



NHS BSA Interoperability

Developer Guide to the NHS Business Services Authority API for Community Pharmacy Claims

Current Status – 0.16

Version Control	Date	Author	Purpose
0.01	07 Sep 2019	Gary Warner	Initial Draft
0.02	13 Sep 2019	Gary Warner	Telecon update
0.04	04 Oct 2019	Kornel Berec	Update / Delete
0.05	08 Oct 2019	Kornel Berec	Added schema and diagram, resolved some TBC labelled items
0.06	10 Oct 2019	Kornel Berec	Added note about no exemptions in MIN_ILL type claims, changed URL's
0.07	17 Oct 2019	Kornel Berec	Added performance test output. Replaced MA certificates with IP address whitelisting. Note about GP practice instead of branch surgery.
0.08	28 Oct 2019	Kornel Berec	Added validation details from a separated document
0.09	31 March 2020	Kornel Berec	Added new Exemption category "U" and changed description of category "A"
0.10	20 April 2020	Kornel Berec	Draft - Added FluVacc
0.11	15 May 2020	Kornel Berec	Draft - Added postcode validation details. Added Read operation. Removed schemas
0.12	21 May 2020	Kornel Berec	Draft - Added error details and list of 2019/2020 flu vaccines
0.13	11 June 2020	Kornel Berec	Formatting

0.13	14 Aug 2020	Kornel Berec	Added 2020/2021 vaccines
0.14	1 Oct 2020	Chris Wilson	Added support for GP Referral Engagement Pathway claims.
0.15	10 Nov 2020	Chris Wilson	Appended accepted claim interface for COVID, introduced COVID_VAC claim type.
0.16	24 Nov 2020	Chris Wilson	Renamed VACCINE_ORDER to DOSE_NUMBER and changes to its corresponding value definition for claims under COVID_VAC type.

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NHS BSA and Pharmacy Claims Interoperability

This document is intended to provide pharmacy clinical service platform providers with the information necessary to submit details of service provisions to the NHS Business Services Authority (NHS BSA), to pre-populate claims to be made by community pharmacy providers.

Document Background

NHS England and Improvements announced at the end of July 2019 their five-year arrangements with community pharmacy through the national Community Pharmacy Contractual Framework (CPCF).

One of the cornerstones of the announcement was the introduction of a new Community Pharmacist Consultation Service (CPCS) which has two initial strands:

- Emergency Medicines, formalising the previous national pilot of NUMSAS; and
- Minor Illness, formalising the previous local pilots of DMIRS.

Both currently announced strands are triggered by a referral from NHS 111 telephony or NHS 111 On-line.

The start date of the CPCS was subsequently announced to be 29th October 2019.

The detail of the service requires that claims are made through the Manage Your Service (MYS) platform provided by the NHS BSA to community pharmacy. To ensure the maximum accuracy and efficiency of processing those claims, an API has been developed to allow software providers with the ability to populate the claims on the MYS platform through interoperable messages sent with each provision of the service with a patient.

As of 30th October 2020 this service also provides support for GP referrals, under a similar claim format to DMIRS, with cpcs type "MIN_ILL" but with a different referral identifier format. This is supported under the CPCS claims mechanism within the MYS platform.

Seasonal Influenza Advanced Service

Additionally, the NHS Community Pharmacy Seasonal Influenza Advanced Service currently has a claim mechanism through MYS. This service utilise the same API and messaging as current services.

Future Workstreams

Further pilots under the CPCS banner are being implemented now and, in the future, to cover referrals from GP practices, Urgent and Emergency Care and other NHS care providers.

None of the above services are specifically covered by this document currently, but it is written and expected that these services will utilise the same API and messaging as current services.

Storyboard

This storyboard is presented as an illustration of how a workflow might be undertaken within a pharmacy clinical system interoperating with the NHS BSA. Every system connecting will have different requirements and potential user experiences and this is intended to be considered as one potential scenario for correspondents to build and reflect on.

Gregory Jones' pharmacy has a clinical service platform that is a web-based application used to record national service provisions together with locally commissioned services.

Gregory has a patient, Daniel Davies, who suffers from asthma and eczema. Gregory saw Daniel last month where he checked Daniel's inhaler technique and discussed his use of emollients. The records for that intervention were made on his PMR and saved locally. During that consultation, Gregory reminded Daniel that 'flu season was coming and that he was eligible for a seasonal influenza vaccination provided by the NHS and that he could attend the pharmacy at any time that was convenient for him.

Daniel arrives in the pharmacy in early September having failed to order his inhaler from the GP practice in good time and has run out of his reliever medication. He has phoned NHS 111 who have send a referral to the pharmacy that Daniel selected with a request to the pharmacy to consider an emergency supply for Daniel. Gregory invites him into the consultation room and identifies himself to his clinical services platform. Gregory brings up the list of outstanding referral, selects Daniel's referral record on the platform and selects the "CPCS – Emergency" to start a new intervention and provision for through the national service.

Gregory performs the normal legal, clinical and ethical checks on Daniel's request and decides that a supply of a single inhaler is appropriate and records the details on the clinical service platform.

When the service provision is complete, Gregory saves the record in on the platform and a message to the NHS BSA API is queued automatically to provide the required information for this service to populate a future claim, such as Daniel's details and the medication supplied.

Gregory then counsels Daniel on how to avoid having this problem in the future and suggests that as his condition is stable that me might be suitable for electronic repeat dispensing. Daniel thanks him and leaves the consultation room.

Before leaving the pharmacy, Daniel approaches Gregory and says that his address has changed from the one he gave NHS 111 as he was moving this weekend – which was why he had not requested his repeat in good time. Gregory writes down his new address and puts on one side to make the change to the record in due course.

A little while later, Gregory has the chance to update Daniel's consultation record and saves the consultation. Once again, a message to the NHS BSA API is queued automatically to provide the required information for this service to populate a future claim but replaces the original record at the NHS BSA.

API Connectivity

Connection to the NHS BSA API has the following criteria, as patient data is present and being transmitted:

- Over HTTPS on port 443
- Using TLSv1.2 only
- From a whitelisted set of IP addresses

Current test endpoints are:

GET <https://stg.services.nhsbsa.nhs.uk/pharmacy-cpcs-api/resources/metadata>

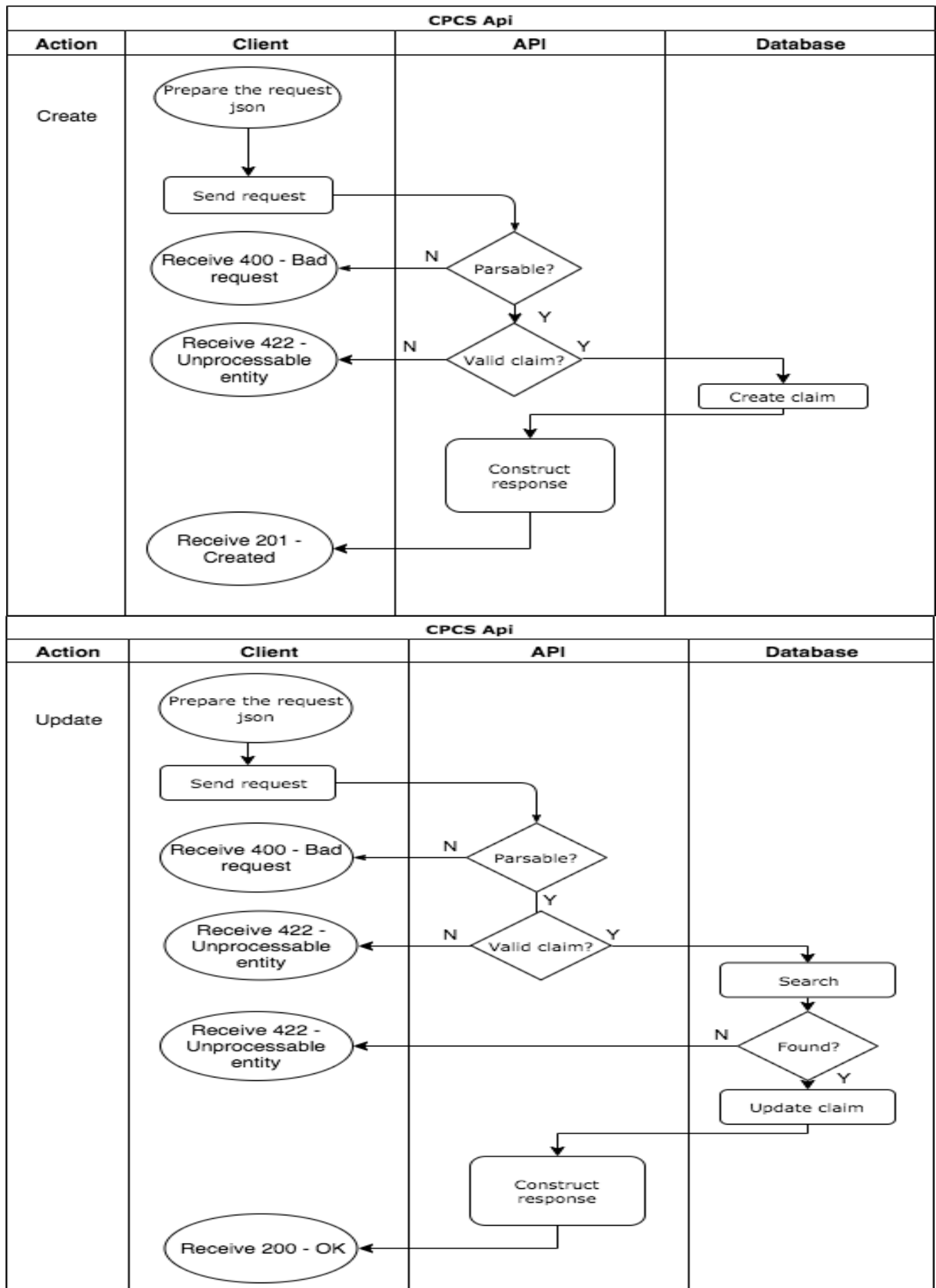
POST <https://stg.services.nhsbsa.nhs.uk/pharmacy-cpcs-api/resources/Claim>

