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## ITK Spine Mini Service – PDS Provider Requirements

# Document Management

## Revision History

Version	Date	Summary of Changes
1.0	23/06/2014	First version issued by HSCIC.
1.1	23/09/2014	Added additional clarifications for wildcard usage within request messages.

## Reviewers

This document must be reviewed by the following people: [author to indicate reviewers](#)

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## Reference Documents

Ref no	Doc Reference Number	Title	Version
1	0405.04	0405.04 ITK 2.01 Additional Module Spine Mini Services Provider Requirements v2.1.pdf - (Deprecated)	2.1
2	0406.04	0406.04 ITK 2.01 Spine Mini Services Logical Interface Overview v2.1.pdf - (Deprecated)	2.1

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# 1 Introduction

Spine Mini Services are a specification to enable suppliers of third party software to provide solutions that provide a greatly simplified interface for accessing a subset of Spine services. The intent is to thus lower the “barrier to entry” to the Spine.

This document forms part of the overall document set for the Interoperability Toolkit (ITK).

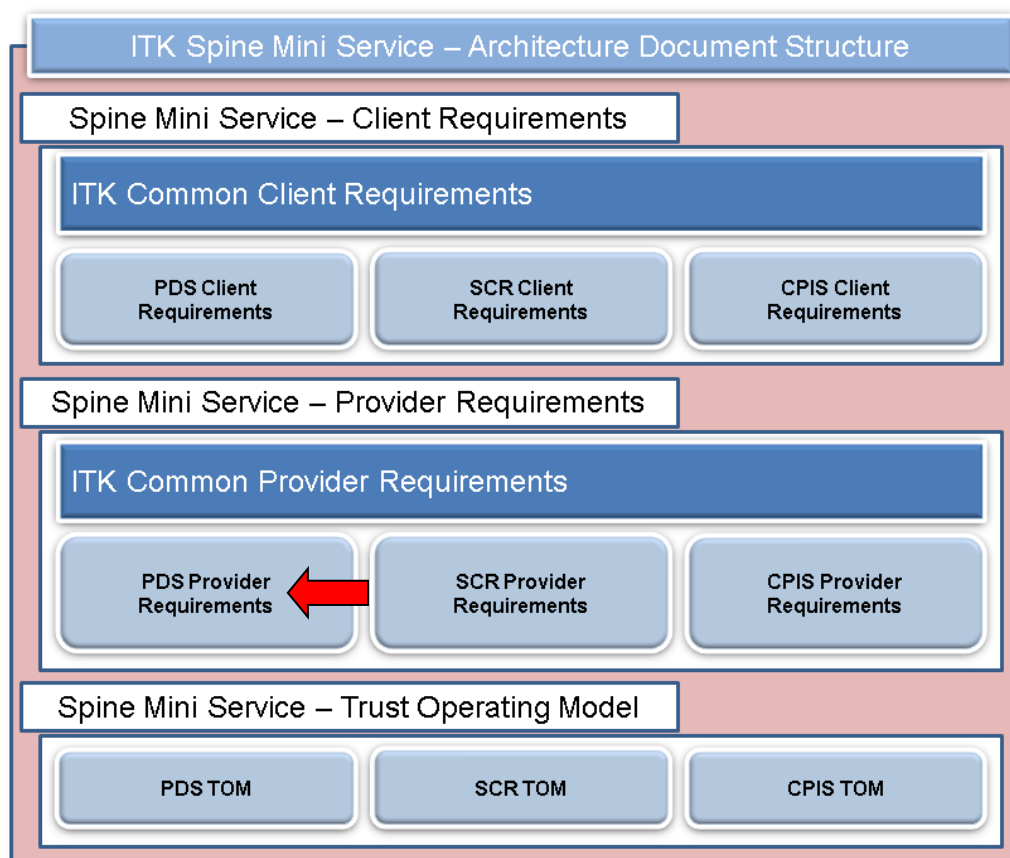
## 1.1 Purpose of Document

This document is a specification for the implementation of services that are expected to be provided by a Spine Mini Service Provider (SMSP). There are also requirements in here for the design and assurance process. The implementation specification provides some requirements for some non functional behaviour of the SMSP as well as some guidance for implementation decisions.

Some of the requirements in this document will be assured using the Common Assurance Process and some will be assured using the ITK Accreditation process..

## 1.2 ITK Documentation Set

The position of this document in relation to the document set is shown below.



**Figure 1 – The ITK Spine Mini Services Architecture Document Set.**

## 1.3 Audience

The primary audience for this document are the developers (analysts, architects, developers) working on the ITK Component of the Spine Mini Service being developed. Within a Trust, the Project Manager and technical team will find the entire document set relevant.

These requirements are common/generic to all ITK Spine Mini Service Provider implementations.

## 2 High Level Overview

### 2.1 Level 0 view

A SMSP is an application which handles the complexity of dealing with the Spine TMS boundary yet provides a simplified interface to its clients. The complexity saving can be expressed both in terms of relaxed requirements for certain system calls and or syntactically and semantically more concise messaging.

