NHS Digital

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Author	**Geri Oakley**	Version issue date	**04/06/2020**

Interoperability Framework Spine Mini Service Client Requirements

Document management

Revision History

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1.0	24/04/17	Release version
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2.0	05/10/17	Final
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Reviewers

This document must be reviewed by the following people:

Reviewer name	Title / Responsibility	Date	Version
Richard Kavanagh	ITK Product Owner	05/04/2017	0.6
Adam Hatherly	TAP Interoperability Lead	05/04/2017	0.6
Richard Dobson	ITK Accreditation Manager	05/04/2017	0.6
George Hope	ITK Architecture Lead	05/04/2017	0.6
Simon Knee	IOPs	05/04/2017	0.6
Nigel Savelle	ITK Accreditation	05/04/2017	1.3

Approved by

This document must be approved by the following people:

Name	Signature	Title	Date	Version
James Palmer		Programme Head	10/04/17	1.0
Richard Kavanagh		ITK Product Owner	10/04/17	1.0
Poonam Sian		Project Manager	10/10/17	2.0

Iain Gould	Senior Programme Manager	2.0.1

Glossary of Terms

Term / Abbreviation	What it stands for
NHS Digital IF	NHS Digital Interoperability Framework
NHS Digital ITK	NHS Digital Interoperability Tool Kit Initiative by DHID Tech Office to create lightweight messaging standards to accelerate connectivity between deployed solutions.
SMSP	Spine Mini Services Provider - Middleware that provides access to lightweight, filtered services on National Applications
FGM	Female Genital Mutilation
FGMP	Female Gential Mutilation Programme
FGM FI	Female Genital Mutilation Flag Indicator
FGM IS	Female Genital Information Sharing Service. A national application providing information of children under 18 at risk of FGM in England
PDS	Personal Demographics Service. A National Application providing demographics update and retrieval services.
SCR	Summary Care Record
CP-IS	Child Protection Information Service. A national application providing information about children in the care of Local Authorities in England
RBAC	Role Based Access Control. Used across NHS systems to control access to systems for authenticated system users
FHIR	Fast Healthcare Interoperability Resources - standards framework created by HL7.
DMS	Domain Message Specification
IG	Information Governance
ASID	Accredited System Identifier

Reference Documents

Ref	Description
01	DCB2112: FGM-Information Sharing (FGM-IS) - Local System integration Requirements Specification v2.2
02	IF Spine Mini Service - Common Client Requirements v1.0
03	ITK Core document set V2.1
04	FGM RI message definitions DMS 2.0 These can be downloaded from: https://nhsconnect.github.io/fgm-risk-indication-service/

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Contents

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 Spine Mini Services using the format and supporting documents from the Interoperability Framework.

1.1. Purpose of Document

1.1.1.   Background context

This document is a specification for the implementation of services that are expected to be provided by Spine Mini Service Clients. This document also contains requirements for the design and assurance process. The implementation specification provides some requirements for some non-functional behaviour of the SMS as well as some guidance for implementation decisions.

The requirements in this document will be assured using the Interoperability Framework Accreditation process for Spine Mini Services.