PUT https://stg.services.nhsbsa.nhs.uk/pharmacy-cpcs-api/resources/Claim/{{CLAIM_ID}}

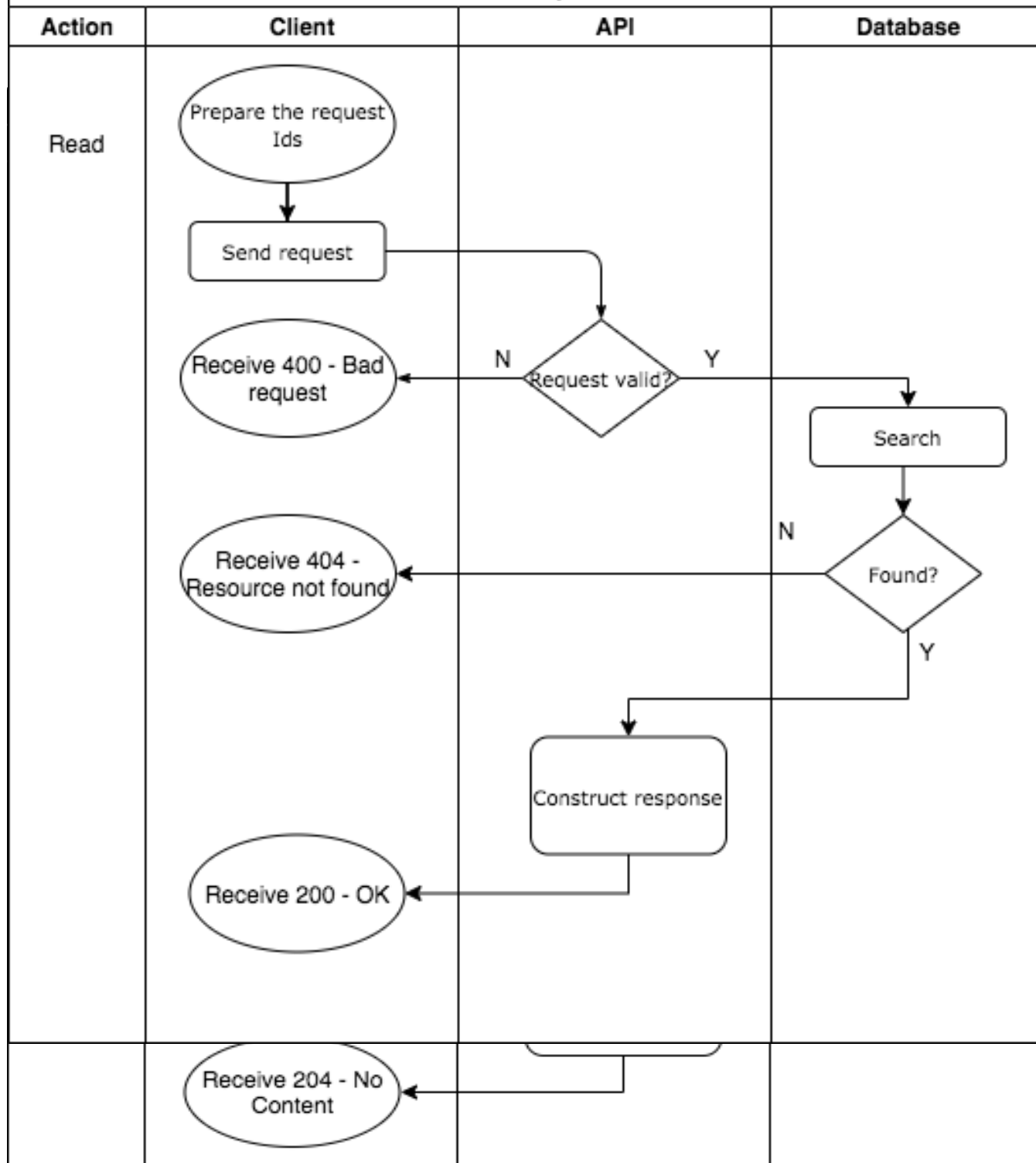
DELETE https://stg.services.nhsbsa.nhs.uk/pharmacy-cpcs-api/resources/Claim/{{CLAIM_ID}}

[DN: These are subject to many changes going forward – just a placeholder really]

API Access Process Flow



CPCS Api



Developer Guide to Pharmacy Claim Create

Step 1: Gather your materials

You will need the following to follow through this walkthrough:

Field	Mandatory/ Optional	Description
MES- SAGE_- PROFILE	M	Message profiles as detailed in Annex – Message Profiles.
CLAIM_- TYPE_- CODE	M	Each sub-type of service claim has a specific code (see Annex – Message Profiles)
CLAIM_- TYPE_- DESC	M	Each sub-type of service claim has a description (see Annex – Message Profiles)
PLAT- FORM_DE- POSIT_ID	M	A string that uniquely identified this claim. Each platform will be provided with a pattern to use. For example, PharmOutcomes uses the pattern PEM- <i>nnn</i> -SPID- <i>nnnnnn</i> and Sonar uses the pattern SON- <i>nnnnnnnn</i> to uniquely identify this deposit in audits and CRUD operations. Max. size 255.
PROVI- SION_DATE	M	The date when the medicine was supplied. Cannot be in the month after CLAIM_MONTH_START. Min. value: 29.10.2019.
CLAIM_- MONTH_ST ART	M	The first day of the month when the medicine was supplied. Min. value: 01.10.2019.
CLAIMANT_ ODS	M	The Organisational Data Service (ODS) code of the pharmacy provider who provided the service and is therefore making the claim. Additional information can be provided such as the name of the claimant, their address or phone number but these are optional currently. Regex for format [A-Za-z0-9]{1,10}. CPCS registration record declaration should exist for the pharmacy provider.
PATIENT_- GIVEN	M	The patient's given name (first name for European naming conventions). Multiple given names can be provided but should be in the appropriate order. Size max 50.
PATIENT_- FAMILY	M	The patient's family name (surname for European naming conventions). Size max 50.
PATIENT_- DOB	M	The patient's date of birth in RFC3339 Full Date format (yyyy-mm-dd). Must be date in the past.

PA-TIENT_NHS_NO	M	The patient's NHS Number (not non-England national identifiers). If the NHS Number is not provided, this should be populated with 0000000000. Valid NHS number by common bsa validation. Size must be 10.
PA-TIENT_ADDRESS	M - first line	The patient's address. This can be a list of multiple lines, but only the first four lines will be utilised by the API. Mandatory, size max 255.
PATIENT_POSTCODE	M	The patient's postcode of their address. Size max. 10, (see Annex – Patient Postcode Validation)
PATIENT_EXEMPT_CODE	EMG_MED: O MIN_ILL: N/A FLU_VAC: N/A COVID_VAC: N/A	For type EMG_MED only. The coded reason that a patient did not pay for their medication (see Annex – Levy Exemption Codes). It will be treated as paid if this element missing. NB: Claim with type “MIN_ILL” does not have this in it because no medicines are supplied so there is no levy to pay. Should not be supplied for type FLU_VAC, COVID_VAC.
PATIENT_EXEMPT_DISPLAY	EMG_MED: O MIN_ILL: N/A FLU_VAC: N/A COVID_VAC: N/A	For type EMG_MED only. A description of the coded reason that a patient did not pay. NB: Claim with type “MIN_ILL” does not have this in it because no medicines are supplied so there is no levy to pay. Should not be supplied for type FLU_VAC, COVID_VAC.
PATIENT_GPODS	O	The ODS code of the patient's GP surgery (not mandatory). This can be the ODS code of the practice and not of the branch surgery. Size max. 25.
PATIENT_GP_PRACTICE	O	The name of the patient's GP surgery (not mandatory). This can be the ODS code of the practice and not of the branch surgery. Size max. 255.
PATIENT_G_PADDRESS	O	The address of patient's GP surgery. This can be a list of multiple lines, but only the first four lines will be utilised by the API (not mandatory). Size max. 255.
PATIENT_GP_POSTCODE	O	The postcode of patient's GP surgery (not mandatory). Size max. 10, Valid postcode by common bsa validation (see Annex – GP Postcode Validation)
REFERRAL_REFERENCE	EMG_MED: M MIN_ILL: M FLU_VAC: N/A COVID_VAC: N/A	The NHS 111 call centre or online reference for the referral. Size max. 255. Mandatory for types EMG_MED and MIN_ILL. Should not be supplied for type FLU_VAC, COVID_VAC. For GP Referrals should be supplied as “GP-“ + {Unique_identifier}. Recommended format: “GP-“ + {Caller_Identifier} + “-” + {generated_identifier}, e.g. GP-NHSBSA-123456XYZ
The follow fields are required where a drug WAS supplied.		
Note: no information regarding drugs that were not supplied is required to be sent.		

