



Scottish Care Information

SCI Gateway pre-requisites

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Documentation control

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Table of Contents

Documentation control	2
1. Introduction	4
2. ECCI Pre-requisites	5
2.1 Ensuring local buy-in to project objectives	5
2.2 Clinical agreement	5
2.3 User Authentication	6
2.4 Patient identification	6
2.5 Data Protection.....	6
2.6 Viable infrastructure	7
2.7 Training.....	7
2.8 Discussion.....	7
3. Additional Pre-requisites for <i>SCI Gateway</i>	9
3.1 Local capability to produce protocols.....	9
3.2 Minimum network requirements for <i>SCI</i>	9
3.3 Minimum system requirements for <i>SCI</i>	10
3.4 Dependency on other <i>SCI</i> products.....	10
4. Check Lists	12
4.1 Check list of pre-requisites for <i>SCI Gateway</i>	12
4.2 Client site Pre-Install Checklist	15

1. Introduction

This paper has been provided to inform potential users, of *SCI Gateway*, of the pre-requisites for its use. Given that the key driver for *Gateway* is *ECCI*, most of the pre-requisites are generalised towards *ECCI* and represent potential changes to working practice, local infrastructure and agreement between clinicians. As such they represent significant challenges.

The intended audience is *ECCI* and equivalent Board-based clinical, technical and management staff.

The paper is divided into three parts:

- Section 2 provides the background and explanation of the *ECCI* pre-requisites,
- Section 3 provides the background and explanation of additional pre-requisites for *SCI Gateway*.
- Section 4 (the appendices) provide high level check lists to help ensure that all the pre-requisites are in place prior to using the *Gateway*.

Further information is available on the *SCI* Web Site: www.show.scot.nhs.uk/SCI

2. ECCI Pre-requisites

ECCI represents a significant complex, multi-disciplinary and cross organisation challenge. There are a large number of pre-requisites which need to be addressed prior to successful local implementation of Gateway. Many are not unique to SCI Gateway but rather are fundamental to ECCI. These pre-requisites are described in the following sub-sections.

2.1 Ensuring local buy-in to project objectives

Pre-requisite to the success of ECCI are good local project management and communication arrangements to ensure local clinical and other stakeholders can be brought in. Key elements to this buy in include:

- There must be a local Project Board which will oversee implementation. This should be small, but comprise a member of Trust Management Team, IM&T, Practice/GP, Trust Clinical, local Project Manager, SCI Implementation Manager.
- There must be a high-level implementation plan aligned to the various stakeholders.
- There must be clear commitment from Clinicians to use the system and agreement on the clinical content. (This is discussed in more detail in the section 2.2)
- Implementation must be linked to other local programmes impacting on Primary and secondary care. For example, the national roll-out of PARTNERS or the national framework for the European Computer Driving License.

2.2 Clinical agreement

Fundamental to ECCI is the implementation of new clinical practice to make the hand over of patient care between primary and secondary care seamless. The challenge presented by the associated change in working practice is great and will only work with the consensus of clinicians. The following are key areas where clinical agreement is pre-requisite to taking Gateway:

- The use to be made of SCI Gateway. That is, for some or all of the following, for referral, booking, discharge and or clinic outcome letters.
- The number and order of clinics/ specialties / consultants and practices to be involved. A phased approach with each phase having an individual plan is recommended.
- If appropriate agreement of the rules for GP direct booking. For example, which appointments may be booked, how far in advance, or can bookings be made in advance of referrals?
- Which referral protocols will be used. First to agree the level of protocol to be used from null protocols, other sites specialist protocols or local custom made protocols.
- Content of any local protocols. This would include data to be collected, questions to be asked, information to be provided, etc.

Experience of SCI Gateway pilot sites is that definition and agreement of these pre-requisites is a considerable task typically taking several months.

2.3 User Authentication

Key for electronic communications is ensuring security and user authentication. While both are provided by SCI Gateway, user authentication (management of usernames, passwords and the roles, etc.) must be managed locally. For some areas this will be a significant task with thousands of end users. Issues for the local resolution include:

- Does a definitive 'directory' of all users exist? How is this maintained?
- What authentication process exists? How are new users authenticated?
- What level of delegation of trust is appropriate. For example, can practices be delegated to authenticate referral users

2.4 Patient identification

It is essential that the separate primary and secondary care systems can identify patients uniquely and unambiguously. SCI systems, for example on the import of discharge information into GPASS, try and match patients on CHI/demographics and prompt the user to confirm or find a better match. The level of manual intervention required will reflect the relative data quality of the local systems. In some areas this effort is likely to be very high. This extra effort can be avoided by ensuring that all systems have high quality patient identification. This can be achieved at the GP practice through the use of the National STAR and PARTNERS products and at the Trust through CHI seeding and soon through use of CHI access via SCI Store.

