4. Migration towards paperless practice

4.1 Introduction

This chapter documents the path towards "paperless practice", but recognises that pragmatically paper and electronic records should work in concert and that organisational processes should make optimal use of both. This optimised balance between paper and computerisation is crucial to effective practice, but of course that balance will change with time and vary between practices. There are very few practices that are "paper only" and probably none that are truly "paperless". The vast majority of practices have travelled some way on the journey towards a "paperlight" EPR.

The pathway cannot begin without recording demographic (registration) data for all patients, so for the purposes of this section, it is assumed that the practice uses Partners Links (GP/HA Registration Links in England), and records all standard demographic details and their changes on the computer.

4.1.1 Pathway to paperless practice

1. Data download from other systems e.g. cervical screening or childhood immunisations (only worth doing when processes in place to keep data up to date)

1. Repeat prescribing#
2. Acute prescribing#
3. Clinic based chronic disease management (using templates and/or protocols)
4. Consultations maintained in full on the computer
5. Disease/problem registers routinely added to from incoming reports (letters discharge summaries etc.)
6. Historical paper records summarised in electronic format
7. Pathology messaging (Electronic Data Interchange)
8. Radiology messaging (Electronic Data Interchange)
9. Scanning of incoming letters stored as attachments to the record or integrated within the clinical record (see chapter 6 of these guidelines)
10. Production of electronic reports for referrals and electronic General Practitioner Reports for insurance companies
11. Images such as ECGs and dermatology pictures routinely attached to the clinical record (see chapter 6 of these guidelines)
12. Online bookings/referrals
13. GP2GP record transmission*
14. Electronic hospital discharge letters for GP

May include services provided through the ePharmacy Programme.
* See Appendix 2

Before considering the detail of each step in the pathway towards paperlight practice, it is useful to recognise the potential benefits, the standards and principles that are necessary.

4.1.2 Benefits of effective computerisation of practice record systems

4.1.2.1 Benefits for the practice

Helps to improve patient care, for the individual patient and for groups of patients

Raises awareness of the needs of the practice population as a whole – allowing the practice to look at the needs of specific groups of patients as well as the individual

Support for the legal requirement to have an accurate historical record of care

Makes it easier to identify groups to target for particular interventions and packages of care (e.g. chronic disease register)

Supports the decision-making process and can offer automated decision support

Motivates and encourages practice staff

Audit of better data gives a more accurate reflection of the care provided and feedback of the data will be more meaningful

Encourages the practice to work as a team – can be used as a communication tool

Stimulates discussion

Supports practice development, appraisal and continuous professional development

Facilitates proactive (rather than reactive) work by practices

Reduces duplication of work and increases efficiency within the practice

Gives confidence to move away from duplicate systems (e.g. paper and computer)

Gives supporting evidence when bidding for funds/services

4.1.2.3 Benefits for the primary care organisation

Support greater integration of care

Helps monitor progress towards NSF objectives

Facilitates the process of clinical audit and governance

Enhances evidence-based practice and performance targets

Improves commissioning and resource planning

Supports epidemiological monitoring and public health services

Improves and extends capacity for research

4.1.2.4 Benefits for the patient

Helps to improve patient care

Increase patient confidence in the service being offered

Improves speed and reliability of patient centred communications across NHS boundaries e.g. pathology EDI

Increases access to and enriches information for patients

4.2 Recording standards – data quality

It is stages 2 to 7 in a practice's pathway to paper-light that comprise the greatest workload for practices and requires the greatest change in their ways of working and organisation. Central to this are their recording standards.
To be useful for clinical care, clinical audit, research, epidemiology, health care planning and commissioning, data should be of high-quality.
The PRIMIS (http://www.primis.nhs.uk/) project and GPRD database (http://www.gprd.com/) have been instrumental in defining standards and procedures for improving data quality in Primary Care in the UK. PRIMIS has implemented training programmes for PCOs in support of this. Much of the following advice has been derived from guidance in the PRIMIS Facilitators Handbook. PRIMIS services are only available to primary care organisations in England.
In Scotland the Scottish Health Statistics website of the Information and Statistics Division provides support material and guidance on data quality issues.[1]
PRIMIS suggest that high-quality data should be