DRUG_- CODE	M	The AMPP SNOMED CT code of the medicine supplied. Max size 20.
DRUG_- DESC	M	The AMPP SNOMED CT full description of the medicine supplied. Size max. 255.
DRUG_QTY	M	Quantity of the drug supplied. Decimal with scale of two decimal numbers. Max 999999999.99.
DRUG_UNI T	M	The units of the quantity of the drug supplied. Max size 50.
DOSE_NUM BER	EMG_MED: N/ A MIN_ILL: N/A FLU_VAC: N/A COVID_VAC: O	For Covid-19 vaccinations which require multiple dosages to be administered, used to determine any additional costs involved depending on vaccination visit type. Value should be declared as a numerical string (>0) defining the sequence order of doses, i.e. 1 for the initial dose, and >1 for booster dose(s).

Step 2: Prepare the Claim JSON

The message containing the claim information should follow the FHIR R4 schema distributed by email.

Important: The NHS Digital standard is currently FHIR STU3 for all messaging; but the NHS BSA interface uses FHIR Release 4 (R4) and there are element types within the profile that are not present in FHIR STU3.

The message must be utf-8 encoded. No XML messages are accepted.

In the example below, two medications were provided for a patient who was exempt from paying a prescription levy charge. In the example, UUIDs have been populated – these should be generated on the wire in a normal production environment.

Not all system identifiers, such as “https://fhir.nhsbsa.nhs.uk/Id/UrgentCareReference” in the example below, are available from the API server as accessible schemas and should be used verbatim,

```
{
  "resourceType": "Claim",
  "meta": {
    "profile": [
      "{{MESSAGE_PROFILE}}"
    ]
  },
  "contained": [
    {
      "resourceType": "Organization",
      "id": "308d7201-ed47-4360-ac5b-0d523001c6d5",
      "meta": {
        "profile": [
          "http://hl7.org/fhir/StructureDefinition/Organization"
        ]
      },
      "identifier": [
        {
          "system": "https://fhir.nhs.uk/Id/ods-organization-code",
          "value": "{{CLAIMANT_ODS}}"
        }
      ]
    },
    {
      "resourceType": "Organization",
      "id": "6306ddeb-ad11-43fc-b6ed-de47dfc9e0ef",
```

```

"meta": {
  "profile": [
    "http://hl7.org/fhir/StructureDefinition/Organization"
  ]
},
"identifier": [
  {
    "system": "https://fhir.nhs.uk/Id/ods-organization-code",
    "value": "{{PATIENT_GPODS}}"
  }
],
"name": "{{PATIENT_GPPRACTICE}}",
"address": [
  {
    "line": [
      {{ PATIENT_GPADDRESS }}
    ],
    "postalCode": "{{PATIENT_GPOSTCODE}}"
  }
]
},
{
  "resourceType": "Patient",
  "id": "4812c16e-d9e7-46ea-86cb-65fcdc19faab",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/Patient"
    ]
  },
  "identifier": [
    {
      "system": "https://fhir.nhs.uk/Id/nhs-number",
      "value": "{{PATIENT_NHSNO}}"
    }
  ],
  "name": [
    {
      "use": "official",
      "family": "{{PATIENT_FAMILY}}",
      "given": [
        "{{PATIENT_GIVEN}}"
      ]
    }
  ],
  "birthDate": "{{PATIENT_DOB}}",
  "address": [
    {
      "use": "home",
      "line": [
        {{ PATIENT_ADDRESS }}
      ],
      "postalCode": "{{PATIENT_POSTCODE}}"
    }
  ],
  "generalPractitioner": [
    {
      "reference": "#6306ddeb-ad11-43fc-b6ed-de47dfc9e0ef"
    }
  ]
},
{
  "resourceType": "ServiceRequest",
  "id": "75a9f2ad-fdaf-4661-a7ce-f1098547d322",
  "meta": {
    "profile": [
      "https://fhir.nhsbsa.nhs.uk/StructureDefinition/ServiceRequest"
    ]
  },
  "identifier": [
    {
      "system": "https://fhir.nhsbsa.nhs.uk/Id/UrgentCareReference",
      "value": "{{REFERRAL_REFERENCE}}"
    }
  ]
},
{
  "resourceType": "MedicationDispense",
  "id": "b782e4e8-3901-464a-a3dc-2c286c0a6964",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
    ]
  }
}

```

```

    ]
  },
  "status": "completed",
  "medicationCodeableConcept": {
    "coding": [
      {
        "system": "http://snomed.info/sct",
        "code": "{{DRUG_CODE1}}",
        "display": "{{DRUG_DESC1}}"
      }
    ]
  },
  "quantity": {
    "value": "{{DRUG_QTY1}}",
    "unit": "{{DRUG_UNIT1}}",
    "system": "http://unitsofmeasure.org"
  },
  "whenHandedOver": "{{PROVISION_DATE}}"
},
{
  "resourceType": "MedicationDispense",
  "id": "79345ce6-afb3-4929-b76c-6c7993ff4f4b",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
    ]
  },
  "status": "completed",
  "medicationCodeableConcept": {
    "coding": [
      {
        "system": "http://snomed.info/sct",
        "code": "{{DRUG_CODE}}",
        "display": "{{DRUG_DESC}}"
      }
    ]
  },
  "quantity": {
    "value": "{{DRUG_QTY}}",
    "unit": "{{DRUG_UNIT}}",
    "system": "http://unitsofmeasure.org"
  },
  "whenHandedOver": "{{PROVISION_DATE}}"
}
],
"extension": [
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-ExemptionType",
    "valueCodeableConcept": {
      "coding": [
        {
          "system": "https://fhir.nhsbsa.nhs.uk/Id/ExemptionType",
          "code": "F",
          "display": "Prescription pre-payment certificate (PPC)"
        }
      ]
    }
  }
],
{
  "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
  "valueReference": {
    "reference": "#b782e4e8-3901-464a-a3dc-2c286c0a6964"
  }
},
{
  "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
  "valueReference": {
    "reference": "#79345ce6-afb3-4929-b76c-6c7993ff4f4b"
  }
}
],
"type": {
  "coding": [
    {
      "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsType",
      "code": "{{CLAIM_TYPE_CODE}}",
      "display": "{{CLAIM_TYPE_DESC}}"
    }
  ]
}
],
"identifier": [

```

```

    {
      "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsClientReference",
      "value": "{{DEPOSIT_ID}}"
    }
  ],
  "patient": {
    "reference": "#4812c16e-d9e7-46ea-86cb-65fcdc19faab"
  },
  "provider": {
    "reference": "#308d7201-ed47-4360-ac5b-0d523001c6d5"
  },
  "referral": {
    "reference": "#75a9f2ad-fdaf-4661-a7ce-f1098547d322"
  },
  "billablePeriod": {
    "start": "{{CLAIM_MONTH_START}}"
  }
}
"supportingInfo": [
  {
    "sequence": 1,
    "category": {
      "coding": [
        {
          "system": "http://terminology.hl7.org/CodeSystem/claiminformationcategory",
          "code": "DOSE_NUMBER"
        }
      ]
    },
    "valueString": "{{1,2,3...}}"
  }
]
}
}

```

Step 3: Send the Claim Message

You can now prepare and make a POST call to the NHSBSA API with the following pattern.

Note: This is not an ITK3 message, so there is no Bundle or Message Header required.