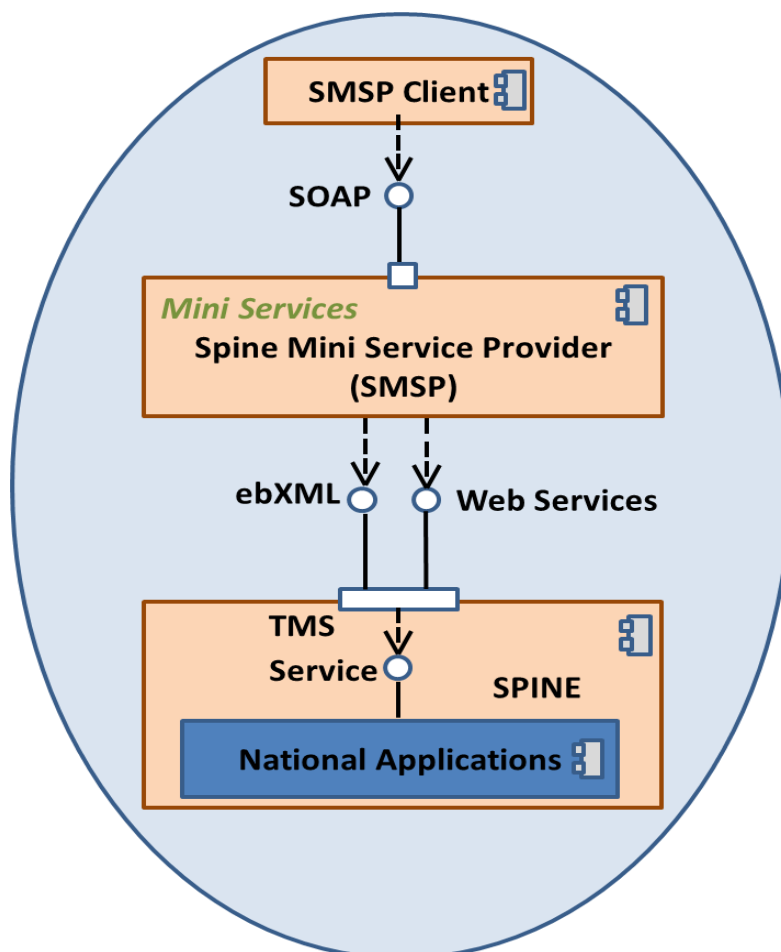
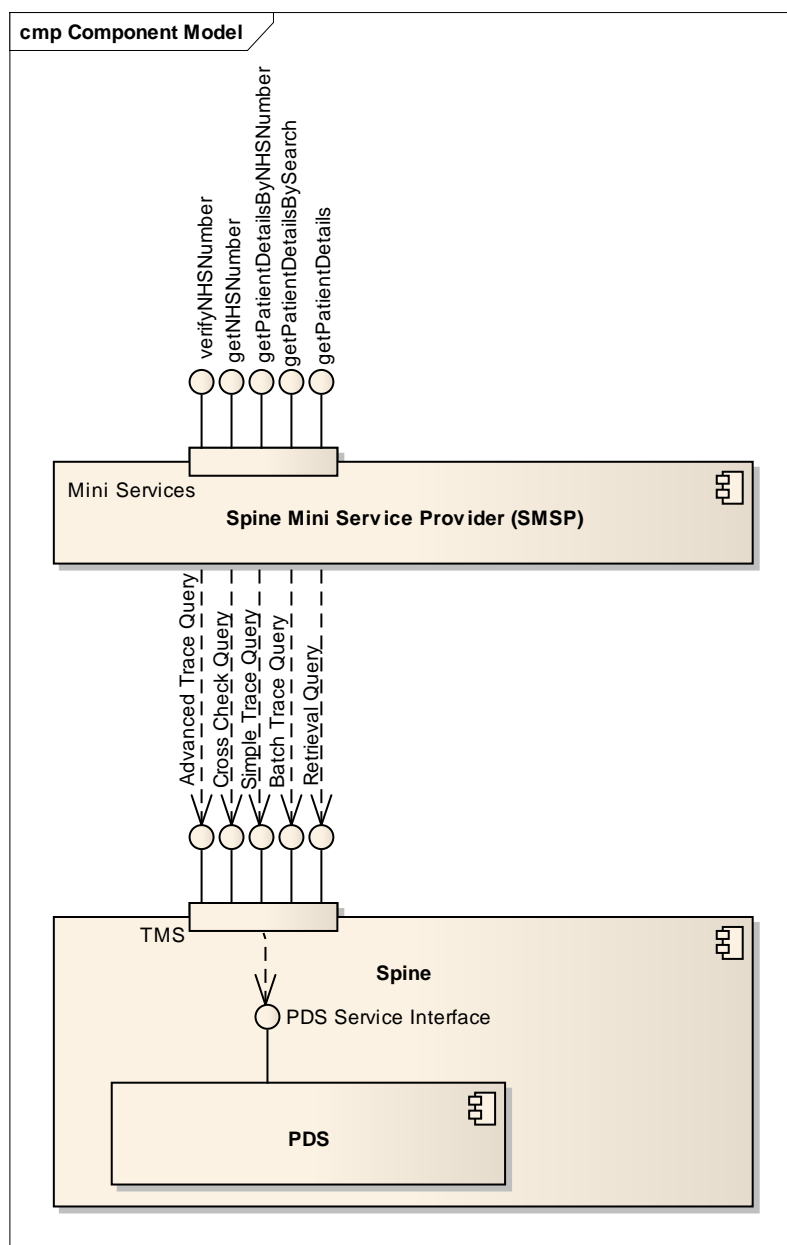


Figure 2: High Level view of an ITK Spine Mini Service

This document specifically focuses on a subset of PDS services that are of potential wide use in increasing adoption of the NHS number and/or getting access to more authoritative information regarding the patient's name, address and registered GP Practice details. The diagram below illustrates the PDS services which are elaborated in this specification. The services to Spine are guidelines only, not prescriptive.



**Figure 3: PDS Services in scope of this document**

A SMSP MAY (and indeed, in some cases MUST) provide internal business logic above and beyond simple adaptor logic (e.g. filtering, protocol translation etc.). The following sections in the document are logical groupings of related principles of the

architecture of an SMSP that must be considered and have some additional requirements. Some areas may overlap areas that are covered in other related documents from the Mini Services pack; notably the Interface specification and the Vocabulary specification.

### 3 PDS Service Definitions

All the services will be SOAP services and will be synchronous over HTTP. A given response object is deterministic for any given request object to a given endpoint. The following diagram shows an overall view of the request and response message pairs in scope of this document.

Note, in any service response some elements may be either *blank* indicating that the Spine has this information and *it is blank*, or may be *omitted* indicating that the Spine has simply returned no information about this field.

