The National General Practice Information Technology (GPIT) Group

Test Plan for Requirements for Certification 2007

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Document Review

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* Due to the complex nature of this document, reviewers assessed and commented on discrete sections.

Document Changes

Date	Version	Changes
24/04/2008	1.2	Addition of section on Followup on page 8, change in methodology of the following functions: Manage Immunisation Administration (DC.1.8.2) criteria 10; Health Record Output (S.2.2.1) criteria 1; Standard Report Generation (S.2.2.2) criteria 3; Ad Hoc Query and Report Generation (S.2.2.3) criteria 1; Standard Terminologies and Terminology Models (IN.4.1) criteria 1;

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- The Health Level Seven organisation (www.hl7.org) for permission to use material sourced from the HL7 Electronic Health Record – System Functional Model, Release 1 February 2007. This material is copyright HL7 Inc.
- NHS Connecting For Health, GP Systems: Core Functionality Requirements V1.01 for functional specification on Managing Appointments (S.1.9).
- All the reviewers who contributed to improving this document during the consultation process.

Feedback Form

The National GPIT Group is happy to have comments, corrections and feedback on this document. Please feedback by email, fax or post using the template provided below to:

Dr Brian O'Mahony, GPIT Project Manager
Convent Road, Lismore, County Waterford, Ireland.
Phone 058 54255, Fax: 058 53474, email bom@iol.ie

PLEASE TYPE OR USE BLOCK CAPITALS.

Name:	
Address:	
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Title of document:	Test Plan for Requirements for Certification 2007
Version number:	1.2
Date of feedback:	

General comments:

Specific comments:		
Function ID #	Conformance Criteria #	Comment on test methodology

Thanks for your help.

Introduction

This test plan should be read in conjunction with the Requirements for Certification 2007 (RFC 2007), version 1.3, published on 14/1/2008. Before certification testing takes place the vendor needs to supply to the GPIT Group the pre test documentation which is detailed on page 10 of RFC 2007.

There are thirty eight mandatory functions in RFC 2007. These are functions with the priority ESSENTIAL NOW (EN) which contain at least one conformance criteria with the keyword SHALL. Here is a list of the mandatory functions; the Page column refers to the page in RFC 2007.

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IN.4.1	94	Standard Terminologies and Terminology Models

Scope

This is the test plan for the certification of GP practice management software products against the Requirements for Certification 2007 (RFC 2007). The certification test plan is not all encompassing. Additional tests may be needed during the testing process to clarify if the software achieves compliance with the conformance criteria.

The certification testing only ensures that the software product is compliant with the conformance criteria being tested. It is up to the software vendor to ensure that their software product is fit for purpose and clinically safe for use in a general practice environment. In particular the certification testing does not perform structural system testing techniques such as:

- Stress testing: system performs with expected volumes;
- Execution testing: system achieves desired level of proficiency;
- Recovery testing: system can be returned to an operational status after a failure;
- Operations testing: system can be executed in a normal operational status;
- Security testing: system is protected in accordance with importance to organisation;

Test Environment

Testing will be carried out in the vendor's premises by a representative of the GPIT Group. The vendor will provide three networked computers, a laser and dot matrix printer, a scanner and a data backup system. The practice management software will be preloaded with at least two hundred test patients.

Hardware

- One server, two PCs, networked;
- Dot matrix printer;
- Laser printer;
- Scanner;
- Data backup system;
- Laptop or desktop off the network, for data restore.

Software

- Practice Management software;
- Drug database.

Data

It is very important that the test system is preloaded with data. This will ensue that testing can progress quickly and efficiently. If possible, data entry during the certification process should be kept to a minimum. Vendors should preload their systems as follows:

- At least two hundred test patients across a spread of age groups and gender;
- Two patients should have the same date of birth and two patients should have the same first name and surname.
- Primary childhood vaccinations entered for 75% of children under 5 years;
- Immunisation schedule aligned to national guidelines;
- Flu vaccine entered for 75% of adults over 65 years;

- Disease codes entered for diabetes mellitus (10 patients), ischaemic heart disease (10 patients), asthma (10 patients), hypertension (20 patients), carcinoma of breast (5 patients), carcinoma of prostate (5 patients);
- Scanned documents (20) associated with patient records;
- Heartwatch data entered for 5 patients;
- Electronic laboratory results integrated for 10 patients and available for initial display for 5 patients;
- Medication – long term and acute prescriptions entered, 2 patients past the review date for repeat prescriptions;
- Appointments in place going forward 4 weeks;
- Alerts for children overdue immunisations, women overdue cervical smears, adults >65 years who have not had influenza vaccine.

Product Description
Vendors should provide to the GPIT tester a description of their product in terms of:

- Operating System;
- Database;
- Programming environment;
- Any add on products such as reporting tools, communications or decision support.

Followup

If a software product does not achieve the certification standard on all the mandatory functions during the initial test, it is possible to retest outstanding functions at a later date. This supplementary test will need to take place before the end of October 2008.

It is important that the certified version of the GP practice software product is rolled out to GP users. The GPIT Group will look for evidence that at least 50% of users of a practice software product have the certified version installed by the end of February 2009.

Explaining the Document Structure

The mandatory functions are laid out as follows:

- Name of function and header information;
- Numbered conformance criteria which have the keyword SHALL;
- Text box indicating how the criteria will be tested.