1.2. Interoperability Framework SMS Documentation

The position of this document in relation to the document set is shown below
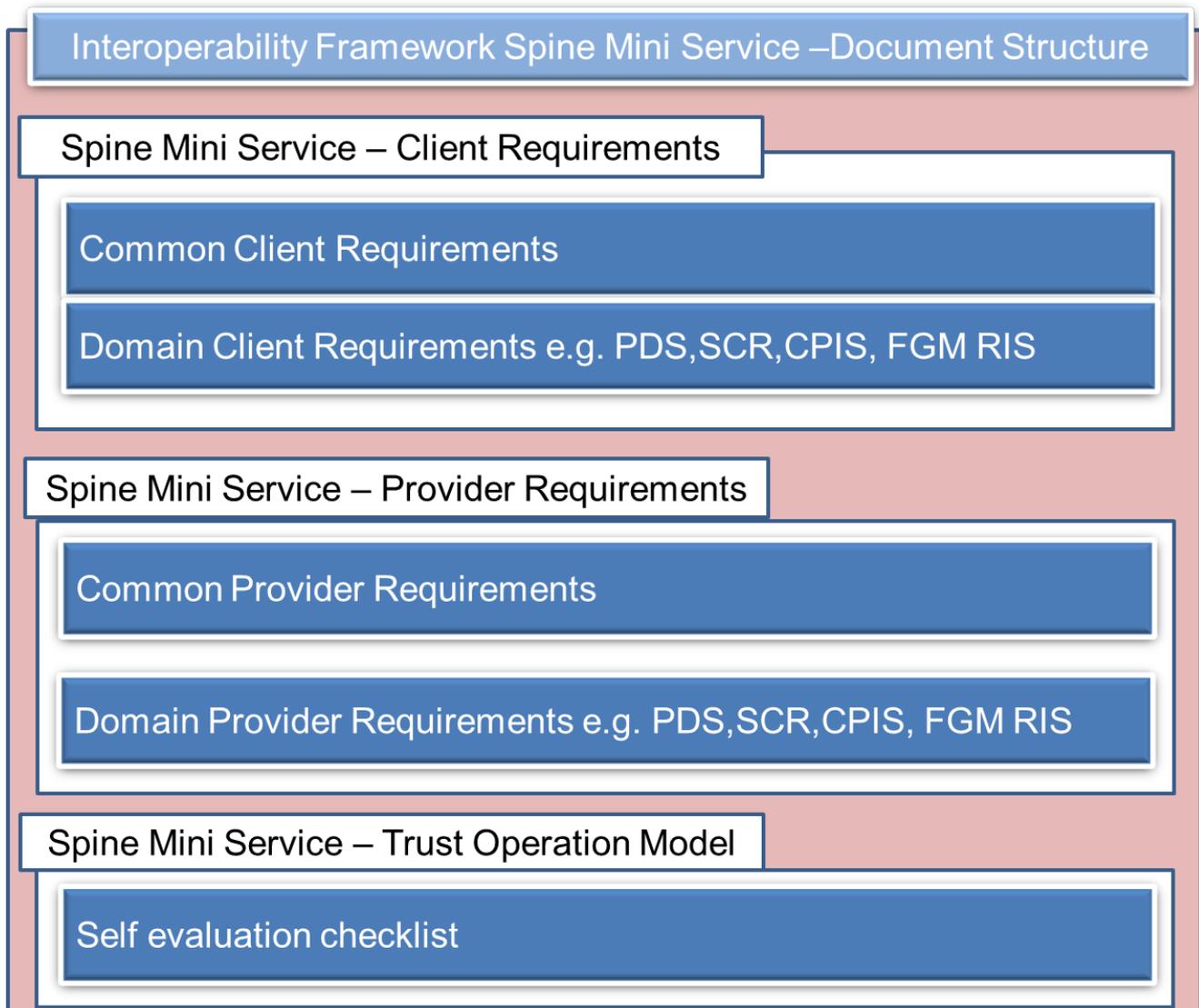
Figure 1 – The Interoperability Framework Spine Mini Services Architecture Document Set.

1.3. Audience

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

These requirements are generic to all FGM IS Spine Mini Service Provider implementations.

1.4. Scope

The document describes the requirements of the SMSP FGM IS Client application. Other documents describe the responsibilities of the Spine Mini Services Provider for FGM IS and also the more general Operating Model responsibilities of the deploying organisation.

2.   High Level Overview

2.1. Level 0 View

A SMS 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, syntactically and semantically more concise messaging and providing a security bridge to spine.
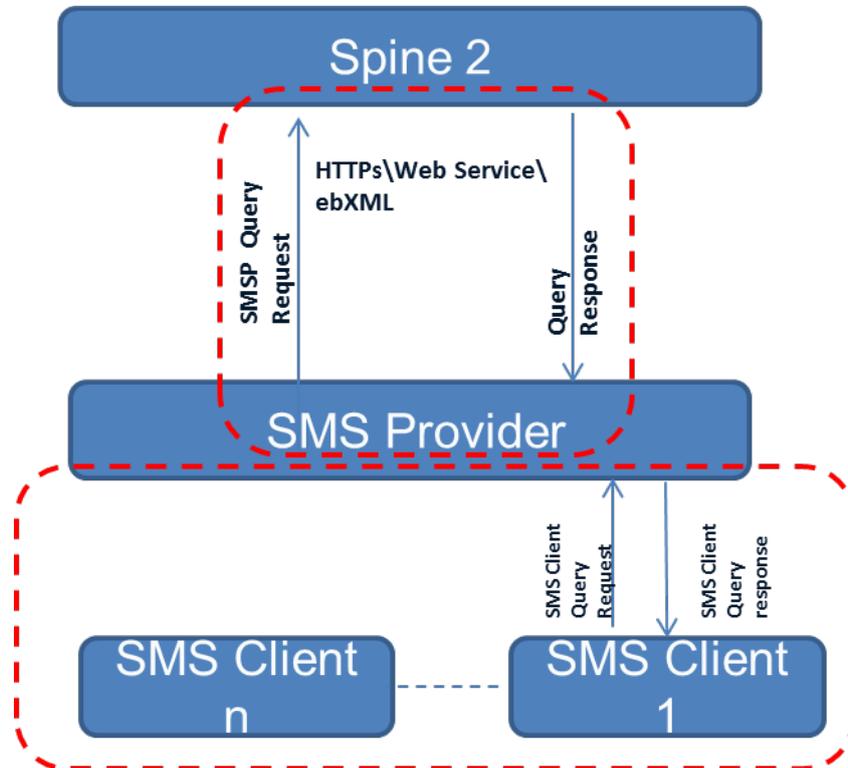