URL	https://stg.services.nhsbsa.nhs.uk/pharmacy-cpcs-api/resources/Claim
Http Headers	Content-Type: application/json
	Accept: application/json
	Cache-Control: no-cache
Body	JSON representation prepared in Step 2 above

Step 4: Receive your response

A successful response will be sent synchronously within 30 seconds [DN: To check] with an http code 201 (Created) and contain a JSON representation of an object in the body of the response, containing the claim ID:

```

{
  "resourceType": "Claim",
  "id": "{{CLAIM_ID}}",
  "meta": {

```



```

"profile": [
  "{{MESSAGE_PROFILE}}"
]
},
"contained": [
  {
    "resourceType": "MedicationDispense",
    "id": "1",
    "meta": {
      "profile": [
        "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
      ]
    },
    "status": "completed",
    "medicationCodeableConcept": {
      "coding": [
        {
          "system": "http://snomed.info/sct",
          "code": "{{DRUG_CODE1}}",
          "display": "{{DRUG_DESC1}}"
        }
      ]
    },
    "quantity": {
      "value": {{DRUG_QTY1}},
      "unit": "{{DRUG_UNIT1}}",
      "system": "http://unitsofmeasure.org"
    },
    "whenHandedOver": "{{PROVISION_DATE}}"
  },
  {
    "resourceType": "MedicationDispense",
    "id": "2",
    "meta": {
      "profile": [
        "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
      ]
    },
    "status": "completed",
    "medicationCodeableConcept": {
      "coding": [
        {
          "system": "http://snomed.info/sct",
          "code": "{{DRUG_CODE}}",
          "display": "{{DRUG_DESC}}"
        }
      ]
    },
    "quantity": {
      "value": {{DRUG_QTY}},
      "unit": "{{DRUG_UNIT}}",
      "system": "http://unitsofmeasure.org"
    },
    "whenHandedOver": "{{PROVISION_DATE}}"
  },
  {
    "resourceType": "Patient",
    "id": "3",
    "meta": {
      "profile": [
        "http://hl7.org/fhir/StructureDefinition/Patient"
      ]
    },
    "identifier": [
      {
        "system": "https://fhir.nhs.uk/Id/nhs-number",
        "value": "{{PATIENT_NHSNO}}"
      }
    ],
    "name": [
      {
        "use": "official",
        "family": "{{PATIENT_FAMILY}}",
        "given": [
          "{{PATIENT_GIVEN}}"
        ]
      }
    ],
    "birthDate": "{{PATIENT_DOB}}",
    "address": [
      {

```

```

        "use": "home",
        "line": [
            {{ PATIENT_ADDRESS }}
        ],
        "postalCode": "{{PATIENT_POSTCODE}}"
    }
],
"generalPractitioner": [
    {
        "reference": "#4"
    }
]
},
{
    "resourceType": "Organization",
    "id": "4",
    "meta": {
        "profile": [
            "http://hl7.org/fhir/StructureDefinition/Organization"
        ]
    },
    "identifier": [
        {
            "system": "https://fhir.nhs.uk/Id/ods-organization-code",
            "value": "{{PATIENT_GPODS}}"
        }
    ],
    "name": "{{PATIENT_GPPRACTICE}}",
    "address": [
        {
            "line": [
                {{ PATIENT_GPADDRESS }}
            ],
            "postalCode": "{{PATIENT_GPOSTCODE}}"
        }
    ]
},
{
    "resourceType": "Organization",
    "id": "5",
    "meta": {
        "profile": [
            "http://hl7.org/fhir/StructureDefinition/Organization"
        ]
    },
    "identifier": [
        {
            "system": "https://fhir.nhs.uk/Id/ods-organization-code",
            "value": "{{CLAIMANT_ODS}}"
        }
    ]
},
{
    "resourceType": "ServiceRequest",
    "id": "6",
    "meta": {
        "profile": [
            "https://fhir.nhsbsa.nhs.uk/StructureDefinition/ServiceRequest"
        ]
    },
    "identifier": [
        {
            "system": "https://fhir.nhsbsa.nhs.uk/Id/UrgentCareReference",
            "value": "{{REFERRAL_REFERENCE}}"
        }
    ]
}
],
"extension": [
    {
        "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-ExemptionType",
        "valueCodeableConcept": {
            "coding": [
                {
                    "system": "https://fhir.nhsbsa.nhs.uk/Id/ExemptionType",
                    "code": "{{PATIENT_EXEMPT_CODE}}",
                    "display": "{{PATIENT_EXEMPT_DISPLAY}}"
                }
            ]
        }
    }
]
},
},

```

```

{
  "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
  "valueReference": {
    "reference": "#1"
  }
},
{
  "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
  "valueReference": {
    "reference": "#2"
  }
}
],
"identifier": [
  {
    "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsClientReference",
    "value": "{{DEPOSIT_ID}}"
  }
],
"type": {
  "coding": [
    {
      "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsType",
      "code": "{{CLAIM_TYPE_CODE}}",
      "display": "{{CLAIM_TYPE_DESC}}"
    }
  ]
},
"patient": {
  "reference": "#3"
},
"billablePeriod": {
  "start": "{{CLAIM_MONTH_START}}"
},
"provider": {
  "reference": "#5"
},
"referral": {
  "reference": "#6"
}
}
"supportingInfo": [
  {
    "sequence": 1,
    "category": {
      "coding": [
        {
          "system": "http://terminology.hl7.org/CodeSystem/claiminformationcategory",
          "code": "DOSE_NUMBER"
        }
      ]
    },
    "valueString": "{{1,2,3...}}"
  }
]
}

```

Other potential responses:

400 – Bad Request (unparseable or other major issue). Contains a JSON representation of an OperationOutcome resource in the body of the response:

```

{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "Failed to parse request body as JSON resource. Error was: Invalid attribute value \\": Attribute values must not be empty (\\")"
    }
  ]
}

```

422 – Unprocessable Entity (json parseable but not conformant). Contains a JSON representation of an OperationOutcome resource in the body of the response.

In order to make these 422 error messages more recognizable, the most common messages include detail with the code of the error. See: [Annex - detailed errors](#)

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "invalid",
      "diagnostics": "Patient address line 1 is mandatory"
    },
    {
      "severity": "error",
      "code": "invalid",
      "diagnostics": "patientAddressLine1 must not be blank"
    },
    {
      "severity": "error",
      "code": "invalid",
      "diagnostics": "patientAddressLine1 size must be between 1 and 255"
    },
    {
      "severity": "error",
      "code": "invalid",
      "details": {
        "coding": [
          {
            "system": "https://fhir.nhsbsa.nhs.uk/Id/CustomIssueType",
            "code": "MSG_DUPLICATE_DEPOSIT_ID",
            "display": "DEPOSIT_ID already exists"
          }
        ]
      }
    },
    {
      "diagnostics": "Api client id PEM-4-SPID-12345678 already exists"
    }
  ]
}
```

500 – Unexpected error. Contains a JSON representation of an OperationOutcome resource in the body of the response:

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "Unexpected exception"
    }
  ]
}
```

Developer Guide to Pharmacy Claim Amendments

Step 1: Gather your materials

You will need the data described in section [Developer Guide to Pharmacy Claim Create](#) .

Apart from that the additional data needed:

CLAIM_ID	Id of the claim in NHSBSA. Generated when the record is saved. Included in the response of POST (create).
----------	---

Step 2: Prepare the Claim JSON

In the example below, some of the details of the patient were changed and the resource is sent with the updated details .

```
{
  "resourceType": "Claim",
  "id": "{{CLAIM_ID}}",
  "meta": {
    "profile": [
      "{{MESSAGE_PROFILE}}"
    ]
  },
  "contained": [
    {
      "resourceType": "Organization",
      "id": "308d7201-ed47-4360-ac5b-0d523001c6d5",
      "meta": {
        "profile": [
          "http://hl7.org/fhir/StructureDefinition/Organization"
        ]
      },
      "identifier": [
        {
          "system": "https://fhir.nhs.uk/Id/ods-organization-code",
          "value": "{{CLAIMANT_ODS}}"
        }
      ]
    },
    {
      "resourceType": "Organization",
      "id": "6306ddeb-ad11-43fc-b6ed-de47dfc9e0ef",
      "meta": {
        "profile": [
          "http://hl7.org/fhir/StructureDefinition/Organization"
        ]
      },
      "identifier": [
        {
          "system": "https://fhir.nhs.uk/Id/ods-organization-code",
          "value": "{{PATIENT_GPODS}}"
        }
      ]
    },
    {
      "name": "{{PATIENT_GPPRACTICE}}",
      "address": [
        {
          "line": [
            {{ PATIENT_GPADDRESS }}
          ]
        }
      ]
    }
  ]
}
```

```

    "postalCode": "{{PATIENT_GPPOSTCODE}}"
  }
},
{
  "resourceType": "Patient",
  "id": "4812c16e-d9e7-46ea-86cb-65fcdc19faab",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/Patient"
    ]
  },
  "identifier": [
    {
      "system": "https://fhir.nhs.uk/Id/nhs-number",
      "value": "{{PATIENT_NHSNO}}"
    }
  ],
  "name": [
    {
      "use": "official",
      "family": "{{PATIENT_FAMILY}}",
      "given": [
        "{{PATIENT_GIVEN}}"
      ]
    }
  ],
  "birthDate": "{{PATIENT_DOB}}",
  "address": [
    {
      "use": "home",
      "line": [
        {{ PATIENT_ADDRESS }}
      ],
      "postalCode": "{{PATIENT_POSTCODE}}"
    }
  ],
  "generalPractitioner": [
    {
      "reference": "#6306ddeb-ad11-43fc-b6ed-de47dfc9e0ef"
    }
  ]
},
{
  "resourceType": "ServiceRequest",
  "id": "75a9f2ad-fdaf-4661-a7ce-f1098547d322",
  "meta": {
    "profile": [
      "https://fhir.nhsbsa.nhs.uk/StructureDefinition/ServiceRequest"
    ]
  },
  "identifier": [
    {
      "system": "https://fhir.nhsbsa.nhs.uk/Id/UrgentCareReference",
      "value": "{{REFERRAL_REFERENCE}}"
    }
  ]
},
{
  "resourceType": "MedicationDispense",
  "id": "b782e4e8-3901-464a-a3dc-2c286c0a6964",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
    ]
  },
  "status": "completed",
  "medicationCodeableConcept": {
    "coding": [
      {
        "system": "http://snomed.info/sct",
        "code": "{{DRUG_CODE1}}",
        "display": "{{DRUG_DESC1}}"
      }
    ]
  },
  "quantity": {
    "value": "{{DRUG_QTY1}}",
    "unit": "{{DRUG_UNIT1}}",
    "system": "http://unitsofmeasure.org"
  },