For example:

Identify and Maintain a Patient Record (DC.1.1.1)

ID#	Type	Name	Priority
DC.1.1.1	F	Identify and Maintain a Patient Record	EN

Conformance Criteria

1. The system SHALL create a single logical record for each patient.

When we enter a new patient, there should be a warning if the person is already registered.

The conformance criteria are locked down and can not be changed. The criteria numbering is not consecutive because criteria with the keywords SHOULD or MAY are not included in this test plan.

Mandatory Functions

Identify and Maintain a Patient Record (DC.1.1.1)

ID#	Type	Name	Priority
DC.1.1.1	F	Identify and Maintain a Patient Record	EN

Conformance Criteria

1. The system SHALL create a single logical record for each patient.

When we enter a new patient, there should be a warning if the person is already registered.

2. The system SHALL provide the ability to store more than one identifier for each patient record.

Input GMS number, PPS number, hospital medical record numbers and laboratory numbers for a patient.

3. The system SHALL associate key identifier information (e.g., system ID, medical record number, GMS number, Personal Public Services number) with each patient record.

Search for an individual patient using different identifiers.

4. The system SHALL provide the ability to uniquely identify a patient and tie the record to a single patient.

Identify the system id used to identify a patient record.

5. The system SHALL provide the ability, through a controlled method, to merge or link dispersed information for an individual patient upon recognizing the identity of the patient.

Create a new record for an existing patient with a variation of patient's name and then merge the two records.

6. IF health information, for example a consultation note or a prescription, has been mistakenly associated with a patient, THEN the system SHALL provide the ability to mark the information as erroneous in the record of the patient in which it was mistakenly associated and represent that information as erroneous in all outputs containing that information.

Input a prescription and a consultation note for an existing patient and then cancel it. Ensure that it is marked as erroneous on display and printouts.

8. The system SHALL provide the ability to retrieve parts of a patient record using a primary identifier, secondary identifiers, or other information which are not identifiers, but could be used to help identify the patient.

Search for a patient by GMS number, PPS number, internal system ID, surname, first name, date of birth and address.

11. The system SHALL provide a means to enter patients into the system that have been missed or who were seen during system downtime.

Enter a consultation note on a patient seen yesterday.

12. The system SHALL mandate minimum registration data.

Check that minimum registration includes all the date in Table 3.

13. The system SHALL ensure a new patient record is not accepted by the system unless all fields in the minimum data set have been completed.

Check that a new patient record can not be created without entering the minimum registration data in Table 3.

14. The system SHALL ensure the user can report on incomplete records. These are records that contain the minimum data set but are missing useful fields such as phone numbers, identifiers, patient type, medical card details, etc.

Report on patients that do not have a contact phone number, do not have a PPS number or a GMS number, do not have a patient type category.

Manage Patient Demographics (DC.1.1.2)

ID#	Type	Name	Priority
DC.1.1.2	F	Manage Patient Demographics	EN

Conformance Criteria

1. The system SHALL capture demographic information as part of the patient record.

Check that no record exists without demographic information.

2. The system SHALL store and retrieve demographic information as discrete fields.

Check that the data in Table 4 is captured as discrete fields.

3. The system SHALL provide the ability to retrieve demographic data as part of the patient record.

Demonstrate the ability to view patient demographic data for an individual record.

4. The system SHALL provide the ability to update demographic data.

Update the demographic data on a patient record.

7. The system SHALL present a set of patient identifying information at each interaction with the patient record.

Check that patient demographic data is present in all views of the patient record, including medication, results, problem list, consultation and overview.

8. The system SHALL have the capability to collect the range of data shown in Table 4 Patient Demographic Data.

Check that the demographic data in Table 4 can be captured.

9. The system SHALL have the capability to collect the range of data shown in Table 5 Next of Kin Demographic Data.

Check that the data for next of kin, in Table 5, can be captured.

10. The system SHALL have the capability to collect the range of data shown in Table 6 Carer Demographic Data.

Check that the data for carers, in Table 6, can be captured.

11. The system SHALL have the ability to capture postal code as part of the address attributes.

Enter a Dublin address and postal code.

Capture Data and Documentation from External Clinical Sources (DC.1.1.3.1)

ID#	Type	Name	Priority
DC.1.1.3.1	F	Capture Data and Documentation from External Clinical Sources	EN

Conformance Criteria

1. The system SHALL provide the ability to capture external data and documentation.

Demonstrate the ability to import an HL7 version 2.4 XML message. Define the messages types than can be handled.

2. The system SHALL receive and store health care messages, in HL7XML version 2.4 format, into the patient record through an electronic interface.

Import an HL7 XML file of laboratory results.

3. The system SHALL display upon request health care messages received through an electronic interface.

Check that the system can display electronic messages received over time.

4. The system SHALL integrate messages into the individual patient record.

Check that the system can integrate messages into the individual patient record. Define the integration algorithm used.

5. The system SHALL have a capacity to facilitate manual integration of messages into patient records.

Demonstrate manual integration of messages into patient records.

6. The system SHALL have the ability to correct matching errors during message integration.

Create a matching error and then correct it.

7. The system SHALL provide the ability to receive, store and display scanned documents as images.

Demonstrate the ability to use scanned documents.