Figure 2: High Level view of an Interoperability Framework Spine Mini Service

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 SMSC 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.   FGM IS Query

MSCA-FGMRISQ-01: Where the Mini Service Client is using Spine compliant smartcards the user MUST have the appropriate RBAC enabled to view the FGM Indicator

The system MUST use national RBAC to determine whether the user is allowed to access FGM Indicator

N.B. The activity code to view the FGM IS service is: B0370 "View Summary Health Records".

MSCA-FGMRISQ-02: Where the Mini Service Client is NOT using Spine compliant smartcards and RBAC to view FGM Indicator the local system MUST map local access to the RBAC rights to view the FGM Indicator

Where the system connects to the FGM IS Service via a Spine Mini Services Provider (SMSP) and does not use national RBAC, then access to the FGM Indicator must be controlled by local system access controls mapped to the RBAC activity code B0370 "View Summary Health Records".

MSCA-FGMRISQ-03: The Mini Service Client application MUST be able to determine that the patient is a person under 18 years old, in order to trigger a query of FGM IS, using the verified NHS number.

The system MUST be able to determine that the patient is a person under 18 years old, in order to trigger a query of the FGM Indicator, using the verified NHS number.

MSCA-FGMRISQ-04: The Mini Service Client application MUST be able to determine that the patient is under 18.

> The FGM IS Query message MUST NOT contain an NHS number pertaining to a person over 18 years of age

MSCA-FGMRISQ-05: The Mini Service Client Application MUST be able to automatically query the FGM IS on viewing a patients record.

> The process to query the FGM IS service MUST be done systematically on viewing the correct patients demographic record, without the need for the user to launch a separate query, ensuring there is minimal impact on the user.

MSCA-FGMRISQ-06: The Mini Service Client application MUST undertake a FGM IS query at the defined significant events, where a user has the appropriate access rights

The system MUST undertake a FGM IS Query for patients satisfying the above criteria, at the following 'Significant Events'[1]:

- At the beginning of any episode of unscheduled care (where the patient can be identified and their NHS number can be verified)
- At all clinical appointments including outpatient
- Prior to inpatient admission and discharge.

MSCA-FGMRISQ-07: The Mini Service Client application MUST use the FGM IS DMS 2 to develop the the FGM IS Query Interaction.

The FGM IS Query Interaction is fully defined in the FGM IS Domain Message Specification (DMS) V2. The FGM IS DMS MUST be used to develop the FGM IS query message.

MSCA-FGMRISQ-08 The Mini Services Client Application MUST include the following when submitting an FGM Indicator NHS Query message to FGM IS;

- The patient to whom the query applies (NHS number)
- That it is an FGM query
- Who sent the request (either a LocalID or A SDS user ID and SDS User Role Profile ID if the client is Smartcard enabled).
- When the FGM query was sent (event date/ time of the query submission)
- Where the FGM query was requested from.
- Organisation Code

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[1] Adapted from the Principles of PDS Usage (from '2008-A PDS Compliance Baseline: Tracing' Section 5.2 (PDSPCP-3))

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4. FGM IS Query Response

MSCA-FGMRISQR-01: The Mini Services Client Application MUST automatically alert the user that a patient has an FGM Risk Indicator on the FGM IS
Where a current FGM risk for a patient exists on FGM IS, the applicable IT system MUST automatically alert the user to this.

MSCA-FGMRISR-02: The Mini Services Client Application MUST clearly display the FGM IS alert message the user.
The format of the FGM alert message will be determined locally. It MUST be displayed within the correct patient's record ensuring that there can be no confusion as to which patient the FGM alert message is associated. It MUST be presented in such a way that it cannot be missed by a user. *See guidance: Female Genital Mutilation Information Sharing System (FGM IS)* **Requirements Specification Guidance v1.0** *– provides guidance on what information should be displayed to the user.*

MSCA-FGMRISQR-03: The Mini Services Client Application MUST Not display a response that indicates the patient is not at risk or where an error is returned in the FGM IS Query response
If the FGM IS response Interaction indicates that no family history exists for the patient, or where an error is returned, there MUST NOT be a message displayed to the user.

MSCA-FGMRISQR-04: The Mini Services Client Application MUST have a mechanisim for for reporting the error to appropriate staff (e.g. The Information Technology department), where an error is returned in the FGM IS Query response
If the FGM IS response Interaction returns an error, there MUST be a mechanism for reporting the error to appropriate staff (e.g. The Information Technology department).