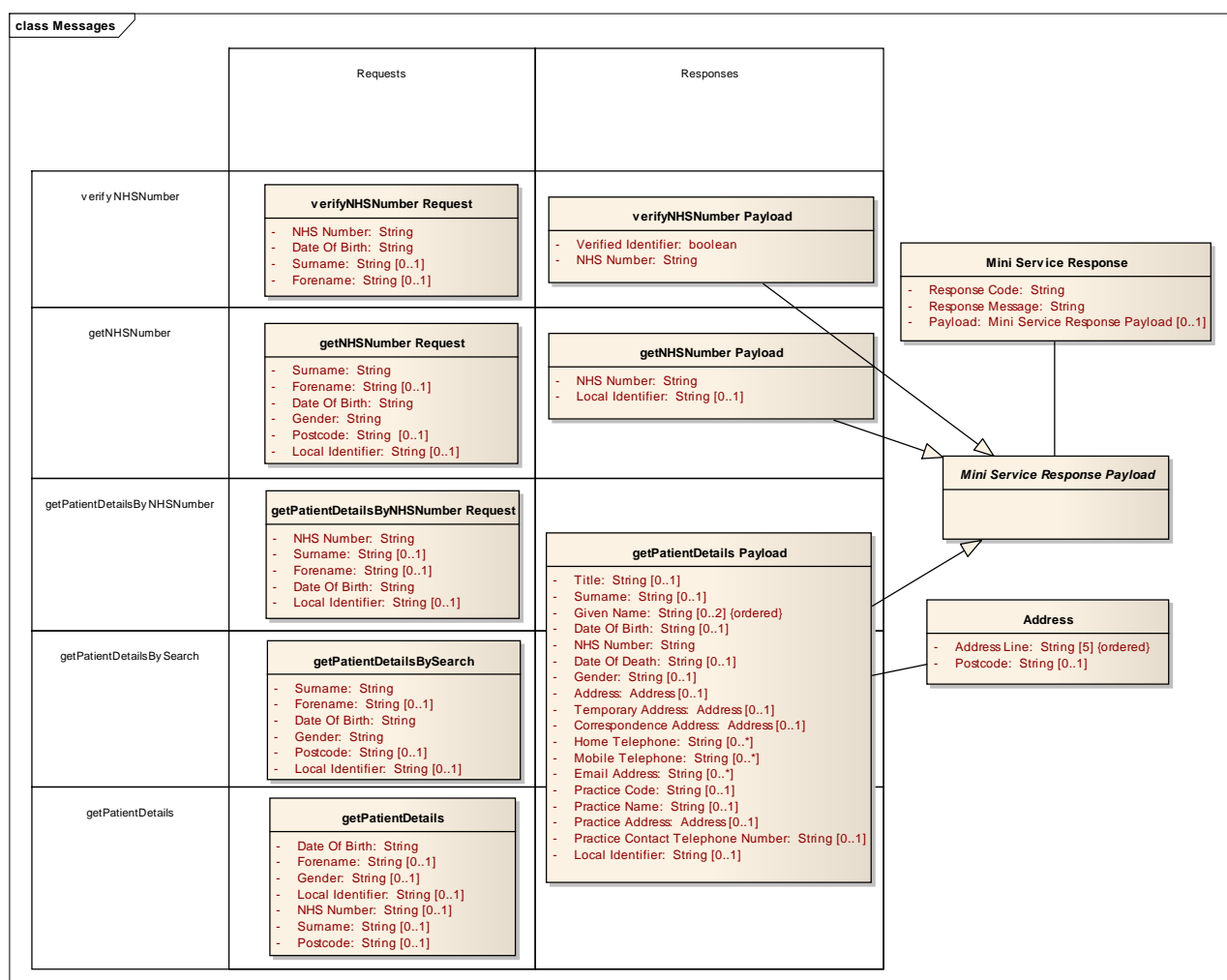


Figure 4: PDS Spine Mini Service Messages

It is mandatory to implement all of the mini services.



### 3.1 Mini Service to Spine Service mapping

Ref	Description
<b>SMSP- MESSAGES-001</b>	<b>Appropriate usage of National Application services MUST be elaborated in documentation</b>
(1)	The SMSP MUST provide documentation that elaborates the message mapping from the SMSP API to the MIM messaging used to access National Applications in order for DHID to assure suitability. This must also take into account how these messages interact in the context of any caching that may be implemented (see SMSP-CACHE-002: Design documentation MUST consider caching)
<b>NB:</b>	<p><b>Note:</b> Suppliers SHOULD use MIM 6.2.02 for Spine Mini Services. However, in practice the Mini Services interface does not mandate any particular MIM, though the following MUST NOT to be used:</p> <ul style="list-style-type: none"> <li>• MIM 1.x</li> <li>• MIM 2.x</li> <li>• MIM 3.x</li> </ul> <p>Suppliers SHOULD NOT implement messaging using MIM 4.x</p>

The following table is a suggested set of service mappings indicating which Spine services (some whose responses maybe cached) COULD be used to fulfil the required Mini Service. It is the supplier's responsibility to demonstrate accurate and performant usage of PDS.

Whilst this is a suggested mapping, other services may be possible for use but there may be compliance implications of choosing other services. Ultimately any choice of Spine services will need to be justified.