16. The system SHALL be capable of interacting with external systems using Web Services.

Demonstrate ability to interact with external systems using Web Services.

Produce a Summary Record of Care (DC.1.1.4)

ID#	Type	Name	Priority
DC.1.1.4	F	Produce a Summary Record of Care	EN

Conformance Criteria

1. The system SHALL present summarised views and reports of the patient's comprehensive EHR.

Demonstrate a summary view of the patient record.

4. The system SHALL present the patient's smoking and alcohol status, with details of who entered the data and when.

Demonstrate smoking and alcohol status and details of who entered the data and when.

Manage Patient History (DC.1.2)

ID#	Type	Name	Priority
DC.1.2	F	Manage Patient History	EN

Conformance Criteria

1. The system SHALL provide the ability to capture, update and present current patient history including pertinent positive and negative elements.

Demonstrate the ability to capture and maintain medical, surgical and social histories.

6. The system SHALL capture family history, including pertinent positive and negative histories, the relationship to the patient, the age of onset of illness or age of death, the outcome and the date. For example, Father died Carcinoma of Oesophagus in 1988, age 56 years.

Demonstrate the ability to capture family history of disease, including negative histories.

Manage Allergy, Intolerance and Adverse Reaction List (DC.1.4.1)

ID#	Type	Name	Priority
DC.1.4.1	F	Manage Allergy, Intolerance and Adverse Reaction List	EN

Conformance Criteria

1. The system SHALL provide the ability to capture true allergy, intolerance, and adverse reaction to drug, dietary or environmental triggers as unique, discrete entries.

Enter multiple allergies for drugs, vaccinations, food and environmental triggers. Enter an allergy to MMR vaccine for a specific child.

3. The system SHALL provide the ability to capture the reaction type.

Check the system can describe the reaction type for the multiple allergies entered.

5. The system SHALL provide the ability to capture a report of No Known Allergies (NKA) for the patient.

Enter NKA for a patient.

8. The system SHALL provide the ability to deactivate an item on the list.

Deactivate an allergy.

9. The system SHALL provide the ability to capture the reason for deactivation of an item on the list.

Enter the reason why an allergy was deactivated.

13. They system SHALL provide the ability to capture and display the date on which allergy information was entered.

Check that date stamps are present for all allergy entries and modifications.

Manage Medication List (DC.1.4.2)

ID#	Type	Name	Priority
DC.1.4.2	F	Manage Medication List	EN

Conformance Criteria

1. The system SHALL provide the ability to capture patient specific medication lists.

Check that system can capture patient medication lists.

2. The system SHALL display and report patient specific medication lists.

Check display and reporting of medication lists.

3. The system SHALL provide the ability to capture the details of the medication such as ordering date, dose, route, and description of the prescription, such as the quantity when known.

Check that all necessary data on medication is captured.

5. The system SHALL provide the ability to capture medications not reported on existing medication lists or medication histories.

Allow the addition of herbal or alternative medications or new drugs not on the drug database.

7. The system SHALL present the current medication lists associated with a patient.

Add medications and check the presentation.

9. The system SHALL present the medication, prescriber, and medication ordering dates when known.

Ensure data on medication, prescriber and prescription date is included.

10. The system SHALL provide the ability to mark a medication as erroneously captured and excluded from the presentation of current medications.

Enter a new drug, mark it as erroneous, check that it displays and reports as erroneous.

11. The system SHALL provide the ability to print a current medication list for patient use.

Print current medication list.

Manage Problem List (DC.1.4.3)

ID#	Type	Name	Priority
DC.1.4.3	F	Manage Problem List	EN

Conformance Criteria

1. The system SHALL capture, display and report all active problems associated with a patient.

Enter, display and report a number of active medical problems.

2. The system SHALL capture, display and report a past history of all problems associated with a patient.

Enter display and report on inactive or past medical problems.

3. The system SHALL provide the ability to capture onset date of problem.

Ensure date of onset is captured.

5. The system SHALL provide the ability to capture the source, date and time of all updates to the problem list.

Check that data on problem updates is captured and displayed.

6. The system SHALL provide the ability to deactivate a problem.

Enter and then deactivate a medical problem.

8. The system SHALL provide the ability to display inactive and/or resolved problems.

Display inactive or resolved problems.

Manage Immunisation List (DC.1.4.4)

ID#	Type	Name	Priority
DC.1.4.4	F	Manage Immunisation List	EN

Conformance Criteria

1. The system SHALL capture, display and report all immunisations associated with a patient

Check that the system can capture, display and report all immunisations.

2. The system SHALL record as discrete data elements data associated with any immunisation given including date, type, batch number, manufacturer, expiry date, site given, method of administration and dose.

Check that all necessary data is captured as discrete data elements.

3. The system SHALL prepare a report of an individual patient‘s immunisation history upon request for appropriate authorities such as schools or day care centres

Prepare and print a report on immunisation history for a pre school or crèche.

Manage Prescriptions (DC.1.7.1)

ID#	Type	Name	Priority
DC.1.7.1	F	Manage Prescriptions	EN

Conformance Criteria

1. The system SHALL provide the ability to create prescriptions with the details adequate for correct filling and administration captured as discrete data.

Check that the system can create prescriptions with all the details required for correct dispensing and administration.