```

```

    "whenHandedOver": "{{PROVISION_DATE}}"
  },
  {
    "resourceType": "MedicationDispense",
    "id": "79345ce6-afb3-4929-b76c-6c7993ff4f4b",
    "meta": {
      "profile": [
        "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
      ]
    },
    "status": "completed",
    "medicationCodeableConcept": {
      "coding": [
        {
          "system": "http://snomed.info/sct",
          "code": "{{DRUG_CODE}}",
          "display": "{{DRUG_DESC}}"
        }
      ]
    },
    "quantity": {
      "value": "{{DRUG_QTY}}",
      "unit": "{{DRUG_UNIT}}",
      "system": "http://unitsofmeasure.org"
    },
    "whenHandedOver": "{{PROVISION_DATE}}"
  }
],
"extension": [
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-ExemptionType",
    "valueCodeableConcept": {
      "coding": [
        {
          "system": "https://fhir.nhsbsa.nhs.uk/Id/ExemptionType",
          "code": "F",
          "display": "Prescription pre-payment certificate (PPC)"
        }
      ]
    }
  }
],
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
    "valueReference": {
      "reference": "#b782e4e8-3901-464a-a3dc-2c286c0a6964"
    }
  },
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
    "valueReference": {
      "reference": "#79345ce6-afb3-4929-b76c-6c7993ff4f4b"
    }
  }
],
"type": {
  "coding": [
    {
      "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsType",
      "code": "{{CLAIM_TYPE_CODE}}",
      "display": "{{CLAIM_TYPE_DESC}}"
    }
  ]
},
"identifier": [
  {
    "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsClientReference",
    "value": "{{DEPOSIT_ID}}"
  }
],
"patient": {
  "reference": "#4812c16e-d9e7-46ea-86cb-65fcdc19faab"
},
"provider": {
  "reference": "#308d7201-ed47-4360-ac5b-0d523001c6d5"
},
"referral": {
  "reference": "#75a9f2ad-fdaf-4661-a7ce-f1098547d322"
},
"billablePeriod": {
  "start": "{{CLAIM_MONTH_START}}"
}
}

```

```

"supportingInfo": [
  {
    "sequence": 1,
    "category": {
      "coding": [
        {
          "system": "http://terminology.hl7.org/CodeSystem/claiminformationcategory",
          "code": "DOSE_NUMBER"
        }
      ]
    },
    "valueString": "{{1,2,3...}}"
  }
]
}

```

Step 3: Send the Update Claim Message

You can now prepare and make a PUT call to the NHSBSA API with the following pattern.

Note: This is not an ITK3 message, so there is no Bundle or Message Header required.

URL	https://stg.services.nhsbsa.nhs.uk/pharmacy-cpcs-api/resources/Claim/{{CLAIM_ID}}
Http Headers	Content-Type: application/json
	Accept: application/json
	Cache-Control: no-cache
Body	JSON representation prepared in Step 2 above

Step 4: Receive your response

A successful response will be sent synchronously within 30 seconds [DN: To check] with an http code 200 (OK) and contain a JSON representation of the updated object in the body of the response:

```

{
  "resourceType": "Claim",
  "id": "{{CLAIM_ID}}",
  "meta": {
    "profile": [
      "{{MESSAGE_PROFILE}}"
    ]
  },
  "contained": [
    {
      "resourceType": "MedicationDispense",
      "id": "1",
      "meta": {
        "profile": [
          "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
        ]
      }
    },
    "status": "completed",
    "medicationCodeableConcept": {
      "coding": [
        {
          "system": "http://snomed.info/sct",
          "code": "{{DRUG_CODE1}}",
          "display": "{{DRUG_DESC1}}"
        }
      ]
    }
  ]
}

```



```

    }
  ]
},
"quantity": {
  "value": "{{DRUG_QTY1}}",
  "unit": "{{DRUG_UNIT1}}",
  "system": "http://unitsofmeasure.org"
},
"whenHandedOver": "{{PROVISION_DATE}}"
},
{
  "resourceType": "MedicationDispense",
  "id": "2",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
    ]
  },
  "status": "completed",
  "medicationCodeableConcept": {
    "coding": [
      {
        "system": "http://snomed.info/sct",
        "code": "{{DRUG_CODE}}",
        "display": "{{DRUG_DESC}}"
      }
    ]
  },
  "quantity": {
    "value": {{DRUG_QTY}},
    "unit": "{{DRUG_UNIT}}",
    "system": "http://unitsofmeasure.org"
  },
  "whenHandedOver": "{{PROVISION_DATE}}"
},
{
  "resourceType": "Patient",
  "id": "3",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/Patient"
    ]
  },
  "identifier": [
    {
      "system": "https://fhir.nhs.uk/Id/nhs-number",
      "value": "{{PATIENT_NHSNO}}"
    }
  ],
  "name": [
    {
      "use": "official",
      "family": "{{PATIENT_FAMILY}}",
      "given": [
        "{{PATIENT_GIVEN}}"
      ]
    }
  ],
  "birthDate": "{{PATIENT_DOB}}",
  "address": [
    {
      "use": "home",
      "line": [
        {{ PATIENT_ADDRESS }}
      ],
      "postalCode": "{{PATIENT_POSTCODE}}"
    }
  ],
  "generalPractitioner": [
    {
      "reference": "#4"
    }
  ]
},
{
  "resourceType": "Organization",
  "id": "4",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/Organization"
    ]
  }
}

```

```

    },
    "identifier": [
      {
        "system": "https://fhir.nhs.uk/Id/ods-organization-code",
        "value": "{{PATIENT_GPODS}}"
      }
    ],
    "name": "{{PATIENT_GPPRACTICE}}",
    "address": [
      {
        "line": [
          {{ PATIENT_GPADDRESS }}
        ],
        "postalCode": "{{PATIENT_GPOSTCODE}}"
      }
    ]
  },
  {
    "resourceType": "Organization",
    "id": "5",
    "meta": {
      "profile": [
        "http://hl7.org/fhir/StructureDefinition/Organization"
      ]
    },
    "identifier": [
      {
        "system": "https://fhir.nhs.uk/Id/ods-organization-code",
        "value": "{{CLAIMANT_ODS}}"
      }
    ]
  },
  {
    "resourceType": "ServiceRequest",
    "id": "6",
    "meta": {
      "profile": [
        "https://fhir.nhsbsa.nhs.uk/StructureDefinition/ServiceRequest"
      ]
    },
    "identifier": [
      {
        "system": "https://fhir.nhsbsa.nhs.uk/Id/UrgentCareReference",
        "value": "{{REFERRAL_REFERENCE}}"
      }
    ]
  }
],
"extension": [
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-ExemptionType",
    "valueCodeableConcept": {
      "coding": [
        {
          "system": "https://fhir.nhsbsa.nhs.uk/Id/ExemptionType",
          "code": "{{PATIENT_EXEMPT_CODE}}",
          "display": "{{PATIENT_EXEMPT_DISPLAY}}"
        }
      ]
    }
  },
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
    "valueReference": {
      "reference": "#1"
    }
  },
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
    "valueReference": {
      "reference": "#2"
    }
  }
],
"identifier": [
  {
    "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsClientReference",
    "value": "{{DEPOSIT_ID}}"
  }
],
"type": {

```

```

    "coding": [
      {
        "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsType",
        "code": "{{CLAIM_TYPE_CODE}}",
        "display": "{{CLAIM_TYPE_DESC}}"
      }
    ]
  },
  "patient": {
    "reference": "#3"
  },
  "billablePeriod": {
    "start": "{{CLAIM_MONTH_START}}"
  },
  "provider": {
    "reference": "#5"
  },
  "referral": {
    "reference": "#6"
  }
}
"supportingInfo": [
  {
    "sequence": 1,
    "category": {
      "coding": [
        {
          "system": "http://terminology.hl7.org/CodeSystem/claiminformationcategory",
          "code": "DOSE_NUMBER"
        }
      ]
    },
    "valueString": "{{1,2,3...}}"
  }
]
}

```

Other potential responses:

400 – Bad Request (unparseable or other major issue). Contains a JSON representation of an OperationOutcome resource in the body of the response:

```

{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "Can not update resource, resource body must contain an ID element which matches the request URL for update (PUT) operation - Resource body ID of \"32000\" does not match URL ID of \"32\""
    }
  ]
}

```

422 – Unprocessable Entity (json parseable but not conformant). Contains a JSON representation of an OperationOutcome resource in the body of the response.