Mini Service	Suggested Spine Service(s)
verifyNHSNumber	Cross Check Trace Query
getNHSNumber	Advanced Trace Query – Alphanumeric or Simple Trace
getPatientDetailsBySearch getPatientDetailsByNHSNumber getPatientDetails	Advanced Trace Query – Alphanumeric or Simple Trace or Cross Check Trace Query Retrieval Query SDS/ODS Lookup

## 4 PDS Implementation Principles

### 4.1 PDS Data Elements and Messaging

Ref	Description
<b>SMSP-PDS-001</b>	<b>The SMSP MUST verify the NHS Number before allowing retrieval of any patient demographics</b>
(1)	<p>It is important that only verified NHS Numbers are used for retrieval of patient demographics – i.e. it has been confirmed that the NHS Number correlates with other basic demographics such as Name and Date of Birth. This helps to prevent, for example, patient safety issues which might arise if the wrong NHS Number were to be used.</p> <p>The Mini Services interface provides for this concept by never allowing an NHS Number to be used alone as an input parameter. Rather it is always accompanied by basic demographics which can be used to verify it first.</p> <p>It is the responsibility of the SMSP to ensure that this verification is always performed. Typically this would be implemented by the SMSP performing its own PDS Cross-Check internally before going on to action any retrieval request.</p>

<b>SMSP-PDS-002</b>	<b>The SMSP MUST return only a single match in response to searches</b>
(1)	<p>This restriction to returning only a single match greatly simplifies the considerations for an end application, including IG risks. (If the ability to search lists of potential matches is desired then mini services are not suitable and full PDS compliance must be undertaken).</p> <p>If a search request identifies multiple potential matches on PDS then the SMSP MUST return the appropriate error code via the Mini Services interface</p>

<b>SMSP-PDS-003</b>	<b>The SMSP MAY cache multiple matches, in order to process subsequent search refinements more efficiently</b>
(1)	<p>As-per SMSP-PDS-002, the SMSP MUST only return a single match in response to searches.</p> <p>However if multiple matches are returned from PDS then the SMSP MAY cache them internally, in order to more efficiently process subsequent user requests to refine their search.</p>

**SMSP-PDS-005: <<DELETED>>**

<b>SMSP-PDS-006</b>	<b>Cardinality of elements in PDS responses MUST be honoured</b>
(1)	<p>PDS may return elements with explicitly blank values or it may decline to return an element at all. Both of these have different meanings with regards to the client application's expected behaviour. For example, a patient with shielded data may have their address details removed from the output message by PDS. This is different to an updated address that includes one or more blank lines which should be used to replace existing address lines.</p> <p>Thus, elements that are omitted from a PDS response message MUST be omitted from the SMSP response message</p>

<b>SMSP-PDS-007</b>	<b>Date fields returned by PDS that are of a higher resolution than the maximum resolution specified in the interface specification MUST be truncated to the correct resolution</b>
(1)	<p>PDS may return dates to a greater resolution than specified in the ITK SMSP Interface Specification. In cases where this happens it is a requirement of the SMSP to truncate the field to the resolution specified.</p>

**SMSP-PDS-008: <<DELETED>>**

<b>SMSP-PDS-009</b>	<b>Data served through the API MUST be sourced solely from the national demographic service</b>
(1)	<p>Data served through the API MUST be provided from the national demographics service – i.e. the SMSP API MUST NOT serve information derived from another source. This excludes auxiliary information provided on the request message that may be reflected. E.g. Local Patient Identifier.</p>

<b>SMSP-PDS-010</b>	<b>The SMSP MUST be able to handle wildcards</b>
(1)	<p>The SMSP MUST be able to handle wildcards in all the places where it is defined as possible in the interface specification (and this will be tested as part of accreditation).</p>

## 4.2 PDS Mini Service to Spine Service - Error Mapping

<b>SMSP-ERR-005</b>	<b>Error codes MUST provide sufficient detail about the outcome of calls to national applications</b>
<p>There are many scenarios where a final outcome of one or more calls to PDS is that a business error is returned from PDS itself. This is important information to pass back to the SMSP client so that it has the opportunity to handle it appropriately and/or inform the user about the nature of the problem.</p> <p>Whilst the precise details of error handling and mapping are a responsibility of each supplier's implementation, the following business error scenarios MUST be distinguishable by use of the appropriate SMSP error code:</p>	
Business Error Scenario	SMSP Error Code
<b>No match found</b> The parameters supplied were not a match to any Service User record in the PDS database. Error code 1 is a typical example of one error code which could have been returned by PDS in this scenario.	<b>DEMOG-0001</b>
<b>Multiple Matches</b> The parameters supplied were not able to identify a single match in PDS – rather multiple potential matches were found. Error code 7 is a typical example of one error code which could have been returned by PDS in this scenario.	<b>DEMOG-0007</b>
<b>NHS Number Superseded</b> The NHS Number supplied as a parameter was matched with a record in PDS, but identified as an NHS number that has been superseded via a merge and is no longer a current valid NHS Number. However, a replacement (superseding) NHS number is available and is being returned. Error codes 17 or 44 are typical examples of two error codes which could have been returned by PDS in this scenario.	<b>DEMOG-0017</b>
<b>NHS Number Invalid</b> The NHS Number supplied exists on PDS but is no longer in use and no replacement (superseding) NHS Number is available. Error code 22 is a typical example of one error code which could have been returned by PDS in this scenario.	<b>DEMOG-0022</b>
<b>NHS Number Not Verified</b> The NHS Number supplied exists on PDS and is still in use but the demographic data also supplied does not result in the correct degree of matching. Error code 40 is a typical example of one error code which could have been returned by PDS in this scenario.	<b>DEMOG-0040</b>
<b>Not a new style NHS Number</b> The NHS Number supplied is not a 10 digit new style NHS Number. Error code 42 is a typical example of one error code which could have been returned by PDS in this scenario.	<b>DEMOG-0042</b>
<p>Note that with the examples given above there may also be another accompanying error code returned by PDS, as specified in the error base, and that the examples above are illustrative not exhaustive. Alternative mappings by suppliers may be considered. The examples given do not imply specific behaviour of the SMSP system.</p> <p>For business error scenarios returned by PDS other than those listed above then a generic code of DEMOG-9999 MAY be used as a default.</p> <p>NB: Validation errors detected by PDS are however a special case – see SMSP-ERR-006 for more</p>	

about this.

## 4.3 verifyNHSNumber

The 'verifyNHSNumber' service provides the ability to ascertain whether or not an individual given NHS Number exists and is verified for a given patient identified by a set of demographic details.