2.5 Data Protection

In addition to each Data Controller confirming local arrangements meet requirements of the Data Protection Act, the electronic transmission of patient information between data controllers raises another pre-requisite.

Prior to approval for the transfer of patient information, the sender Data Controller must be mindful of all DP principles. In particular the 7th which as well as ensuring that appropriate technical and organisational measures shall be taken against unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data, also requires that a written contract is put in place for all processing activities for which the Data Controller makes use of a third party. In this case the SCI Gateway, or other equivalent electronic delivery mechanism (e.g. SMTP or X.400).

Analysis of the SCI gateway by the CSA Data Protection Officer is that:

- the transmission /mailbox functionality is a processing activity
- this processing activity is provided by a 'third party' namely, in this instance, NHSnet providers (transmission) and SEMA (mailbox)
- there is a need for a written contract between the Data Controller (sender) the NHSnet providers and SEMA
- there is at present a written contract between the health service nationally and NHSnet (enforced locally by the code-of connection); and between the CSA on behalf of NHSScotland Chief Execs etc with SEMA

Thus there is not a data protection issue with respect of *SCI Gateway*. However, the Acute and all primary care data controllers must formally ensure themselves that they and their colleagues will operate to the standards required by the act.

2.6 Viable infrastructure

Electronic communications depends upon a viable infrastructure. This is the responsibility of the local ECCI/board team and must be in place prior to adopting *SCI Gateway*. Important elements of the infrastructure are:

- All GP practice and acute hospital connections into NHSnet must be operational, robust and perform adequately.
- Hardware in the GP practices and the acute hospital must be viable for the job in hand (the minimum requirements for *SCI* are given below)
- All elements must have appropriate support and maintenance arrangements in place, either in-house or through appropriate commercial arrangements, for example with Sema.
- Adequate security arrangements must be in place across the infrastructure. As a minimum this would include; anti-virus software, back-up, disaster recovery, audit and other processes.
- Minimum levels of technical and other competence must be ensured through the provision of appropriate training.
- Viable project management arrangements to support the complex, multi-disciplinary and cross organisation challenge represented by electronic communications.

2.7 Training

Training is an essential element of ECCI and is not just limited to technical training but that needed to support a significant change in clinical working practice and culture. *SCI* can provide materials and some support to train in the *SCI Gateway* but it must be appreciated that this in isolation is insufficient for ECCI.

2.8 Discussion

It is clear that there are numerous and demanding pre-requisites. Many will have already been addressed through the local ECCI programmes. However, given the lack of secure facilities for electronic communication in some areas it is likely that there will be important salient areas. These are likely to include:

- Technical infrastructure,
- Resource and process to manage user authentication and security monitoring.
- Clinician understanding of and agreement to the change in clinical practice required.
- Data quality - not least use of CHI.

For this reason a wholesale adoption of *Gateway* across a Board is likely to be problematic. This can be minimised by adopting a cautious approach to taking *SCI Gateway*, and the following plan for implementation is recommended.

1. Start the process of clinician contribution and agreement immediately. This is likely to be a long process taking several months.

2. Immediately identify and implement a small local pilot, perhaps using a single speciality and one or two practices using protocols from other areas. This will allow local experience to be gained and local issues (e.g. inadequate performance of local networks) to be highlighted and addressed as painlessly as possible.
3. Immediately start identifying the measures(e.g. recruitment of staff, definition of process, training in new skills, etc.) to be established for a large local implementation.
4. Plan a local roll-out based on input from steps 1,2 and 3.
5. Implement the local roll-out.

3. Additional Pre-requisites for SCI Gateway

3.1 Local capability to produce protocols

While it must be remembered that the significant pre-requisite for protocols is clinical input and agreement, there are still some technical pre-requisites for use of the SCI protocol builder tool.

The tool supports the generation of XML based referral protocols. The tool tests the validity of the XML protocol produced and allows the builder and their clinical colleagues to view the screens, enter information and to view the print format of the referrals. The tool does not include an editor, while a variety of editors from word pad up to sophisticated XML visual editors are supported, these must be supplied locally.

The tool is not intended for end users, rather technical staff from Trusts working with end users. The skills needed to use the protocol builder are intermediate windows skills, knowledge of XML, experience of HTML and some exposure to basic programming.

Given the SCI philosophy of providing tools and systems for local use, staff with appropriate skills is key to taking Gateway. However, these skills are not rare and are likely to be found within a Trust, can be introduced through training or purchased commercially.

3.2 Minimum network requirements for SCI

Exact minimum system requirements will very much reflect local circumstances and aspirations. For this reason will need to be investigated and agreed with your SCI implementation manager. However, some high level guidance is provided here for information.