In order to make these 422 error messages more recognizable, the most common messages include detail with the code of the error. See: [Annex - detailed errors](#)

```

{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "invalid",
      "details": {
        "coding": [
          {
            "system": "https://fhir.nhsbsa.nhs.uk/Id/CustomIssueType",
            "code": "MSG_UPDATE_OF_FIELD_NOT_ALLOWED",
            "display": "Value provided is different from the value stored in the database"
          }
        ]
      }
    }
  ]
}

```

```

    },
    "diagnostics": "Cannot update api client ID"
  },
  {
    "severity": "error",
    "code": "invalid",
    "details": {
      "coding": [
        {
          "system": "https://fhir.nhsbsa.nhs.uk/Id/CustomIssueType",
          "code": "MSG_UPDATE_OF_FIELD_NOT_ALLOWED",
          "display": "Value provided is different from the value stored in the database"
        }
      ]
    }
  },
  "diagnostics": "Cannot update billing period"
},
{
  "severity": "error",
  "code": "invalid",
  "details": {
    "coding": [
      {
        "system": "https://fhir.nhsbsa.nhs.uk/Id/CustomIssueType",
        "code": "MSG_ID_DEPOSIT_ID_MISMATCH",
        "display": "Api client ID mismatch"
      }
    ]
  },
  "diagnostics": "Api client ID mismatch"
}
]
}

```

500 – Unexpected error. Contains a JSON representation of an OperationOutcome resource in the body of the response:

```

{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "Unexpected exception"
    }
  ]
}

```

Developer Guide to Pharmacy Claim Deletions

Step 1: Gather your materials

You will need the data described in section [Developer Guide to Pharmacy Claim Create](#) .

Apart from that the additional data needed:

CLAIM_ID	Id of the claim in NHSBSA. Generated when the record is saved. Included in the response of POST (create).
----------	---

Step 2: Prepare the Claim JSON

In the example below are the details of the claim that needs to be deleted.

```
{
  "resourceType": "Claim",
  "id": "{{CLAIM_ID}}",
  "meta": {
    "profile": [
      "{{MESSAGE_PROFILE}}"
    ]
  },
  "contained": [
    {
      "resourceType": "Organization",
      "id": "308d7201-ed47-4360-ac5b-0d523001c6d5",
      "meta": {
        "profile": [
          "http://hl7.org/fhir/StructureDefinition/Organization"
        ]
      },
      "identifier": [
        {
          "system": "https://fhir.nhs.uk/Id/ods-organization-code",
          "value": "{{CLAIMANT_ODS}}"
        }
      ]
    },
    {
      "resourceType": "Organization",
      "id": "6306ddeb-ad11-43fc-b6ed-de47dfc9e0ef",
      "meta": {
        "profile": [
          "http://hl7.org/fhir/StructureDefinition/Organization"
        ]
      },
      "identifier": [
        {
          "system": "https://fhir.nhs.uk/Id/ods-organization-code",
          "value": "{{PATIENT_GPODS}}"
        }
      ]
    }
  ],
  "name": "{{PATIENT_GPPRACTICE}}",
  "address": [
    {
      "line": [
        {{ PATIENT_GPADDRESS }}
      ],
      "postalCode": "{{PATIENT_GPPOSTCODE}}"
    }
  ]
}
```

```

},
{
  "resourceType": "Patient",
  "id": "4812c16e-d9e7-46ea-86cb-65fcdc19faab",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/Patient"
    ]
  },
  "identifier": [
    {
      "system": "https://fhir.nhs.uk/Id/nhs-number",
      "value": "{{PATIENT_NHSNO}}"
    }
  ],
  "name": [
    {
      "use": "official",
      "family": "{{PATIENT_FAMILY}}",
      "given": [
        "{{PATIENT_GIVEN}}"
      ]
    }
  ],
  "birthDate": "{{PATIENT_DOB}}",
  "address": [
    {
      "use": "home",
      "line": [
        {{ PATIENT_ADDRESS }}
      ],
      "postalCode": "{{PATIENT_POSTCODE}}"
    }
  ],
  "generalPractitioner": [
    {
      "reference": "#6306ddeb-ad11-43fc-b6ed-de47dfc9e0ef"
    }
  ]
},
{
  "resourceType": "ServiceRequest",
  "id": "75a9f2ad-fdaf-4661-a7ce-f1098547d322",
  "meta": {
    "profile": [
      "https://fhir.nhsbsa.nhs.uk/StructureDefinition/ServiceRequest"
    ]
  },
  "identifier": [
    {
      "system": "https://fhir.nhsbsa.nhs.uk/Id/UrgentCareReference",
      "value": "{{REFERRAL_REFERENCE}}"
    }
  ]
},
{
  "resourceType": "MedicationDispense",
  "id": "b782e4e8-3901-464a-a3dc-2c286c0a6964",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
    ]
  },
  "status": "completed",
  "medicationCodeableConcept": {
    "coding": [
      {
        "system": "http://snomed.info/sct",
        "code": "{{DRUG_CODE1}}",
        "display": "{{DRUG_DESC1}}"
      }
    ]
  },
  "quantity": {
    "value": "{{DRUG_QTY1}}",
    "unit": "{{DRUG_UNIT1}}",
    "system": "http://unitsofmeasure.org"
  },
  "whenHandedOver": "{{PROVISION_DATE}}"
},
{

```

```

"resourceType": "MedicationDispense",
"id": "79345ce6-afb3-4929-b76c-6c7993ff4f4b",
"meta": {
  "profile": [
    "http://hl7.org/fhir/StructureDefinition/MedicationDispense"
  ]
},
"status": "completed",
"medicationCodeableConcept": {
  "coding": [
    {
      "system": "http://snomed.info/sct",
      "code": "{{DRUG_CODE}}",
      "display": "{{DRUG_DESC}}"
    }
  ]
},
"quantity": {
  "value": "{{DRUG_QTY}}",
  "unit": "{{DRUG_UNIT}}",
  "system": "http://unitsofmeasure.org"
},
"whenHandedOver": "{{PROVISION_DATE}}"
},
"extension": [
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-ExemptionType",
    "valueCodeableConcept": {
      "coding": [
        {
          "system": "https://fhir.nhsbsa.nhs.uk/Id/ExemptionType",
          "code": "F",
          "display": "Prescription pre-payment certificate (PPC)"
        }
      ]
    }
  },
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
    "valueReference": {
      "reference": "#b782e4e8-3901-464a-a3dc-2c286c0a6964"
    }
  },
  {
    "url": "https://fhir.nhsbsa.nhs.uk/StructureDefinition/Extension-MedicationDispense",
    "valueReference": {
      "reference": "#79345ce6-afb3-4929-b76c-6c7993ff4f4b"
    }
  }
],
"type": {
  "coding": [
    {
      "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsType",
      "code": "{{CLAIM_TYPE_CODE}}",
      "display": "{{CLAIM_TYPE_DESC}}"
    }
  ]
},
"identifier": [
  {
    "system": "https://fhir.nhsbsa.nhs.uk/Id/CpcsClientReference",
    "value": "{{DEPOSIT_ID}}"
  }
],
"patient": {
  "reference": "#4812c16e-d9e7-46ea-86cb-65fcdc19faab"
},
"provider": {
  "reference": "#308d7201-ed47-4360-ac5b-0d523001c6d5"
},
"referral": {
  "reference": "#75a9f2ad-fdaf-4661-a7ce-f1098547d322"
},
"billablePeriod": {
  "start": "{{CLAIM_MONTH_START}}"
}
"supportingInfo": [
  {
    "sequence": 1,

```

```

    "category":{
      "coding":[
        {
          "system":"http://terminology.hl7.org/CodeSystem/claiminformationcategory",
          "code":"DOSE_NUMBER"
        }
      ]
    },
    "valueString":"{{1,2,3...}}"
  }
}

```

Step 3: Send the Delete Claim Message

You can now prepare and make a DELETE call to the NHSBSA API with the following pattern.

Note: This is not an ITK3 message, so there is no Bundle or Message Header required.

