPLETE",
    "seriesType": "Standard",
    "seriesGuidanceList": [
      {
        "seriesName": "Varicella 13+ 2-dose series",
        "adminGuidance": [
          "Vaccination should be emphasized for those who have
close contact with persons at high risk for severe disease or are at high risk
for exposure or transmission. Pregnant women should be assessed for evidence of
varicella immunity. Women who do not have evidence of immunity should receive
the first dose of varicella vaccine upon completion or termination of pregnancy
and before discharge from the health care facility."
        ]
      }
    ],
    {
      "targetDoseNumber": 1,
      "targetDoseNumberInSeries": 1,
      "totalDosesInSeries": 2,
      "earliestDate": "20500101",
      "recommendedDate": "20500101",
      "latestDate": "29991231",
      "assessmentDate": "20210119",
      "vaccineGroup": "Zoster",
      "seriesStatus": "NOT_COMPLETE",
      "seriesType": "Standard",
      "seriesGuidanceList": [
        {
          "seriesName": "Zoster 2-dose series"
        }
      ]
    }
  ]

```

```
}  
}
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Revision History

Date	Version	History
01/01/2021	1.0.0	Initial Release