There must be adequate network connections at all points that intend to use Gateway. This includes practice LANs, Hospital Lans, and any WAN (NHSnet) or other networks between practice and hospital. All networks must

- support the projected traffic, based upon number of transactions and type of use (for example attached images)
- be resilient, the level of resilience required will reflect local circumstances, but as an indication, the target for the National gateway is above 99% availability.
- Be supported at all points. Given the number of players and connections needed for Gateway fault resolution depends totally on each part being adequate. Issues here are period of cover, time take to fix on-site and off-site faults, ability to work with third parties to resolve faults and customer problem ownership, (i.e. owning a users problem until it is fully resolved by who ever not passing blame on.)

3.3 Minimum system requirements for SCI

Minimum system specifications are given with the generic plans on SCI web site www.show.scot.nhs.uk/sci or available from your SCI implementation manager. It must be noted that the minimum server requirements assume complete access to the hardware, where sites intent to run multiple applications (against the recommendation of SCI) the hardware specification must be increased accordingly.

For client access to Gateway a browser Microsoft IE5 (IE5.5 preferred as yet un-tested) or equivalent is required. This should be updated to support XML and scripting (details in the check list). Where Gateway is to be used seamlessly with GPASS release 4 or release 5 (preferred) is required.

Where a Trust intends to use SCI Gateway for remote booking or wants an application to support the acceptance vetting and booking of referrals SCI Outpatients server and associated web server are required. These require Microsoft NT SQL and IIS software to be purchased and installed. The web server will require the purchase of a suitable server certificate from viacode (part of the Royal Mail) or equivalent.

Where a Trust intends to use SCI Discharge, a SCI clinical application and server is required (NB this can be shared with SCI Outpatients) This also requires Microsoft NT and SQL software to be purchased and installed. Details from the SCI implementation team.

Where a Trust intends to email or print referrals via web access to the SCI Gateway suitable printers and email service are required.

3.4 Dependency on other SCI products

The area must decide the level of use of SCI products, this then defined the necessary dependencies and prerequisites. Potential scenarios of use are:

1. Use of Gateway stand alone for referrals only: requires no other SCI products though may require an email infrastructure in the Trust
2. Use of Gateway linked to GPASS for referrals only: as above plus the GPASS application to be installed and operational in the target practices.
3. Use of Gateway linked to GPASS for referrals with receipt and processing of referrals electronically by the Trust: as above plus SCI Outpatients installed and operational. This in turn may require SCI Store to supply patient demographics.
4. Use of Gateway linked to GPASS for referrals with remote appointment booking receipt and processing of referrals electronically by the Trust: as above plus SCI Outpatients web server operational and with clinics opened for remote booking.
5. Use of Gateway in scenarios 2-4 with referrals also recorded in the SCI Store: in addition to points 2-4 requires version 1.3 or above of the Store to be installed and operational.

6. Use of SCI Discharge to generate immediate discharge letters for electronic receipt by practices: requires the SCI Discharge or Clinical applications to be installed and operational. This in turn may require a Store or other link to the local PAS to be established.
7. Use of SCI Outpatients to generate clinic outcome letters; requires SCI Outpatients to be installed and operational. This in turn may require SCI Store to supply patient demographics.
8. Discharge letters in scenarios 6-4 in the SCI Store: in addition to points 6-7 requires version 1.3 or above of the Store to be installed and operational.
9. Full electronic monty. That is: referral, electronic processing of referrals, electronic booking, storage of referrals in the Store, generation of electronic discharge and clinic outcome letters. This requires GPASS, SCI Outpatients SCI Discharge (or SCI Clinical), SCI Store and a local web server to be in place and operational.

4. Check Lists

4.1 Check list of pre-requisites for SCI Gateway

Check	Requirement	Yes / No
Implementation Project Board	Project Board for the implementation comprising a member of Trust Management Team, IM&T, Practice/GP, Trust Clinical, local Project Manager, SCI Implementation Manager in place	
High level implementation plan	High level plan covering all aspects of the project with all stakeholders (including parallel projects) signed up	
Clinical agreement on level of use	Decision/agreement/communication of level of use from referral, booking, discharge and or clinic outcome letters.	
Clinical agreement on participation	Decision/agreement/communication of clinics/ specialties / consultants and practices to be involved.	
Clinical agreement on booking rules	Decision/agreement/communication of the rules for GP booking .	
Protocol specifying resource	Local clinical forum to specify/review approve content of protocols .	
Protocol building resource	Local access to suitably qualified technical resource to implement protocols .	
Clinical agreement on referral protocols	Decision/agreement/communication of the type and content of referral protocols to be used.	
Authentication requirements identified	Investigation and definition of the numbers of users to be involved to allow the establishment of appropriate arrangements for User authentication.	
Establishment user authentication resource and process	Establishment of the resource and processes needed to ensure adequate local user authentication.	
Security requirements identified	Investigation and definition of the desired arrangement for security, including but not limited to Disaster recovery, Backup, Active monitoring of Audit, process for handling security breaches, etc.	
Establishment of Security arrangements	Establishment of the resource and processes needed to ensure adequate local security arrangements.	
Establishment of local Gateway	Establishment of the resource and processes needed to administer the local Gateway content,	