Complete

Accurate

Relevant

Accessible

Timely

4.3 General principles of recording clinical data

In recording clinical data on computer, the ultimate aim must be electronic records that can be relied on for clinical practice.
This implies that all clinicians record their actions taken in response to problems presented at all patient contacts.
This may be difficult initially, but is the ultimate aim for a safe transition to paperless practice. The principles listed below can help guide practices in the right direction.

4.3.1 Support Patient Care

The primary purpose of recording information is to support patient care. If the information recorded is not required routinely for patient care, it is unlikely to be recorded consistently or completely, particularly in the longer term.

4.3.2 Everyone Takes Part

All clinicians participate in data recording, so that the full practice population is available as a denominator. Without this, clinical audit, practice planning and commissioning is very difficult and it is difficult to calculate rates of incidence and prevalence of disease

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[1] http://www.isdscotland.org/

follow links to "Collecting Information";"Managing Data Quality"
The full URL is:
http://www.isdscotland.org/isd/collect2.jsp?p_applic=CCC&p_service=Content.show&pContentID=785
Last Accessed September 2006

4.3.3 Data is entered at the time

All clinicians enter their own data directly into the computer system, this reduces problems of transcription error and legibility. Where individual clinicians do not enter data themselves onto computer, procedures should be established for capturing and inputting the information.

4.3.4 Every Encounter is Recorded

Practices record all occurrences of the data set to ensure completeness, to obtain a full picture of practice morbidity. This implies capturing data from locums, trainees, phone calls and from encounters outside the consulting room, such as home visits and contacts with out-of-hours centres.

4.3.5 Code Consistently

Practices record problems consistently. Each episode of illness should be coded with only one diagnosis code, to avoid multiple diagnoses being counted, so clinicians should not record asthma in one instance and asthmatic bronchitis in another, unless the diagnosis has actually changed.

4.3.6 Use Code Lists

Consider using a clinical code list which can be helpful in ensuring consistency within the practice. This does not imply strict adherence to particular diagnostic criteria, as their use is frequently impractical given the nature of primary care. However, where they have been agreed either locally or nationally, they will aid data consistency and accuracy. The use of templates can help ensure consistent data entry.

4.3.7 Feedback and Audit

Regular feedback and audit of data quality is carried out. Unless data quality is regularly audited and the findings of the audits acted upon, the data will lack credibility in analyses.

4.4 Processes to support these principles

Training for general practitioners and other practice staff involved in data capture. This will normally be available from an IT Facilitator or system supplier.

Identifying someone to lead on preparing the practice for participation in IT implementation and development.

Undertaking a baseline assessment which will enable the practice to understand what changes need to be made to improve the quality of data recorded and what changes need to be made to data recording procedures.

Reviewing and changing procedures to ensure completeness and consistency of data capture. A practice needs to look at data quality improvement within the overall context of improving the use of the computer system to support patient care. This may imply major changes in the way that data are recorded and there may be specific problems or issues that need to be resolved, such as differences in the terminology or definitions used by individuals within the practice.

The primary care team will need to decide how they can best capture information consistently and completely.
The following should be considered in particular:

Can any data such as demographic information be downloaded to populate the clinical system?

What data is not currently recorded consistently on computer by some or all clinicians?

What data comes from other PHCT members and how should it be captured?

How to capture data from locums, registrars and home visits?

How is data gathered when new patients register with the practice?

How will protocols of care and/or diagnostic criteria (where available) be used and made acceptable to the practice as a whole?

Who will design, develop and implement templates or protocols? (where available)

How will data obtained from elsewhere (such as hospital discharge letters) be managed?

What will the practice do when the IT system goes down?

How will data quality be monitored?

Is EDI for pathology, radiology etc available from local hospitals and how will the practice manage the implementation?