### Key Points:

- 4.3.1 Wildcards are not permitted.
- 4.3.2 Field validation will be performed for mandatory fields and field formatting. (E.g. Modulus 11 check on NHS Number).
- 4.3.3 The NHS Number within the request is considered verified if a NHS Number is found on PDS and the Date of Birth in the request exactly matches the Date of Birth held on PDS for the record in the format of YYYYMMDD.
- 4.3.4 If the above check fails, the NHS Number within the request is considered verified should 2 out of 3 parts of the Date of Birth match (YYYY or MM or DD), the first 3 characters of the Surname match and the initial character of the forename match that held for the record on PDS. (If either of Surname and Forename are not supplied then this step obviously cannot be performed).
- 4.3.5 If both of the above checks fail to find a match then NHS Number is treated as not verified.
- 4.3.6 If the NHS Number has been superseded and the details are otherwise correct then the service will return the superseding, verified NHS Number.

### Request Message

Parameter	Attributes	Description	Cardinality
<b>NHS Number</b>		The NHS standard identifier for an individual. [Max 10 Numerical Characters only]	1..1
<b>Date of Birth</b>		The date of birth for an individual in the format of YYYYMMDD [Numerical Characters only in YYYYMMDD format]	1..1
<b>Surname</b>		The surname for an individual. (If populated then at least the first 3 characters of the surname are required).	0..1
<b>Forename</b>		The forename for an individual. (If populated then at least the initial character of the forename is required).	0..1

## Response Message

Parameter	Attributes	Description			Cardinality	
Response Code		A response code returned. NB: See the “ITK Spine Mini Services Vocabulary Specification” For a list of these codes and their meanings			1..1	
Response Display Name		A response code display name, containing the explanation of the response or error.			1..1	
Payload					0..1	
		Parameter	Attributes	Description		Cardinality
		Verified Identifier		A Boolean flag indicating whether or not the NHS Number passed in the request has been verified. The value of the parameter will either be ‘TRUE’ or ‘FALSE’.		1..1
		NHS Number		The NHS standard identifier for an individual, where the NHS Number provided in the request has been verified.  NB: this NHS Number could in fact be different from the NHS Number provided within the request, still returning a ‘Valid Identifier’ field value of True (e.g. for the case of a Superseded NHS Number used within the request). This will be indicated to the client in the response code.	1..1	

## 4.4 getNHSNumber

The '*getNHSNumber*' service provides the ability to perform a simple search for a patient, based upon given demographic data items to enable the NHS Number to be obtained, should a single match be found.

Due to the potential to search against history the details returned from the '*getPatientDetailsByNHSNumber*' mini service (using the NHS Number returned from this service) could be different to the demographics used in the request when invoking this service initially.

(Example scenario: Jane Smith's NHS Number is looked up using *getNHSNumber*. The resulting NHS Number is then passed into *getPatientDemographics* and Jane Bloggs' details come back because history was searched initially and Jane has married and changed her name)

Once this service has been called, the NHS Number can then be used to retrieve other key demographics should they be required.

### Key Points:

- 4.4.1 Field validation will be performed for mandatory fields and field formatting.
- 4.4.2 A single record match will be returned or a business error – there will be no multiple matches returned.
- 4.4.3 Exact matching (with wildcarding) only is supported, as per the description in this section i.e. no “fuzzy” algorithms are applied. For example “Bill” would NOT match “William”.
- 4.4.4 Name parameters (Surname and Forename) are compared to all name types
- 4.4.5 Postcode is compared against postcodes held for all address types.
- 4.4.6 Case insensitive matching is used for Names and Postcode
- 4.4.7 White space and punctuation characters are significant.
- 4.4.8 The service matches dates at the precision of the lowest common resolution: e.g. if '200504' is supplied as the parameter, it will match against the following dates: '200504' and '20050401' to '20050430'.
- 4.4.9 History MAY be searched (when using Advanced Trace) but not returned (N.B. This means that it is possible to get results that do not “at face value” match the input criteria.)



## Request Message

Parameter	Attributes	Description	Cardinality
<b>Surname</b>		The surname for an individual. <i>NB: Supports wildcarding using the '*' character. However, wildcard substitutions must be preceded by a minimum of two characters. Whole word wildcard substitutions are not permitted.</i>	1..1
<b>Forename</b>		The forename for an individual. <i>NB: Supports wildcarding using the '*' character. However, wildcard substitutions must be preceded by a minimum of two characters. Whole word wildcard substitutions are not permitted.</i>	0..1
<b>Date of Birth</b>		The date of birth for an individual. Date formats will be YYYYMMDD, YYYYMM, or YYYY. [Numerical Characters only]	1..1
<b>Gender</b>		The administrative gender of an individual. <i>NB: the same gender values as specified within the MiM will be used in the mini services. However, these will be held within the "ITK Spine Mini Services Vocabulary Specification".</i>	1..1
<b>Postcode</b>		The postcode of an individual's address. [Max 8 Alphanumeric Characters only, including space – e.g. CNN NCC <sup>1</sup> ] <i>NB: Supports wildcarding using the '*' character. However, wildcard substitutions must be preceded by a minimum of two characters. Whole word wildcard substitutions are not permitted.</i>	0..1
<b>Local</b>		This is a placeholder for any local identifier – it will simply be reflected in the response message and does not affect	0..1

<sup>1</sup> For clarity, the validations required on a postcode are: (1) It is a maximum of 8 characters long (2) all characters are alphanumeric (3) exactly one of the characters is a space. (It is assumed that any leading / trailing spaces have been removed prior to these validations and it also excludes cases where wildcards are used). Note that these validations fall short of a full confirmation that the postcode is valid – this is intentional for purposes of (i) simplicity and (ii) due to known data quality issues with postcodes already in PDS

Identifier		the trace on the national demographics service	
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**Response Message**