2. The system SHALL generate prescriptions for GMS and private patients, for once off and repeat prescriptions on the appropriate stationary.

Print scripts of acute and repeat prescriptions for GMS and private patients on the appropriate stationary.

3. For children under 12 years, the age in years and months SHALL be displayed on the prescription.

Check that the age in years and months prints for children under 12 years only.

4. The system SHALL capture user and date stamp for all prescription related events.

Check that user and date stamps are present for prescription related events.

5. The system SHALL conform to function DC.1.4.2 (Manage Medication List) and update the appropriate medication list with the prescribed medications.

Create a new prescription and ensure it appears on the medication list.

6. The system SHALL provide the ability to search a list of medications by brand name or generic name and to then include both names in the results.

Search for a drug by brand name or generic name.

7. The system SHALL provide the ability to maintain a discrete list of orderable medications.

Check that system has a drug database.

8. The system SHALL utilise a recognised and established drug database which is updated on a regular basis, at least every quarter.

Identify the drug database and check that it is up to date.

12. The system SHALL provide the ability to re-prescribe medication by allowing a prior prescription to be reordered without re-entering previous data (e.g. administration schedule, quantity).

Check the ability to re-prescribe.

17. For repeat prescriptions, the system SHALL alert the prescriber when the maximum number of repeat prescriptions has been issued or the review date has been reached.

Check the alert system for repeat prescriptions post review date.

19. The system SHALL have a facility to record hand written scripts without printing.

Record a script for morphine injections, check that it does not print.

Manage Referrals (DC.1.7.2.4)

ID#	Type	Name	Priority
DC.1.7.2.4	F	Manage Referrals	EN

Conformance Criteria

1. The system SHALL provide the ability to capture and communicate referral(s) to other care provider (s), whether internal or external to the organisation.

Demonstrate the ability to create and communicate a referral letter.

2. The system SHALL provide the ability to capture clinical details as necessary for the referral.

Check the referral letter can include clinical details such as consultation, problem list, medication, allergies and results.

3. The system SHALL provide the ability to capture administrative details (such as insurance information, consents and authorisations for disclosure) as necessary for the referral.

Check the referral letter can include demographic details and eligibility details such as GMS and private health insurance.

4. The system SHALL present captured referral information.

Display a view of the referral letter.

9. The system SHALL create, in digital or printed format, a referral letter, either unstructured or structured, to a hospital, consultant, clinic or health professional.

Create a referral letter, print it out and export it to as a file.

Manage Immunisation Administration (DC.1.8.2)

ID#	Type	Name	Priority
DC.1.8.2	F	Manage Immunisation Administration	EN

Conformance Criteria

1. The system SHALL provide the ability to recommend required immunisations, as and when they are due, during an encounter, based on the national immunisation guidelines. The national immunisation guidelines are available from http://www.immunisation.ie/ and new guidelines will be published in 2008.

Open an infant's record and check for recommended vaccines.

3. The system SHALL perform checking for potential adverse or allergic reactions for all immunisations when they are about to be given.

Ensure that system checks vaccines and vaccine constituents against know allergies. Check if the MMR allergy entered for a specific patient in DC.1.4.1 produces an alert.

4. The system SHALL provide the ability to capture immunisation administration details, including date, type, batch number, manufacturer, expiry date, site given, method of administration and dose.

Check that all necessary data is captured during vaccine administration.

6. The system SHALL record as discrete data elements data associated with any immunisation.

Ensure the vaccine data is captured as discrete data elements.

8. The system SHALL provide the ability to capture and update the immunisation schedule produced by the national immunisation committee.

Ensure the system supports up to date national immunisation guidelines. Clarify how immunisation schedule updates are to be distributed and incorporated.

9. The system SHALL provide the ability to prepare a report of an individual patient's immunisation history upon request for appropriate authorities such as schools or day-care centres.

Print an individual immunisation history for a pre-school or school.

10. The system SHALL provide the ability to make a detailed printed return to the appropriate agency to facilitate an immunisation fee claim.

Create a print out of immunisations undertaken at a session. The print out should be one page per child, in the format agreed with the National Immunisation Office.

Manage Results (DC.1.8.3)

ID#	Type	Name	Priority
DC.1.8.3	F	Manage Results	EN

Conformance Criteria

1. The system SHALL provide the ability to present numerical and non-numerical current and historical test results to the appropriate provider.

Check the system can display numeric and text results.

2. The system SHALL provide the ability to filter the results by provider.

Check the system will allow a view of tests results for a single GP.

3. The system SHALL provide the ability to filter abnormal results where an abnormal result flag is displayed in the message.

Check the system will allow a view of abnormal results only.

4. The system SHALL facilitate the management of tasks by providers associated with results such as: seen, signed off, delegate to named GP or Practice Nurse, phone patient, write to patient, visit patient, etc.

Check the system supports workflow around results management. Check how a GP or practice nurse could manage an abnormal biochemistry result.

5. The system SHALL facilitate the management of patient communication of results, such as: inform by phone, letter, SMS text or email, that result is: normal, needs repeat, needs review appointment.

Check the system supports communication of results to patients.

6. The system SHALL provide the ability to filter results for a unique patient.

Check that all results for an individual patient can be viewed.

7. The system SHALL provide the ability to filter results by factors that supports results management, such as type of test and date range.