MSCA-FGMRISQR-05: The Mini Service Client application MUST use the FGM RIS DMS 2 to develop the the FGM IS Query Response Interaction.

The FGM IS Query Response Interaction is fully defined in the FGM IS Domain Message Specification (DMS) 2. The FGM IS DMS MUST be used to understand the information contained in the interaction in order to develop FGM IS Interactions.

MSCA-FGMRISQR-06: The Mini Services Client Application MUST display the returned FGM Risk information to the user

The Mini service client MUST ensure that on receipt of a FGM IS Query Response message, the end user is displayed with the human readable form of the following;
   o That and FGM Risk exists for the patient
   o The date the risk assessment was undertaken
   o The date/time the response was sent returned from Spine

MSCA-FGMRISQR-07: The Mini Services Client Application MUST enable the FGM IS information to be available to the user throughout the patient encounter

The FGM Risk Indicator MUST be available to users with the appropriate access through out the patient encounter.

MSCA-FGMRISQR-08: The Mini Services Client Application MAY cache the FGM IS information for a patient the maximum of 24hrs.

The local system may cache a patients FGM IS information for a maximum of 24hrs.

MSCA-FGMRISQR-09 The Mini Services Client Application MUST NOT permanently store a patients FGM IS information.

The local system MUST NOT permanently store a patients FGM IS information .

5.   FGM RIS General

MSCA-FGMRISG-01: The Mini Services Client Application MUST display the NHS Number correctly

The Mini Services Client Application MUST display and print the NHS number in 3-3-4 format on all screens and printed material, e.g. 123 456 7890

Bar-coded NHS numbers MUST be in the Information Standards Board ISB/0061-00/2004 format

MSCA-FGMRISG-02: The Mini Services Client Application MUST display dates in standard format.

The presentation of any date & times associated with FGM IS information MUST be in a standardised format, i.e. D/MM/YYYY and HH/MM/SS.

MSCA-FGMRISG-03: The Client Application SHOULD have an easy-to-use User Interface, which encourages best-practice usage of FGM Indicator

Factors to consider include:

- Minimal keystrokes needed, tab between fields possible etc
- Uses a consistent set of search criteria
- Provides client-side validation to catch obvious input errors immediately

6.   FGM RIS – Data Quality

MSCA-FGMRISDQ-01: The Mini Services Client system MUST use a verified NHS number as the unique identifier to request FGM Indicator information from FGM IS.

The NHS number will be used as the main identifier for each female under 18 years of age where FGM RI information is to be traced from the service. It will be necessary for NHS systems to provide a verified NHS number when tracing FGM IS information.

N.B. Verification of NHS numbers must be against the data held by the NHS National demographic service but the requirement does not dictate how the service is used e.g. it could be via a call to PDS or via the batch tracing service.

7.   FGM RIS – Audit

MSCA-FGMRISA-01: Audit Requirements

The Mini Service Client MUST keep an audit of all queries submitted to and responses received from FGM IS via the SMSP. This requirement is necessary to satisfy any Subject Access Requests (SARs) received by the user organisation.

Appendix A SMSP Error Code Mapping Table

HTTP Code	issue-severity	issue-type	Details.Code	Details.Display	Orignal codes
404	error	not-found	NO_RECORD_FOUND	No Record Found	FGM-0001
400	error	invalid	INVALID_NHS_NUMBER	Invalid NHS number	FGM-0002
400	error	invalid	INVALID_PARAMETER	Invalid parameter	FGM-0004
400	error	structure	MESSAGE_NOT_WELL_FORMED	Message not well formed	FGM-9999
403	error	forbidden	ASID_CHECK_FAILED	The sender or receiver's ASID is not authorised for this interaction	300
400	error	structure	INPUT_MESSAGE_VALIDATION_ERROR	Input message validation error	SMSP-0001
400	error	structure	RESPONSE_MESSAGE_VALIDATION_ERROR	Response message validation error	SMSP-0002
203	warning	Information	DATA_FROM_LOCAL_STORE _SPINE_UNAVAILABLE	Data returned from local store, Spine unavailable	SMSP-0003
500	fatal	no-store	COULD_NOT_CONNECT _TO_SPINE	Could not connect to spine	SMSP-0004
401	fatal	forbidden	AUTHOR_CREDENTIALS_ERROR	Author credentials error	SMSP-0005
500	fatal	Internal server error	GENERIC_SPINE-_MINI_SERVICE_PROVIDER_ SOFTWARE_FAILURE	Generic Spine Mini Service Provider software failure	SMSP-9999
200	OK				SMSP-0000

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