Parameter	Attributes	Description	Cardinality												
Response Code		A response code returned. NB: See the “ITK Spine Mini Services Vocabulary Specification” For a list of these codes and their meanings	1..1												
Response Display Name		A response code display name, containing the explanation of the response or error.	1..1												
Payload		<table><tr><th>Parameter</th><th>Attributes</th><th>Description</th><th>Cardinality</th></tr><tr><td>NHS Number</td><td></td><td>The NHS standard identifier for an individual, as identified by a single match with the request parameters</td><td>1..1</td></tr><tr><td>Local Identifier</td><td></td><td>This is a reflection of the Local Identifier in the request message if presented and does not affect the trace on the national demographics service</td><td>0..1</td></tr></table>	Parameter	Attributes	Description	Cardinality	NHS Number		The NHS standard identifier for an individual, as identified by a single match with the request parameters	1..1	Local Identifier		This is a reflection of the Local Identifier in the request message if presented and does not affect the trace on the national demographics service	0..1	0..1
Parameter	Attributes	Description	Cardinality												
NHS Number		The NHS standard identifier for an individual, as identified by a single match with the request parameters	1..1												
Local Identifier		This is a reflection of the Local Identifier in the request message if presented and does not affect the trace on the national demographics service	0..1												

## 4.5 getPatientDetailsByNHSNumber

The “getPatientDetailsByNHSNumber” service provides the ability to retrieve demographic data items for an individual based upon an NHS Number.

### Key Points:

4.5.1 Wildcards are not permitted.

4.5.2 Field validation will be performed for mandatory fields and field formatting by the middleware implementation.

4.5.3 The NHS Number provided in the request will be verified as a precondition to retrieving the demographic details. (This verification will be processed as described in “verifyNHSNumber” above). Note that where a superseded NHS Number is detected by the initial verification of the NHS Number then the SMSP implementation SHOULD attempt to overcome this automatically – ie if applicable then the superseding number from the verification call should be used instead for the PDS retrieval. When this occurs then the NHS Number field in the response message MUST contain the superseding NHS Number (ie different to the NHS Number passed in to the request message), and the response code MUST be set to DEMOG-0017 to indicate what has happened.

4.5.4 Only current addresses (Home/Temporary/Correspondence) will be returned; Future dated addresses will not be returned

4.5.5 Name: only a name type of „L” (Usual Name) will be returned and will be the current name, else fields will be blank. (Future dated names will not be returned).

4.5.6 It is possible for certain data elements that have a 0..1 cardinality to return multiple items from PDS. This is due to the deliberately loose validation that PDS allows for back office updates through its own interface. This is particularly possible with current temporary and/or correspondence addresses. If this happens, then a Business Response code should be sent indicating that multiple elements were returned for a non-multiple element type and the list should be truncated to the first in the list (using natural order in the Spine response).

4.5.7 Telecom details: handling of these is as follows:

- Only the following subset of the telecoms details available in PDS are to be returned (all others MUST be omitted):
  - The home telephone contact number(s) of the individual. (All current Telecommunication Addresses with a use type of „HP” and „H” (Home number) should be listed.)
  - The mobile telephone contact number(s) of the individual. (All current Telecommunication Addresses with a use type of „MC” (Mobile number) should be listed.)
  - The email addresses of the individual.
- Where a telecom value is effectively null (e.g. <telecom/> or <telecom use=“HP”/> or <telecom use=“HP” value=“tel:”> or <telecom use=“HP” value=“tel: ”>) then omit the telecom element from the response message
- Telecom elements with Business Effective To dates that occur in the past must not be returned to the SMSP Client
- Be aware that PDS contains a variety of data in these telephone / email fields. The principle is that the SMSP should return whatever PDS contains “as is” (including any prefix such as “tel:” or “mailto:”) – i.e. no further attempt should be made to validate the content of these fields

**Request Message**

Parameter	Attributes	Description	Cardinality
<b>NHS Number</b>		The NHS standard identifier for an individual. [Max 10 Numerical Characters only]	1..1
<b>Date of Birth</b>		The date of birth for an individual in the format of YYYYMMDD [Numerical Characters only in YYYYMMDD format]	1..1
<b>Surname</b>		The surname for an individual. (If provided then at least the first 3 characters of the surname are required).	0..1
<b>Forename</b>		The forename for an individual. (If provided then at least the initial character of the forename is required).	0..1
<b>Local Identifier</b>		This is a placeholder for any local identifier – it will simply be reflected in the response message and does not affect the trace on the national demographics service.	0..1

**Response Message**

Parameter	Attributes	Description	Cardinality								
Response Code		A response code returned. NB: See the “ITK Spine Mini Services Vocabulary Specification” For a list of these codes and their meanings	1..1								
Response Display Name		A response code display name, containing the explanation of the response or error.	1..1								
Payload		<table><tr><th>Parameter</th><th>Attributes</th><th>Description</th><th>Cardinality</th></tr><tr><td>Title</td><td></td><td>The title for an individual.</td><td>0..1</td></tr></table>	Parameter	Attributes	Description	Cardinality	Title		The title for an individual.	0..1	0..1
		Parameter	Attributes	Description	Cardinality						
Title		The title for an individual.	0..1								

		<b>Surname</b>		The surname for an individual (Usual Name). [Name type 'L' Usual Name].	0..1		
		<b>Given Name</b>	order	The given name(s) for an individual The element will have an attribute of 'order' to specify which given name is the forename ('1') and which is the middle name ('2') should there be more than one given name present. (Usual Name). [Name type 'L' Usual Name].	0..2		
		<b>Date of Birth</b>		The date of birth for an individual in the format of:  YYYYMMDD or  YYYYMM or  YYYY	0..1		
		<b>NHS Number</b>		The NHS standard identifier for an individual.  [Max 10 Numerical Characters only]	1..1		
		<b>Date of Death</b>		The date (if applicable) that a person died in the format of  YYYYMMDD or  YYYYMM or  YYYY	0..1		
		<b>Gender</b>		The administrative gender of an individual.	0..1		
		<b>Address</b>					0..1
			<b>Parameter</b>	<b>Attributes</b>	<b>Description</b>		<b>Cardinality</b>
	<b>Address Lines</b>	order	The address line(s) for an individual.  The Address Lines element has an attribute of 'order' to determine the order of the address lines 1 – 5. If returned,	5..5			