Check	Requirement	Yes / No
administration	including protocol, clinic audit and user management..	
Confirm no DPA implications	All (AHT (Acute Hospital Trust and each practice) data controllers assess impact wrt the Data Protection Act, necessary changes (e.g. update register) made and acceptance confirmed to the project board.	
Use of CHI in the target areas of the AHT	CHI seeding (or other such data quality process) applied on an on-going basis or at least within the last Quarter	
Use of CHI in all target practices	CHI quality check and maintained either by use of PARTNERS or STAR within the last quarter.	
All target GP practices connected to NHSNet	Performance/robustness of connections adequate checked in each practice	
All Target AHT areas connected to NHSNet	Performance/robustness of connections adequate checked in Target AHT location.	
Method of receiving referrals defined	Receipt may be by printing, email or SCI Outpatients, Suitable infrastructure for printing and email is required	
Installation of SCI Outpatients	Required for direct booking or electronic processing of referrals only - this is a major exercise defined in some detail in the generic plan available from SCI implementation managers	
Installation of local Web server	Required for direct booking only. Is required to support the SOAP remote procedure calls for direct booking.	
Purchase and installation of a server certificate	Required to provide encryption for the direct booking traffic.	
Process of software update in place	A process to ensure that all versions of software in use are regularly updated. It is essential that the most recent security patches are in place.	
Store 1.3 operational	Required where copies of referral/discharge information is to be retained as part of the patient EPR.	
SCI Discharge operational	Required where electronic discharge letters are to be produced.	
Connection to Gateway tested	Access/ performance of connection to SCI Gateway tested in each target location.	
Connection to Trust tested	Access/ performance of end to end connection from all target practices to the target AHT areas tested. (Would include outpatients for booking).	
All target AHT areas	All the target areas within the AHT and each	

Check	Requirement	Yes / No
meet minimum Spec	practice meet the minimum hardware/software specification.	
All target AHT areas supported	All the target areas within the AHT and each practice have appropriate hardware and software support arrangements in place.	
All target users competent	All the target users in all areas have the appropriate level of basic Computer competence required., and in addition have been trained in the clinical and other local elements required to use Gateway.	

4.2 Client site Pre-Install Checklist

Contact	Address	Tel Email
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Check	Requirement	Yes / No
Operating System	Windows 95/98/NT/2000 - dependant upon site and requirements - discuss with the SCI implementation team.	
Web browser	Internet Explorer 5.0 or later (5.5 preferred 6 as yet un-tested)	
TBA?	Other browser essentials (XML capability etc)	
Browser security configuration	TBA what set up re trusted sites etc.	
Word	Required to print letters locally	
Minimum client PC specification	Must be capable of running IE5 and where appropriate GPASS	
Install Mechanism	Access to a CD drive (<i>required for release 8 only</i>)	
Access to Gateway via NHSNet	Adequate HTTPS/HTTP access to the Gateway via NHSnet. This is checked by navigating to https://www.scigw.scot.nhs.uk/gw/support/testpages/clienttest.htm and http://www.scigw.scot.nhs.uk/gw/support/testpages/clienttest.htm	
Access to a target hospital via Gateway and NHSNet	Adequate access to a remote hospital web site via NHSnet and Gateway. This is checked by navigating to https://www.fvsci.fvah.scot.nhs.uk/scilite/training/public/testpages/test/menu.htm (NB this is a test at Forth Valley which may be substituted by a local site)	

Check	Requirement	Yes / No
<i>GPASS</i>	To achieve full benefit the primary care client needs to be used in conjunction with Gpass. Gpass version 4 or later is required.	
<i>Viable Email service</i>	Required where the send Email option is to be used, Check by sending/receiving a test email.	
Anti virus software	Software installed, operational with licence and mechanism for regular updates	
Network Support Arrangements	Contract or other appropriate arrangements for managing the practice LAN in place	
Hardware Support Arrangements	Contract or other appropriate arrangements for managing the practice Server and Client machines in place	
<i>Remote support available to SCI</i>	Remote access to client machines for remote support/upgrades via SMS	
Training/ Staff competencies	Target staff competent in the use of Windows, mouse and internet and have had the SCI Gateway training	
<i>CHI data quality</i>	PARTNERS operational or STAR programme run within the last quarter	
Test referral made from site	Test referral including extract from GPASS generated	
?	Other local factors to be added.	