URL	https://stg.services.nhsbsa.nhs.uk/pharmacy-cpcs-api/resources/Claim/{{CLAIM_ID}}
Http Headers	Content-Type: application/json
	Accept: application/json
	Cache-Control: no-cache
Body	JSON representation prepared in Step 2 above

Step 4: Receive your response

A successful response will be sent synchronously within 30 seconds [DN: To check] with an http code 204 (No Content) and not contain a response body:

Other potential responses:

400 – Bad Request (unparseable or other major issue). Contains a JSON representation of an OperationOutcome resource in the body of the response:

```

{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "Failed to parse request body as JSON resource. Error was: Invalid attribute value
  \\": Attribute values must not be empty (\\")"
    }
  ]
}

```

In order to make these 422 error messages more recognizable, the most common messages include detail with the code of the error. See: [Annex - detailed errors](#)

```

{
  "resourceType": "OperationOutcome",
  "issue": [
    {

```



```

"severity": "error",
"code": "invalid",
"diagnostics": "Api client ID mismatch",
"details": {
  "coding": [
    {
      "system": "https://fhir.nhsbsa.nhs.uk/Id/CustomIssueType",
      "code": "MSG_ID_DEPOSIT_ID_MISMATCH",
      "display": "Api client ID mismatch"
    }
  ]
}
]
}

```

500 – Unexpected error. Contains a JSON representation of an OperationOutcome resource in the body of the response:

```

{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "Unexpected exception"
    }
  ]
}

```

Developer Guide to Pharmacy Claim Reads

Step 1: Gather your materials

You will need:

CLAIM_ID	Id of the claim in NHSBSA. Generated when the record is saved. Included in the response of POST (create).
PLATFORM_DEPOSIT_ID	A string that uniquely identified this claim. Each platform will be provided with a pattern to use. For example, PharmOutcomes uses the pattern PEM-nnn-SPID-nnnnnn and Sonar uses the pattern SON-nnnnnnnn to uniquely identify this deposit in audits and CRUD operations. Max. size 255.

Step 2: Send the Read Claim Message

You can now prepare and make a GET call to the NHSBSA API with the following pattern.

Note: This is not an ITK3 message, so there is no Bundle or Message Header required.

URL	https://stg.services.nhsbsa.nhs.uk/pharmacy-cpcs-api/resources/Claim/{{CLAIM_ID}}
Http Headers	Content-Type: application/json
	Accept: application/json
	Cache-Control: no-cache
	Client-Id: {{PLATFORM_DEPOSIT_ID}}
Body	N/A

Step 4: Receive your response

A successful response will be sent synchronously within 30 seconds with an http code 200 (OK) with a response body: (see [bookmarked](#))

Other potential responses:

400 – Bad Request (missing header, CLAIM_ID and PLATFORM_DEPOSIT_ID mismatch or other major issue). Contains a JSON representation of an OperationOutcome resource in the body of the response:

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "invalid",
      "details": {
        "coding": [
          {
            "system": "https://fhir.nhsbsa.nhs.uk/Id/CustomIssueType",
            "code": "MSG_ID_DEPOSIT_ID_MISMATCH",
            "display": "Api client ID mismatch"
          }
        ]
      },
      "diagnostics": "Api client ID mismatch"
    }
  ]
}
```

404 – Not found - claim cannot be found by the provided Ids. This includes scenarios when the claim did exist in the past but it is now deleted.

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "invalid",
      "diagnostics": "Existing claim not found"
    }
  ]
}
```

500 – Unexpected error. Contains a JSON representation of an OperationOutcome resource in the body of the response:

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "Unexpected exception"
    }
  ]
}
```

	CPCS NHS 111 Referred Emergency Supply	CPCS NHS 111 Referred Minor Illness (in- cludes Gp Refer- rals)	Advanced Flu Service [DN: TBC]	Covid-19 Vaccination Service
MESSAGE_PROFILE	✓	✓	✓	✓
PLATFORM_DEPOSIT_ID	✓	✓	✓	✓
PROVISION_DATE	✓	✓	✓	✓
CLAIM_MONTH_START	✓	✓	✓	✓
CLAIMANT_ODS	✓	✓	✓	✓
PATIENT_GIVEN	✓	✓	✓	✓
PATIENT_FAMILY	✓	✓	✓	✓
PATIENT_DOB	✓	✓	✓	✓
PATIENT_NHSNO	✓	✓	✓	✓
PATIENT_ADDRESS	✓	✓	✓	✓
PATIENT_POSTCODE	✓	✓	✓	✓
PATIENT_EXEMPT_CODE	✓	x	x	x
PATIENT_EXEMPT_DISPLAY	✓	x	x	x
PATIENT_GPODS	✓	✓	✓	✓
PATIENT_GPPRACTICE	✓	✓	✓	✓
PATIENT_GPADDRESS	✓	✓	✓	✓
PATIENT_GPPOSTCODE	✓	✓	✓	✓
REFERRAL_REFERENCE	✓	✓	x	x
DRUG_CODE	✓	x	✓	✓
DRUG_DESC	✓	x	✓	✓
DRUG_QTY	✓	x	✓	✓
DRUG_UNIT	✓	x	✓	✓
DOSE_NUMBER	x	x	x	✓

Fields used in different services

The different CPCS and other pharmacy services that can be claimed for have different message profiles. This table is provided to allow platform providers to consider the different requirements.

Annex – Message Profiles

The following message profiles and sub-types are available to provide claim information through the NHS BSA API.

[DN: Subject to change]

Type	SubType Code	Display
https://fhir.nhsbsa.nhs.uk/StructureDefinition/CpcsToken		
	EMG_MED	NHS Urgent Medicines Supply
	MIN_ILL	Digital Minor Illness Referral
https://fhir.nhsbsa.nhs.uk/StructureDefinition/FluVacc		
	FLU_VAC	NHS Seasonal Flu Vaccination
https://fhir.nhsbsa.nhs.uk/StructureDefinition/CovidVacc		
	COVID_VAC	Covid-19 Vaccination

Annex – Levy Exemption Codes

The following codes and descriptions should be used when a patient has received a medication that is subject to prescription levy or equivalent.

If a levy was paid, then the message segment (extension) should be omitted from the message.

Code	Display
A	60 years of age or over or under 16 years of age
B	Full-time students aged 16, 17 or 18
C	60 years of age or over
D	Maternity exemption
E	Medical exemption
F	Prescription pre-payment certificate (PPC)
G	War pension exemption
H	Income support (IS) or Income-related Employment and Support Allowance
K	Income-based Jobseeker's allowance (JSA) or Universal Credit (UC)
L	HC2 charges certificate
M	NHS Tax Credit Exemption
S	Pension Credit (Guarantee credit) paid on its own, or Pension Credit (Guarantee Credit with Savings Credit)
X	Free of charge contraceptives
HMP	Prisoner on release
U	Universal Credit and meets the criteria

Annex – Validation

PATIENT_POSTCODE

```
^[Gg][Ii][Rr] 0[Aa]{2}|((([A-Za-z][0-9]{1,2})|([A-Za-z][A-Ha-hJ-Yj-y][0-9]{1,2})|([A-Za-z][0-9][A-Za-z])|([A-Za-z][A-Ha-hJ-Yj-y][0-9]?[A-Za-z]))) ?[0-9][A-Za-z]{2})$
```

Additionally the following codes are valid:

ZZ99 3VZ (No Fixed Abode)

ZZ99 3WZ (Address Not Known)

ZZ99 3CZ (England UK - not specified)

ZZ99 3GZ (Wales)

ZZ99 1WZ (Scotland)

ZZ99 2WZ (Northern Ireland)

PATIENT_GPPOSTCODE