Check the system can filter tests for an individual patient by type of test and date range.

11. The system SHALL provide the ability to group tests done on the same day.

Check that tests done on the same day for a patient can be viewed together.

19. IF the system contains the electronic order, THEN the results SHALL be linked to a specific order.

Demonstrate the ability to link test order numbers to returning results.

20. The system SHALL provide the ability for providers to annotate a result.

Check that it is possible to write a comment on a result.

22. The system SHALL NOT allow a user to over right original data in a result.

Check that the GP or nurse can not over right or change an original result.

Manage Display of Results (DC.1.8.3.1)

ID#	Type	Name	Priority
DC.1.8.3.1	F	Manage Display of Results	EN

Conformance Criteria

1. Where a requirement for clinical equivalence exists, the Vendors SHALL work with the laboratory to attain this standard. An example of this is the audit process in place around the regional pathology laboratory in Waterford.

Clarify the status of the product in respect to the clinical equivalence accreditation standard of Waterford Regional Hospital.

3. The system SHALL provide an initial display of messages, prior to integration into the individual patient record.

Check the system provides an initial display of results, prior to integration. Clarify what happens to the original HL7XML message files, to allow re-integration if necessary.

4. The initial display SHALL be of the data provided in the message according to the display guidelines or XML stylesheet provided by the message sender.

Clarify how the vendor formats the initial display.

Manage Patient Clinical Measurements (DC.1.8.4)

ID#	Type	Name	Priority
DC.1.8.4	F	Manage Patient Clinical Measurements	EN

Conformance Criteria

1. The system SHALL capture patient vital signs such as blood pressure, temperature, heart rate, respiratory rate, and severity of pain as discrete elements of structured or unstructured data.

Check how the system captures and stores patient vital signs. Blood pressure should be capable of being stored as both systolic and diastolic pressures.

2. The system SHALL capture psychiatric symptoms and daily functioning as structured or unstructured data.

Check how the system captures psychiatric symptoms and daily functioning.

Manage Ante-natal and Post-natal Care (DC.1.8.7)

ID#	Type	Name	Priority
DC.1.8.7	F	Manage Ante-natal and Post-natal Care	EN

Conformance Criteria

1. The system SHALL provide the ability to capture all data relevant to ante-natal and post-natal care. As an example, Table 10 shows the data items captured in the ICGP Combined Obstetric Card.

Check that all the data in Table 10 can be captured and used.

2. The system SHALL capture user and date stamp for all assessments and interventions.

Check that all ante-natal and post-natal visits are captured by the audit trail.

7. The system SHALL generate the required outputs following a visit, particularly claim forms for the Mother & Infant scheme.

Generate a Mother & Infant scheme claim form.

Support for Result Interpretation (DC.2.4.3)

ID#	Type	Name	Priority
DC.2.4.3	F	Support for Result Interpretation	EN

Conformance Criteria

1. The system SHALL present alerts for a result that is outside of a normal value range.

Demonstrate an alert for a haematology or biochemistry result that is outside the normal range.

Support for Referral Process (DC.2.4.4.1)

ID#	Type	Name	Priority
DC.2.4.4.1	F	Support for Referral Process	EN

Conformance Criteria

1. The system SHALL provide the ability to include clinical and administrative data (e.g. insurance information) as part of the referral process.

Generate a referral letter which includes demographics, problem list, selected consultation notes, medication and allergies.

2. The system SHALL provide the ability to include test and procedure results with a referral.

Show that selected test and procedure results can be included in a referral letter.

Present Alerts for Preventative Services and Wellness (DC.2.5.1)

ID#	Type	Name	Priority
DC.2.5.1	F	Present Alerts for Preventative Services and Wellness	EN

Conformance Criteria

1. The system SHALL provide the ability to establish criteria for the identification of preventive care and wellness services based on patient demographics (e.g. age, gender). For example, recommend required immunisations based on patient profile and risk factors. These could include age, time since last vaccination (e.g. pneumococcal) and risk groups for influenza vaccination.

Demonstrate the ability to set criteria for generating alerts for preventative services, including age, risk factors and time since last relevant procedure.

4. The system SHALL present alerts to the provider of all patient specific preventive services that are due.

Demonstrate alerts at time of encounter for women who are due cervical smears, children who have missed childhood vaccinations and adults over 65 who have not had influenza vaccine in the last year.

Support for Inter-provider Communication (DC.3.2.1)

ID#	Type	Name	Priority
DC.3.2.1	F	Support for Inter-provider Communication	EN

Conformance Criteria

1. The system SHALL provide the ability to document, in text format, in the patient record verbal/telephone communication between providers.

Demonstrate the ability to log verbal or telephone communication between providers.

2. The system SHALL provide the ability to incorporate scanned documents from external providers into the patient record.

Check that the system can incorporate scanned documents.

Provider Access Levels (S.1.3.1)

ID#	Type	Name	Priority
S.1.3.1	F	Provider Access Levels	EN

Conformance Criteria

1. The system SHALL provide a registry or directory of all personnel who currently use or access the system.

Demonstrate a registry of system users.

2. The system SHALL contain, in the provider access directory or staff database, the legal identifiers required for care delivery such as the doctor's medical council number and the nurses registration number with An Bord Altranais.