4.5 Recording clinical information

4.5.1 Data downloads – getting a head start

Before embarking on entering retrospective smears and childhood immunizations, contact your supplier and PCT to see if data downloads are available. Such downloads can automatically update hundreds of records with cervical cytology and child vaccine records.

4.5.2 Prescribing

Most practices use their computer systems for prescribing and this is a logical starting point on the paper-light pathway. Not only are scripts recorded exactly as printed and given to the patient, but there is the potential for automatically identifying interactions, warnings and allergies.
The prescribed drug may be linked to a problem title on some systems. In addition, systems should allow the recording of the following medication features;

Approved drug name

Clear dosage instructions

Whether issued as an acute prescription or authorized as a repeat prescription

Quantity and form of the medication

Date of prescription

Drug code - Use coding system provided with the clinical system

Route e.g. oral, topical, intramuscular

Cost - Generated automatically by the system

ID of prescribing GP which is usually generated automatically by the system and based on login identifier.

Medication from home visits, or on other occasions where a prescription is not printed, should also be entered on the system to provide a complete picture.
Where third parties have initiated new medications, this information should be entered from the hospital or other notification, where the GP has continuing responsibility to prescribe.

4.5.3 Retrospective data recording – including historical information

This may involve updating the data on the computer system to include retrospective information on conditions of interest to the practice (e.g. chronic disease management as part of the GMS contract).
It is recommended that this should be done condition by condition and at the same time as processes are introduced to record future data consistently. The alternative is to build up this information opportunistically as patients attend the surgery (most patients with a chronic condition should attend within a year).
Where new patients join the practice data may be entered from a form completed by the patient, consultations with the patient, from the historic record when received or more typically from a combination of all of these.
Retrospective data can be entered in the following ways;

Transcription of data from paper/manual chronic disease/morbidity registers

Going through the paper records, searching for patients with conditions of importance. This is time-consuming, but the most thorough approach. It will be quicker if the practice has summarised its records and summaries are kept up to date. It involves planning, agreement of protocols, training of an individual to input the information, availability of a GP to answer queries, and monitoring of quality of recording.

Where drugs are prescribed for specific conditions (e.g. insulin for diabetes). A listing is obtained from the practice system of patients on the specific drugs, the list is checked with a doctor and if the diagnosis is appropriate, the patient's record is checked for diagnosis and a diagnosis added if not already recorded.

Selecting records for specific groups of patients, for example, patients with chronic diseases or those attending other clinics, such as over-75 checks.

Preparing a list of patients with a specific condition and asking GPs and nurses whether they remember any other patients with the condition.

When updating retrospective data, it is important to remember to record the date of the first diagnosis, as many systems will otherwise default to the date of entry of the data.

4.5.4 Prospective data recording - recording at all consultations

Practices should have procedures in place to capture all patient contacts and other significant health events such as referrals, test results and discharge information. Data should be recorded at or immediately after all consultations and patient contacts. Practices should have agreed policies for allocating terms and codes so that all staff use them consistently.

Where a practice is relying heavily on computerised records, it is important to establish a role, and designate a person responsible for, procedures relating to data management and quality within the practice.
It is important that at each consultation the GP/clinician should make a basic health record entry.
The following data items should be recorded as a minimum;

Date of consultation, usually generated automatically by the system. Care should, therefore, be taken to ensure that the default is not used inappropriately; for example, for a home visit entered later.

Author, usually generated automatically by the system and based on the identifier used to log in to the system. Used for queries and audit.

Morbidity or problem, coded – Clinical code 4-byte or Clinical code Version 2 depending on practice system.

Risk factor, coded – Clinical code 4-byte or Clinical code Version 2 depending on practice system

Narrative – free text that places the coded information within the context of the patient's story.