```
^[Gg][Ii][Rr] 0[Aa]{2}|((([A-Za-z][0-9]{1,2})|([A-Za-z][A-Ha-hJ-Yj-y][0-9]{1,2})|([A-Za-z][0-9][A-Za-z])|([A-Za-z][A-Ha-hJ-Yj-y][0-9]?[A-Za-z]))) ?[0-9][A-Za-z]{2})$
```


Annex - detailed errors

Code	Description
MSG_CPCS_DECLARATION_NOT_ACCEPTED	Organization has not accepted the CPCS declaration (for types EMG_MED and MIN_ILL).
MSG_ALREADY_SUBMITTED	Monthly submission is already done.
MSG_BILLING_PERIOD_NOT_IN_RANGE	Billing period is out of the allowed range.
MSG_DUPLICATE_DEPOSIT_ID	DEPOSIT_ID already exists (as it should be unique)
MSG_UPDATE_OF_FIELD_NOT_ALLOWED	Any of CLAIMANT_ODS, CLAIM_MONTH_START, DEPOSIT_ID or CLAIM_TYPE_CODE provided is different from the value stored in the database.
MSG_ID_DEPOSIT_ID_MISMATCH	Api client ID mismatch
MSG_UNKNOWN_VACCINE	Vaccine is not on the list of approved vaccines (for type FLU_VAC only)

Annex – Performance

Outcome of API server's performance testing.

Test Scope and Background

This results summary documents the type of testing carried out with data specifics and a result output from the test.

Smoke: The initial test saw 10 users with a simple request over a duration of 10 seconds, in order to generate confidence in the environment configuration.

Average Expected User Throughput: 3.47 / sec

Load Test: Following the success of the smoke test we increased the user load to 12 per second ramped up and sustained over a longer period

The test was set up to check 12 arrivals per second (jmeter's target rate), over 8 minutes to ensure that the system could handle a larger user load than the expected amount.

Test Details

The test scenario that is loaded contains 3 HTTP request submissions:

Firstly a **POST** request generates a CPCS submission, this submission is then amended using the **PUT** request, before it is deleted using **DELETE**. This is repeated under a load specified in the configuration.

Test Output

Expected average Throughput: 3.47 / sec

Tested arrivals per second: 12 / sec

Overall sample count: 17181 samples over 8 minutes

User throughput result: 11.5 / sec

Error count result: 0%

The results show that the system can provide a peak user throughput of 11.5 when loaded with 12 arrivals per second, which is more than the expected amount (25 million submissions per year: 3.47 per second average).

Summary

Summary Report

Name: Summary Report

Comments:

Write results to file / Read from file

Filename: /Users/jackreed/Numsas Load Test/NUMSAS Staging.csv

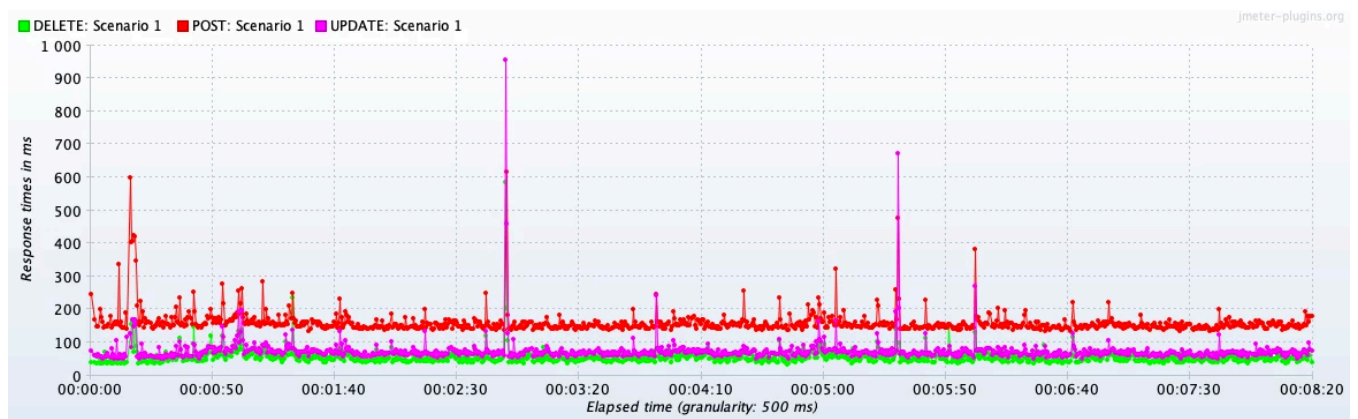
Browse...

Log/Display Only: Errors Successes

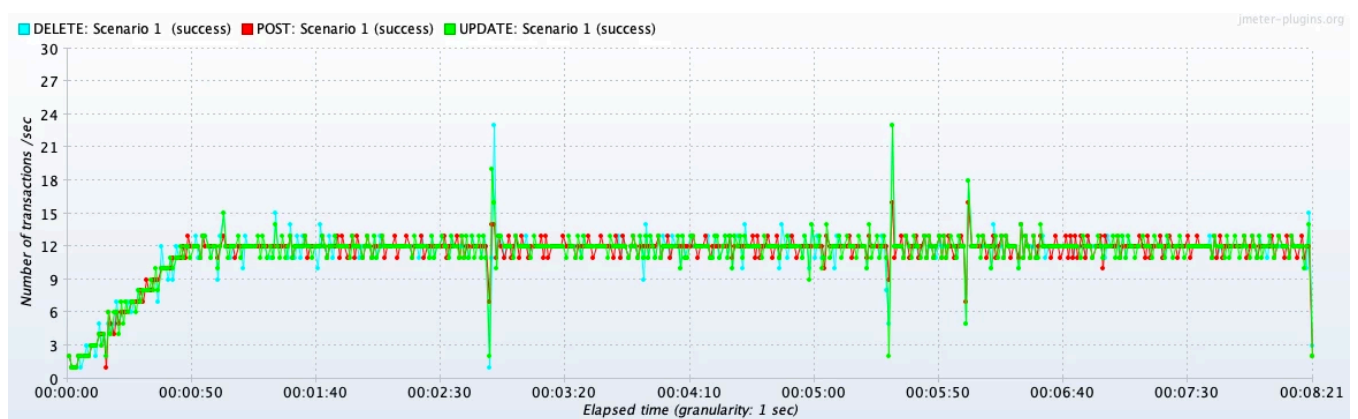
Configure

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received KB/sec	Sent KB/sec	Avg. Bytes
POST: Scenario 1	5727	159	125	1682	51.34	0.00%	11.5/sec	86.88	79.45	7769.5
UPDATE: Scenar...	5727	74	45	1339	48.40	0.00%	11.5/sec	85.97	79.58	7685.3
DELETE: Scenari...	5727	55	30	686	26.25	0.00%	11.5/sec	5.75	79.62	514.0
TOTAL	17181	96	30	1682	62.83	0.00%	34.3/sec	178.53	238.55	5322.9

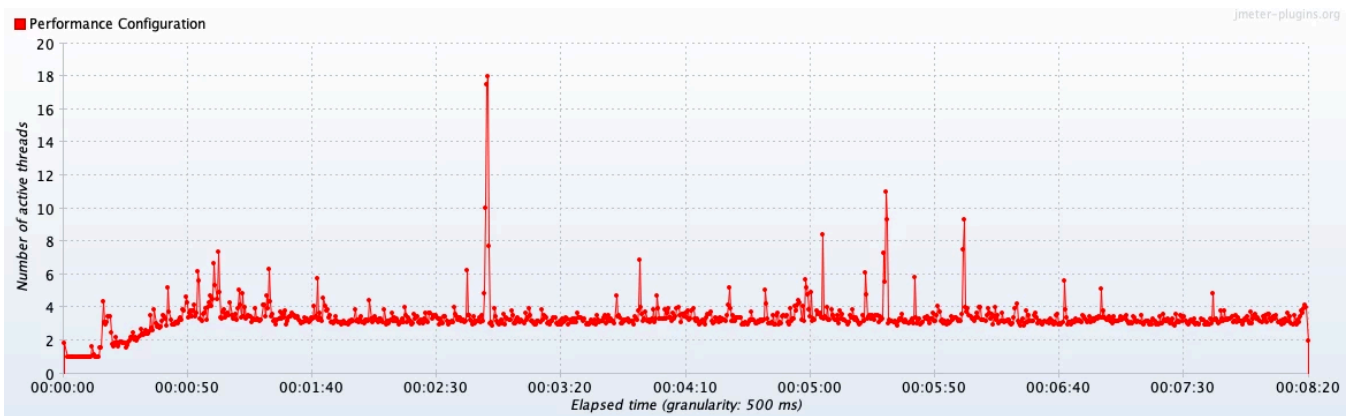
Response Time over Time:



Transactions/sec over Time:



Number of active threads over Time:



Seasonal Influenza Advanced Service

- As of 16.04.2020: 1.7 million vaccines submitted for 2019/2020 season. Initial load tests covering up to 25 million / year. In case of introducing GP submissions load tests need to be re-run.

Annex – List of approved vaccines

Flu vaccinations

2019/2020

Supplier Name	AMP Name	AMP Snomed Code	AMPP Snomed Code	Expected qty	UoM
Seqirus Vaccines Ltd	Fluad vaccine suspension for injection 0.5ml pre-filled syringes	37514711000001105	37514811000001102	1	pre-filled disposable injection
GlaxoSmithKline UK Ltd	Fluarix Tetra vaccine suspension for injection 0.5ml pre-filled syringes	22704311000001109	25256511000001107	1	pre-filled disposable injection
Seqirus Vaccines Ltd	Flucelvax Tetra vaccine suspension for injection 0.5ml pre-filled syringes	36509011000001106	36510911000001101	1	pre-filled disposable injection
Mylan	Influenza Tetra MYL vaccine suspension for injection 0.5ml pre-filled syringes	35726811000001104	35726911000001109	1	pre-filled disposable injection
Mylan	Influvac sub-unit Tetra vaccine suspension for injection 0.5ml pre-filled syringes	35727111000001109	35727211000001103	1	pre-filled disposable injection
Sanofi Pasteur	Quadrivalent influenza vaccine (split virion, inactivated) suspension for injection 0.5ml pre-filled syringes	34680411000001107	34680511000001106	1	pre-filled disposable injection

2020/2021

Preview - to be confirmed

Supplier Name	Vaccine	AMPP Snomed Code	Expected qty	UoM
Seqirus Vaccines Ltd	Adjuvanted trivalent influenza vaccine (surface antigen, inactivated) suspension for injection	37547311000001106	1	pre-filled disposable injection

Supplier Name	Vaccine	AMPP Snomed Code	Expected qty	UoM
Seqirus Vaccines Ltd	Adjuvanted trivalent influenza vaccine (surface antigen, inactivated) suspension for injection	37547311000001106	1	pre-filled disposable injection
GlaxoSmithKline UK Ltd	Fluarix Tetra vaccine suspension for injection	25256511000001107	1	pre-filled disposable injection
Seqirus Vaccines Ltd	Flucelvax Tetra vaccine suspension for injection	36510911000001101	1	pre-filled disposable injection
Mylan	Influvac sub-unit Tetra vaccine suspension for injection	35727211000001103	1	pre-filled disposable injection
Sanofi Pasteur	Quadrivalent influenza vaccine (split virion, inactivated) suspension for injection	34680511000001106	1	pre-filled disposable injection

Covid-19 Vaccinations

2020/2021

To be confirmed