Check for presence of medical council number and Bord Altranais number.

3. The system SHALL provide the ability to add, update, and inactivate entries in the directory so that it is current.

Add, update and inactivate entries and check what happens when you log on as these new or modified or deleted users.

6. The system SHALL contain, in the provider access directory or staff database, the data items shown in Table 13 Provider Data.

Check that the registry of users contains the defined data items.

Practice Location(s) or Office(s) (S.1.3.4)

ID#	Type	Name	Priority
S.1.3.4	F	Provider's Location(s) or Office(s)	EN

Conformance Criteria

1. The system SHALL contain the information shown in Table 14 Practice Data.

Check that the system contains the practice location information defined in Table 14.

2. The system SHALL contain information necessary to identify primary and secondary practice locations or offices of providers to support communication and access.

Check that the system can hold and use information on secondary centres of practice.

3. The system SHALL provide the ability to add, update and archive information on the provider's primary and secondary practice locations or offices.

Add, update and archive information on practice locations.

4. The system SHALL provide the ability to add, update and archive information on related organisations, as shown in Table 15 Related Organisation Data.

Check that the system can hold and use information on related organisations as shown in Table 15.

Manage Appointments (S.1.9)

ID#	Type	Name	Priority
S.1.9	F	Manage Appointments	EN

Conformance Criteria

2. It SHALL be possible for users to define session types and locations.

Define session types and locations.

10. It SHALL be possible to browse the appointments slots to find free slot in which to make patient appointments. When browsing, the system shall indicate as a minimum those slots which are free (and available to be booked), those which are booked and those which have a booking availability constraint in effect.

Browse appointment slots and view booked, free and constrained slots.

12. The system SHALL allow multiple or partial slots to be booked for a patient. This may also be achieved by extending/reducing the length of the appointment (and amending neighbouring appointments).

Check that the booking of appointment slots is flexible: multiple, partial, extending/reducing.

13. The system SHALL allow an appointment to be booked for a patient that is not fully registered with the practice.

Book an appointment for a patient that is not fully registered.

14. The system SHALL allow a previously booked appointment to be cancelled.

Cancel an appointment.

15. It SHALL be possible to mark an appointment as 'patient Did Not Attend' (DNA).

Mark an appointment as DNA.

18. The system SHALL NOT allow a booking to be made to an appointment list that has been cancelled.

Cancel an appointment list and then attempt to book an appointment on this list.

21. The system SHALL provide facilities to track a patient's status throughout their appointment from arrival through to departure. This shall include the following states:

- Not yet arrived
- Overdue (the appointment time has passed and the patient has not arrived)
- Arrived and waiting to be seen
- Being seen
- Appointment ended.

View tracking of patient status.

24. It SHALL be possible for the performer to make new appointments and amend or cancel existing appointments for the patient being seen.

Make a new appointment and cancel an existing appointment for a patient in a

consultation.

27. The system SHALL allow reporting and printing of appointment lists for one or more performers for a user specified range of dates.

View and print an appointment list for one GP, and for several GPs, for one day and one week.

Manage Scanned Documents (S.1.10)

ID#	Type	Name	Priority
S.1.10	F	Manage Scanned Documents	EN

Conformance Criteria

1. Each scanned document SHALL be linked to an entry in the patient electronic record.

Attempt to scan a document without linking it to a patient record.

2. The entry SHALL facilitate the collection of the following attribution information:

- The date of the original document;
- The nature of the original document, for example: discharge letter, outpatient clinic letter, letter from speech and language therapist, etc.
- The author of the original document, for example: Dr Michael Smith Consultant Cardiologist:
- The institution of the original document, for example, Department of Cardiology, St Elsewhere's Hospital, Dublin;
- Any note or comment that the doctor or nurse wishes to make about the document;
- The date the document was scanned;
- The identity of the person scanning the document;

Enter the attribution information as above.

5. The system SHALL store the image file in an appropriate file format, such as Tag Image File Format (TIFF) or Joint Photographic Experts Group (JPEG).

Check the file format of scanned image files. Check the file size of the scanned images.

6. If optical character recognition (OCR) is used then the system SHALL facilitate the storage of the original scanned image file.

Check that the scanned image file is stored.

7. The system SHALL maintain a comprehensive audit trail of the scanned image, including what additions or deletions or changes are made, when and by whom.

Scan a document, enter the attribution information, change the related entry in the patient record, change the attribution, view the audit trail.

Support the Heartwatch Programme (S.2.1.1.1)

ID#	Type	Name	Priority
S.2.1.1.1	F	Support the Heartwatch Programme	EN

Conformance criteria

1. The system SHALL provide the ability to collect patient data required for the Heartwatch programme

Enter data for a Heartwatch patient.

2. The system SHALL provide a user friendly interface for the collection of Heartwatch data.

Ensure the data entry process is user friendly.

5. The system SHALL generate monthly report files for the Heartwatch programme that are compatible with the Independent National Data Centre Requirements as specified in the document "INDC - File Generation Rel 0.2 25 March 2003.doc".

Generate a Heartwatch output file and compare it to the Independent National Data Centre Requirements.

Health Record Output (S.2.2.1)

ID#	Type	Name	Priority
S.2.2.1	F	Health Record Output	EN

Conformance Criteria

1. The system SHALL provide the ability to generate reports consisting of all and part of an individual patient's record.