					there will always be 5 Address Lines elements present within the response, with elements left blank where no value was returned.  [Address Type 'H' Home Address]  <i>NB: This is a deliberate simplification of the address formatting (i.e. House Name on line 1, House Number/Thoroughfare on line 2, Locality on line 3, Post Town on line 4 and County on line 5). Values returned will be placed and returned in the response, as found on PDS. Lines longer than 35 characters may be returned.</i>								
			Postcode		The postcode of an individual's address. [Address Type 'H' Home Address]  [Max 8 Alphanumeric characters]	0..1							
		Temporary Address	<table><thead><tr><th>Parameter</th><th>Attributes</th><th>Description</th><th>Cardinality</th></tr></thead><tbody><tr><td>Address Lines</td><td>order</td><td>The address line(s) for an individual.  The Address Lines element has an attribute of 'order' to determine the order of the address lines 1 – 5. If returned, there will always be 5 Address Lines elements present within the response, with elements</td><td>5..5</td></tr></tbody></table>				Parameter		Attributes	Description	Cardinality	Address Lines	order
Parameter	Attributes	Description	Cardinality										
Address Lines	order	The address line(s) for an individual.  The Address Lines element has an attribute of 'order' to determine the order of the address lines 1 – 5. If returned, there will always be 5 Address Lines elements present within the response, with elements	5..5										

					left blank where no value was returned. [Address Type 'TMP'] <i>NB: See note on addresses above.</i>			
			<b>Postcode</b>		The postcode of an individual's address. [Address Type 'TMP'] [Max 8 Alphanumeric characters]	0..1		
		<b>Correspondence Address</b>					0..1	
			<b>Parameter</b>	<b>Attributes</b>	<b>Description</b>	<b>Cardinality</b>		
			<b>Address Lines</b>	order	The address line(s) for an individual.  The Address Lines element has an attribute of 'order' to determine the order of the address lines 1 – 5. If returned, there will always be 5 Address Lines elements present within the response, with elements left blank where no value was returned. [Address Type 'PST'] <i>NB: See note on addresses above</i>	5..5		
			<b>Postcode</b>		The postcode of an individual's address. [Address Type 'PST'] [Max 8 Alphanumeric characters]	0..1		

		<b>Telecoms</b>		This field lists a subset of the telecom details available in PDS - to provide details of the Home Telephone, Mobile Telephone, and Email Address.  See above notes for details		0..*	
		<b>Practice Code</b>		The GP Practice Code of the primary care provider associated with the patient.		0..1	
		<b>Practice Name</b>		The GP Practice Name or Principal GP.		0..1	
		<b>Practice Address</b>					0..1
			<b>Parameter</b>	<b>Attributes</b>	<b>Description</b>	<b>Cardinality</b>	
			<b>Address Lines</b>	order	The address line(s) for an individual.  The Address Lines element has an attribute of 'order' to determine the order of the address lines 1 – 5. If returned, there will always be 5 Address Lines elements present within the response, with elements left blank where no value was returned.	5..5	
		<b>Postcode</b>		The postcode of the practice	0..1		
<b>Practice Contact Telephone Number</b>		The contact telephone number for the GP Practice. [Max 20 Numeric Characters]		0..1			
<b>Local Identifier</b>		This is a reflection of the Local Identifier in the request message if presented and does not affect the trace on the national demographics service		0..1			



## 4.6 getPatientDetailsBySearch

The 'getPatientDetailsBySearch' service provides the ability to retrieve demographic data items for an individual based upon a search.

Key Points:

- 4.6.1 Wildcards are permitted in fields where specified.
- 4.6.2 Field validation will be performed for mandatory fields and field formatting by the middleware implementation.
- 4.6.3 The details provided in the request will be used to perform a trace as a precondition to retrieving the demographic details. (This trace will be processed as described in 'getNHSNumber' above).
- 4.6.4 Only current addresses (Home/Temporary/Correspondence) will be returned; Future dated addresses will not be returned
- 4.6.5 Name: only a name type of 'L' (Usual Name) will be returned and will be the current name, else fields will be blank. (Future dated names will not be returned).
- 4.6.6 It is possible for certain data elements that have a 0..1 cardinality to return multiple items from PDS. This is due to the deliberately loose validation that PDS allows for back office updates through its own interface. This is particularly possible with current temporary and/or correspondence addresses. If this happens, then a Business Response code should be sent indicating that multiple elements were returned for a non-multiple element type and the list should be truncated to the first in the list (using natural order in the Spine response).

### Request Message

Parameter	Attributes	Description	Cardinality
<b>Date of Birth</b>		The date of birth for an individual in the format of YYYYMMDD [Numerical Characters only in YYYYMMDD format]	1..1
<b>Surname</b>		The surname for an individual. <i>NB: Supports wildcarding using the '*' character. However, wildcard substitutions must be preceded by a minimum of two characters. Whole word wildcard substitutions are not permitted.</i>	1..1
<b>Forename</b>		The forename for an individual. <i>NB: Supports wildcarding using the '*' character. However, wildcard substitutions must be preceded by a minimum of two characters. Whole word wildcard substitutions are not permitted.</i>	0..1
<b>Gender</b>		The administrative gender of an individual.	1..1

		NB: the same gender values as specified within the MiM will be used in the mini services. However, these will be held within the “ITK Spine Mini Services Vocabulary Specification”.	
<b>Postcode</b>		The postcode of an individual’s address. [Max 8 Alphanumeric Characters only, including space – e.g. CNN NCC <sup>2</sup> ] NB: Supports wildcarding using the “*” character. However, wildcard substitutions must be preceded by a minimum of two characters. Whole word wildcard substitutions are not permitted.	0..1
<b>Local Identifier</b>		This is a placeholder for any local identifier – it will simply be reflected in the response message and does not affect the trace on the national demographics service	0..1

### Response Message

The response message is the same as the response message for the getPatientDetailsByNHSNumber call.