Other information may be recorded; for example, additional Clinical codes, location, referral, and so on, where it is useful to the practice. Morbidity would need to be recorded at each consultation, unless a morbidity monitoring code was used; for example asthma monitoring using the Clinical code '663.' in the 4-byte set or '663..' in Version 2. The 'Author' is technically defined as the responsible clinician, even when data are entered by others. If permitted by the clinical computer system, entries should indicate both the responsible clinician and the person making the entry.

4.5.5 Recording clinical codes

The following questions may help in deciding on the most appropriate Clinical code to record the relevant clinical diagnostic term;

4.5.5.1 What problem is the patient consulting about?

Where a diagnosis can be made, an appropriate Clinical code should be entered from the diagnosis chapters in the Clinical codes; Chapters A–O in the 4-byte set and Chapters A–Q in Version 2. 'Symptomatic' diagnoses may be recorded using Clinical code chapter R (Symptoms, Signs and Ill-defined Conditions).
Where a diagnosis is uncertain, and no suitable diagnostic Clinical code exists, symptoms and signs should be recorded.

4.5.5.2 Are there other significant problems that are the subject of this consultation?

If there are, these should also be recorded.

4.5.5.3Does the consultation contain no morbidity or are there any additional components?

For example, where a tetanus booster is given, the immunization code from Chapter 6 (Preventive Procedures) should be entered. Other procedures can be recorded using Chapters 3 (Diagnostic Procedures), 6 and 8 (Non-operative Procedures and Therapies).

Many systems provide computer forms and picklists to enter such structured data.

4.5.5.4 Is the consultation to provide health education?

Where a consultation relates to management of a specific disease, such as advice on smoking to an asthmatic, the appropriate morbidity (asthma – diagnosis or monitoring code) should be entered. However, if health education is provided without related morbidity, a health education Clinical code from Chapter 6 should be used; for example, advice on exercise (6798 in the 4-byte set and 6798. in Version 2).

4.5.5.5 Is the consultation for administrative purposes?

Some consultations are purely administrative (for example, the signing of a private form), and should be recorded with suitable administrative Clinical codes from Chapter 9.
It is normally possible to find clinical codes in the Read Dictionary which describe the form completed, e.g. Med 3

4.5.6 Direct data entry

Direct entry is the most accurate method as it involves the clinician entering information about a patient during or after the clinical encounter. In deciding what to record on computer, practices should clearly base their decisions on what is regarded as necessary to support patient care, but other factors that might be important include;

Some systems allow users to set up their own synonyms; caution is recommended to practices wishing to do this, to ensure that local synonyms are appropriately linked and fully understood by all users.

Try to be consistent in the Clinical code used for the same condition.

Identify an individual in the practice who is the most proficient at and interested in using Clinical codes to become an adviser for the rest of the practice.

Build data quality audit into the practice routine to monitor use of Clinical codes.

Where a patient is seen at a branch surgery or during a home visit, the doctor will need to enter the data on return or establish some other procedure for data entry.

Where information is obtained from elsewhere including previous GPs it will be necessary to establish a procedure for entering the data onto the computer.

Involve the patient! Ask your patient to review the on-screen data and verify the entry

4.5.7 Indirect data entry

Where both direct and indirect data entry is happening within the practice, it is important that the same rules are being applied by all members of the practice team. It is important to ensure that all clerical staff have adequate training and support. In particular, a clinician should be identified to whom coding queries can be addressed, and a time agreed when these issues are dealt with.
It is important for the practice to develop an accurate recording system to ensure that potentially important data are not missed. Practices using indirect data entry as the norm may find that data quality is at risk; for example, through legibility or transcription errors. The following advice is provided to try to reduce these problems,

though data entry by clinicians at the point of care is recommended wherever possible;

Checking back in the notes to make sure that the same name is used for a condition that has been recorded previously.

Using templates or protocols to assist data entry

Providing a list of Clinical codes, where the clinician can simply record the appropriate code or term.

Using the diagnosis symbol (D) or highlighting problems to identify within the notes relevant information for recording

Writing the details to be recorded on a separate form, such as an appointment list, with space to add problems.

Dictating problems during or after consultation.