Generate a report, for a patient going abroad, which contains patient demographics, problem list, medication and allergies. Generate a report, for a smoking cessation clinic, which contains patient demographics, problem list, medication and smoking history. Generate a report of patients with sore throat seen in the last week. Demonstrate that a GP can select from a range of fields to generate a report on an individual patient.

Standard Report Generation (S.2.2.2)

ID#	Type	Name	Priority
S.2.2.2	F	Standard Report Generation	EN

Conformance Criteria

1. The system SHALL provide the ability to generate reports of structured clinical and administrative data using either internal or external reporting tools.

Produce a report of all patients over 65 years of age who have not had influenza vaccine in the last year. Produce a report of all children who are overdue their primary childhood vaccinations, order by vaccine. Produce a report of patients with ischaemic heart disease who have not had an ECG in the last year. Produce a list of patients who are taking a particular drug. Produce a report of all diabetic patients with their last HbA1c > 7.5%.

3. The system SHALL provide the ability to export reports generated.

Export reports to CSV file and Excel. Demonstrate a mail merge facility with Microsoft Word. Print a copy of a report generated.

4. The system SHALL provide the ability to specify report parameters, based on patient demographic and/or clinical data, which would allow sorting and/or filtering of the data.

Generate a report on patients with ischaemic heart disease or history of acute myocardial infarction who are not on statins, order by patient age.

Ad Hoc Query and Report Generation (S.2.2.3)

ID#	Type	Name	Priority
S.2.2.3	F	Ad Hoc Query and Report Generation	EN

Conformance Criteria

1. The system SHALL provide the ability to support the processing of ad hoc query and reports of structured clinical and administrative data through either internal or external reporting tools.

Demonstrate the ability to filter reports based on clinical and demographic data. For example: • generate a report of non insulin dependent diabetics who have not been reviewed in the last 6 months; • generate a list of patients taking an oral hypoglycaemic drug, such as diamicron; • generate a report of all patients who were administered a particular batch number of a vaccine; • generate a list of all patients seen in the last week showing demographic data, reason for encounter and visit date.

Rules Driven Clinical Coding Assistance (S.3.2.1)

ID#	Type	Name	Priority
S.3.2.1	F	Rules Driven Clinical Coding Assistance	EN

Conformance Criteria

1. The system SHALL provide the ability to access pertinent patient information needed to support coding of diagnosis, procedures and outcomes.

Generate a patient problem or diagnosis e.g. diabetes mellitus and show how the system supports coding of this problem.

Entity Authentication (IN.1.1)

ID#	Type	Name	Priority
IN.1.1	F	Entity Authentication	EN

Conformance Criteria

1. The system SHALL authenticate principals prior to accessing an EHR-S application or EHR-S data.

Open the practice management software and demonstrate that it is not possible to access information without providing a username and password. Investigate existence of system default passwords.

2. The system SHALL prevent access to EHR-S applications or EHR-S data to all non-authenticated principals.

Open the database directly and demonstrate that it is not possible to access information in the database tables. Demonstrate that the software automatically logs out a user after a set period of inactivity, to prevent unauthorised access.

3. IF other appropriate authentication mechanisms are absent, THEN the system SHALL authenticate principals using at least one of the following authentication mechanisms: username/password, digital certificate, secure token or biometrics.

Demonstrate use of one of the authentication methods.

Entity Access Control (IN.1.3)

ID#	Type	Name	Priority
IN.1.3	F	Entity Access Control	EN

Conformance Criteria

1. The system SHALL define system and data access rules.

Demonstrate how to set up users on the system and how to set the access rules.

2. The system SHALL enforce system and data access rules for all EHR-S resources (at component, application, or user level, either local or remote).

Set a user up with the lowest level of access and attempt to access confidential information such as a consultation report.

Patient Privacy and Confidentiality (IN.1.9)

ID#	Type	Name	Priority
IN.1.9	F	Patient Privacy and Confidentiality	EN

Conformance Criteria

1. The system SHALL provide the ability to fully comply with the requirements for patient privacy and confidentiality in accordance with a user's scope of practice, organisational policy, or legislation.

Log on as a basic level user. Demonstrate inability to access confidential information either by viewing, exporting or printing out information.

2. The system SHALL provide the ability to maintain varying levels of confidentiality in accordance with users' scope of practice, organisational policy, or legislation.

Demonstrate different levels of information access for different users.

3. The system SHALL provide the ability to mask parts of the electronic health record (e.g. medications, conditions, sensitive documents) from disclosure according to scope of practice, organisational policy or legislation.

Insert a diagnosis of child sexual abuse in a patient record and mask this information so that it is only available to the patient's regular GP.

4. The system SHALL provide the ability to override a mask in emergency or other specific situations according to scope of practice, organisational policy or legislation.

Allow a second GP to access masked information, alerting them that the override will be audited and notified to the patient's GP. Log on as the patient's regular GP and check that the override has been notified.

Data Backup (IN.1.10)

ID#	Type	Name	Priority
IN.1.10	F	Data Backup	EN

Conformance Criteria

1. The system SHALL have the capacity to backup data. This includes patient data and associated information in use such as templates, guidelines, protocols and configuration information.