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<sup>2</sup> For clarity, the validations required on a postcode are: (1) It is a maximum of 8 characters long (2) all characters are alphanumeric (3) exactly one of the characters is a space. (It is assumed that any leading / trailing spaces have been removed prior to these validations and it also excludes cases where wildcards are used). Note that these validations fall short of a full confirmation that the postcode is valid – this is intentional for purposes of (i) simplicity and (ii) due to known data quality issues with postcodes already in PDS

## 4.7 getPatientDetails

The 'getPatientDetails' service provides the ability to retrieve demographic data items for an individual based upon a search or by NHS Number depending on the combination of input parameters provided.

### Key Points:

- 4.7.1 Wildcards are permitted in fields where specified if an NHS Number is not provided (i.e. if the service is to perform a search).
- 4.7.2 Field validation will be performed for mandatory fields and field formatting by the middleware implementation.
- 4.7.3 If an NHS Number is not provided then the details provided in the request will be used to perform a trace as a precondition to retrieving the demographic details. (This trace will be processed as described in 'getNHSNumber' above).
- 4.7.4 If an NHS Number is provided in the request then it will be verified as a precondition to retrieving the demographic details. (This verification will be processed as described in 'verifyNHSNumber' above). Superseded numbers cannot be used – if applicable then the superseding number from the 'verifyNHSNumber' call should be used instead.
- 4.7.5 Only current addresses (Home/Temporary/Correspondence) will be returned; Future dated addresses will not be returned
- 4.7.6 Name: only a name type of 'L' (Usual Name) will be returned and will be the current name, else fields will be blank. (Future dated names will not be returned).
- 4.7.7 It is possible for certain data elements that have a 0..1 cardinality to return multiple items from PDS. This is due to the deliberately loose validation that PDS allows for back office updates through its own interface. This is particularly possible with current temporary and/or correspondence addresses. If this happens, then a Business Response code should be sent indicating that multiple elements were returned for a non-multiple element type and the list should be truncated to the first in the list (using natural order in the Spine response).

### Request Message

Parameter	Attributes	Description	Cardinality
<b>NHS Number</b>		The NHS standard identifier for an individual. [Max 10 Numerical Characters only]	0..1
<b>Date of Birth</b>		The date of birth for an individual in the format of YYYYMMDD [Numerical Characters only in YYYYMMDD format]	1..1
<b>Surname</b>		The surname for an individual.	0..1

		<p><b>[If an NHS Number is not provided]</b> - then this is required. Supports wildcarding using the „*” character. However, wildcard substitutions must be preceded by a minimum of two characters. Whole word wildcard substitutions are not permitted]</p> <p><b>[If an NHS Number is provided]</b> – then if a surname is provided then at least the first 3 characters are required]</p>	
<b>Forename</b>		<p>The forename for an individual.</p> <p><b>[If an NHS Number is not provided]</b> - then this is required. Supports wildcarding using the „*” character. However, wildcard substitutions must be preceded by a minimum of two characters. Whole word wildcard substitutions are not permitted]</p> <p><b>[If an NHS Number is provided]</b> – then if a forename is provided then at least the initial character is required]</p>	0..1
<b>Gender</b>		<p>The administrative gender of an individual.</p> <p>NB: the same gender values as specified within the MiM will be used in the mini services. However, these will be held within the “ITK Spine Mini Services Vocabulary Specification”.</p> <p>[If an NHS Number is not provided then this is required]</p> <p>[Not used if the retrieval is done using an NHS Number]</p>	0..1
<b>Postcode</b>		<p>The postcode of an individual’s address.</p> <p>[Max 8 Alphanumeric Characters only, including space – e.g. CNN NCC<sup>3</sup>]</p> <p>NB: Supports wildcarding using the “*” character. However, wildcard substitutions must be preceded by a minimum of two characters. Whole word wildcard substitutions are not permitted.</p> <p>[Not used if the retrieval is done using an NHS Number]</p>	0..1
<b>Local Identifier</b>		<p>This is a placeholder for any local identifier – it will simply be reflected in the response message and does not affect the trace on the national demographics service</p>	0..1

<sup>3</sup> For clarity, the validations required on a postcode are: (1) It is a maximum of 8 characters long (2) all characters are alphanumeric (3) exactly one of the characters is a space. (It is assumed that any leading / trailing spaces have been removed prior to these validations and it also excludes cases where wildcards are used). Note that these validations fall short of a full confirmation that the postcode is valid – this is intentional for purposes of (i) simplicity and (ii) due to known data quality issues with postcodes already in PDS

**Response Message**

The response message is the same as the response message for the `getPatientDetailsByNHSNumber` call.

## 5 Glossary

Term	Description
<b>PDS</b>	Personal Demographics Service. A National Application providing demographics update and retrieval services.
<b>NASP</b>	National Application Service Provider. E.g. Atos, BT.
<b>DHID</b>	Department of Health Informatics Directorate.
<b>RBAC</b>	Role Based Access Control. Used across NHS systems to control access to systems for authenticated system users
<b>SSO</b>	Single Sign On. Mechanism by which a system user authenticates once and can subsequently use various disparate applications without being required to authenticate again.
<b>IG</b>	Information Governance
<b>SMSP</b>	Spine Mini Service Provider. Middleware that provides access to lightweight, filtered services on National Applications
<b>ITK</b>	Interoperability Toolkit. Initiative by DHID Tech Office to create lightweight messaging standards to accelerate connectivity between deployed solutions.
<b>ITK Distribution Envelope</b>	Standard ITK term referencing a part of the message wrapper. See standard ITK documentation for further elaboration
<b>MIM</b>	Message Implementation Manual
<b>EIS</b>	External Interface Specification

\*\*\* End of Document \*\*\*