Once data have been entered, a highlight pen or red tick can be used to identify it as having been entered.

Where a diagnosis needs to be changed, the patient's notes should be clearly amended.

To identify that data have been entered on behalf of a clinician by clerical staff, the login identifier should be set up to identify the clerk concerned with the clinician identified separately in the consultation details.

Setting data capture targets along the lines of "all information placed in the box for data entry by the end of the day will be entered into the system by the end of the next day" is strongly recommended to avoid backlogs developing.

4.6 Non-routine data capture

Practices will need to consider how best to capture data in the following circumstances;

For other members of the PHCT, who may not routinely use the system

For locum staff who are unfamiliar with the practice computer system

For home visits, out-of-hours consultations and consultations at branch surgeries

If the computer system goes down

Information generated by other organizations (for example, test results, hospital admissions until these are transmitted electronically)

Many practices use clerical staff to capture information from paper notes. However, the accuracy of patient data on the system is a clinical responsibility. Therefore, clinicians should have in place a system for checking data entry quality and consistency and encouraging access and use of the system by primary care team members.
Procedures should be established by the practice for recording such data which should include;

Defaults may be set up for location (surgery), date (today) and author (login identifier). Care should be taken that the correct details are entered where the default does not do so.

Locum cover. Data capture requirements should be made clear to locums, who may need some training or guidance. Pre-printed data collection forms may be provided, and/or guidance on highlighting data to be entered in the notes.

Home visits.

Clinical letters (e.g. outpatient attendances, admissions, laboratory results)

System failures; These should include contingency plans to use alternative clerical recording methods if the system fails. Data collection forms could be used, with agreed places to store completed forms, and staff identified to enter the data once the system is running again.

4.7 Use of templates and protocols

Templates and protocols are available for many of the GP systems. They can be very useful for ensuring fast, reliable data entry for coded information into the EPR.

4.7.1 Templates

A template provides a screen form with data entry fields displaying a related set of Clinical codes or terms. Templates can be used to speed data entry, to ensure that all appropriate information about a patient is obtained and that information is recorded consistently across the practice. Templates can also provide ‘picking lists’ of appropriate Clinical terms to simplify selection. SPICE screens on GPASS in Scotland are an example of this.

4.7.2 Protocols

Some GP systems provide decision support tools to help GPs to diagnose and decide on appropriate treatment for specific conditions (e.g. PRODIGY)
Systems vary in the way in which templates and protocols are provided;

Some systems allow templates or protocols to be ‘linked’ to a particular Clinical code, so that when that code is entered, an appropriate template or protocol is displayed as a reminder of the information required.

Some systems provide standard templates and protocols, whilst others also enable users to develop their own. Templates and protocols are also often available from system User Groups.

A practice can generate its own templates or protocols, either based on standard ones provided by the supplier or obtained from other practices or system User Groups, or new ones developed by the practice.
In setting up local templates and protocols, great care should be taken in choosing Clinical codes to ensure that data errors are not systematized. For example, using a diagnosis code for ischaemic heart disease (from Chapter G) in a template or protocol by mistake when what was intended was the entry of information about family history (from Chapter 1) for an individual will lead to large numbers of patients apparently suffering from heart disease when the data are extracted and analyzed, and will mean large-scale correction of data entries.

4.8 Diagnosis refinement and amendment

Practices need to be able to handle diagnostic amendments to ensure that patient records are accurate.

There is a difference between a diagnosis that is refined over time as it becomes clearer, and a diagnosis that is recorded inaccurately or subsequently found to be incorrect. They should be handled as follows;

4.8.1 Diagnostic improvement.

In this case, a patient presents on several occasions and the diagnosis is refined over time. New morbidity codes would be added over time as the diagnosis ‘emerged’ but there would be no need to amend the initial diagnosis as it was not factually incorrect.