Demonstrate how the system backs up data. Enter a consultation, backup the data, restore the data to a machine off the network and show that the consultation is available.

2. The system SHALL have the ability to initiate backup as part of a semi-automatic or automatic routine.

Demonstrate a semi-automatic or automatic routine to backup data.

Auditable Records (IN.2.2)

ID#	Type	Name	Priority
IN.2.2	F	Auditable Records	EN

Conformance Criteria

1. The system SHALL provide audit capabilities for recording access and usage of systems, data, and organisational resources.

Check that the system has an audit trail.

2. The system SHALL conform to function IN.1.1 (Entity Authentication).

3. The system SHALL provide audit capabilities indicating the time stamp for an object or data creation.

Enter a consultation, check the audit trail to ensure the entry is time stamped.

4. The system SHALL provide audit capabilities indicating the time stamp for an object or data modification.

Alter the consultation, check the audit trail to ensure the change is time stamped.

5. The system SHALL provide audit capabilities indicating the time stamp for an object or data extraction.

Produce a report on patients with diabetes mellitus. Generate an extract file and check that these actions are present in the audit trail.

6. The system SHALL provide audit capabilities indicating the time stamp for an object or data exchange.

Check that a time stamp for import of electronic laboratory results is present in the audit trail

8. The system SHALL provide audit capabilities indicating the time stamp for an object or data deletion.

Enter a new medication, then delete it. Check that the actions are present in the audit trail.

9. The system SHALL provide audit capabilities indicating the author of a change.

Check that the author of the consultation change is present in the audit trail.

11. The system SHALL provide audit capabilities indicating the data value before a change.

Check that the version of the consultation before the change was made is present in the audit trail.

13. The system SHALL conform to function IN.1.3 (Entity Access Control) to limit access to audit record information to appropriate entities.

Check that access to the audit trail is restricted to the system administrator and one GP.

14. The system SHALL provide the ability to generate an audit report.

Generate an audit report.

15. The system SHALL provide the ability to view change history for a particular record or data set in accordance with users' scope of practice, organisational policy, or legislation.

Generate a series of consultations, change them and view the change history in the audit trail.

26. The system SHALL maintain a comprehensive audit trail of scanned image files to facilitate the shredding of documents by practices.

View the audit trail associated with scanned images. Attempt to change or delete an image and check the audit trail.

27. The system SHALL, given the appropriate Timestamp, userID and patientID, have the ability to redisplay all previous data views exactly as they were presented to the user (this is to capture the idea of being able to see the record as it existed at a particular point in time).

Check data seen by a GP and a secretary for a patient a day, a week and a month ago.

Extraction of Health Record Information (IN.2.4)

ID#	Type	Name	Priority
IN.2.4	F	Extraction of Health Record Information	EN

Conformance Criteria

1. The system SHALL provide the ability to extract health record information.

Extract details of patients with diabetes mellitus showing last BP recording, BMI, lipid levels, smoking history, exercise history, medication and HbA1c.

2. The system SHALL provide the ability to de-identify extracted information.

De-identify the report generated above.

Data Portability (IN.2.6)

ID#	Type	Name	Priority
IN.2.6	F	Data Portability	EN

Conformance Criteria

1. The system SHALL have the facility to allow export of patient related information into:
   - A text file.
   - A "CSV" type file where the field lengths, separators, content, column headings, definitions etc. that are used are fully described in documentation.

Demonstrate export of an individual patient record and export of all records into a text file or CSV file.

2. The export file SHALL contain all data stored in the system either, at the user's discretion, for a selected individual patient or for the entire practice population.

Check that data in the export file contains the following information: demographics, allergies, medication, consultations, summary, vaccinations, disease codes, electronic laboratory results,

3. The system export facility SHALL include the audit trail, scanned documents and attached documents.

Check the export file contains scanned documents and information on the audit trail.

Import of Primary Care Reimbursement Service Patient Listing (IN.2.7)

ID#	Type	Name	Priority
IN.2.7	F	Import of Primary Care Reimbursement Service Patient Listing	EN

Conformance Criteria

1. The supplier SHALL provide a facility to import a GPs full GMS patient panel including all of the relevant details.

Import a GMS patient panel in the format agreed with the Primary Care Reimbursement Service.

Standard Terminologies and Terminology Models (IN.4.1)

ID#	Type	Name	Priority
IN.4.1	F	Standard Terminologies and Terminology Models	EN

Conformance Criteria

1. The system SHALL provide the ability to use ICPC-2 and ICD-10 to code elements of consultations and clinical care.

Vendors must use ICPC-2, and in addition must use either ICD-10 or SNOMED CT as a more granular classification or terminology. Enter the following ICPC codes: Cough R05, Upper respiratory infection acute R74, No disease A97, Hypertension uncomplicated K86, Examination: musculoskeletal L31; Enter the following ICD-10 codes or SNOMED CT codes: Non-insulin-dependent diabetes mellitus, Acute myocardial infarction, Malignant neoplasm of breast;

2. The system SHALL provide a user friendly interface to facilitate coding with ICPC-2 and ICD-10.

Consider whether the interface to coding systems is user friendly and efficient.

4. Where appropriate codes are not available, the system SHALL provide facilities for the entry of a local or temporary code.

Enter the following local codes: Participant in research study; Possible exposure to toxic substance;