4.8.2 Amendment.

There is no ethical difficulty with removing or correcting inaccurate or misleading information, or making a clear addition to incomplete information. It is important that records do not contain information which may mislead another health professional using them. Indeed, the Data Protection Act 1998 gives patients a right to have inaccurate records amended. It is inadvisable to remove medically relevant information from patient records. It is important that notes provide a contemporaneous record of consultations and information gained about patients. Removing relevant medical information may give the impression that the notes have been tampered with, and may make later treatment and care decisions seem unsupported. It follows that doctors should take care to ensure that the records show all significant aspects of care, and clearly identify any decisions that were later found to have been inappropriate so that in the future carers do not misinterpret the patient's medical history.
If there is dispute about the accuracy of information, for example that was recorded in the past by a previous GP, doctors should take reasonable steps to ascertain the accuracy of information in the records. If this is not possible, a note explaining the patients' views should be appended to the records. This allows health professionals using the records in the future to be wary of placing undue weight on disputed information.

4.9 Clinical codes

The Clinical codes are the current recommended national standard in General Practice and most GP systems use them for recording clinical information. We recommend that the IT lead clinician within the practice develops particular knowledge of Clinical codes.
Clinical codes are arranged hierarchically, with the level of detail increasing down the hierarchy. The hierarchical approach is intended to help users to find related terms and decide on an appropriate level of detail easily. Each concept identified has a preferred term and may have any number of synonyms, acronyms and abbreviations linked to the preferred term. Each preferred term also has a unique code. For example;

Preferred term; Myocardial infarction

Synonym; Heart attack

Acronym; MI

4-byte Clinical code; G41.

Version 2 Clinical code; G30..

Generally Clinical codes can be entered on a GP system by;

entering the first few letters in the diagnosis

entering a synonym or acronym, for example; DM for diabetes mellitus

entering the code, such as C10, if known

searching through the hierarchy step by step

An understanding of the Clinical code structure is essential for those recording, extracting or analyzing data, as similar terms may have different meanings depending on where they are located in the structure. For example, to record a patient with asthma using Version 2, there may be a choice of (among other codes);

Asthma – cardiac (G581. [synonym for LVF] – circulatory diseases chapter)

Asthma (H33.. – respiratory diseases chapter)

Exercise-induced asthma (173A. – history/symptoms chapter)

Moderate asthma (663V2 – preventive procedures chapter)

Diagnosis codes all start with a letter rather than a number – number chapters cover symptoms, signs, investigations, procedures and administration. Generally it is wise to restrict use of diagnosis codes to conditions where there is reasonable diagnostic certainty. A diagnosis code should never be used where a recording of a diagnostic exclusion is being made (e.g. qualifying a coded entry of Diabetes mellitus with not present) – this should be done in free text (e.g. “no evidence of diabetes mellitus found”.

SNOMED CT (Systematised Nomenclature of Medicine – Clinical Terms) has been selected as the standard terminology scheme for the NHS in Scotland and the rest of the UK and will eventually replace the current Clinical (Read) codes. The use of SNOMED will greatly enhance consistent recording and communication of clinical information. There are however considerable challenges in the training of staff and migration from current systems.

SNOMED-CT employs a structure of concepts linked by relationships which provides a powerful model for coding medical care. More information is available from the SNOMED-CT web site http://www.snomed.org/snomedct/index.html and at the Connecting for Health SNOMED-CT site http://www.connectingforhealth.nhs.uk/technical/standards/snomed/

4.10 Morbidities, symptoms and signs

The following principles for recording morbidities will help ensure data consistency;

Clinical codes should be used in preference to locally defined codes, as these are less amenable to comparative analyses.

Clinical codes should be recorded to a clinically useful level of detail.

Practical working diagnoses are adequate

The same Clinical code should be used consistently for the same condition during the course of an episode of illness.

Where a patient is being referred for an opinion, the symptom should be recorded (‘breast lump’), rather than the possible diagnosis (‘breast cancer’).

The following examples of common errors should be avoided;

Recording family history of disease as a patient’s disease.

Recording exclusion of a diagnosis using the Clinical code for that diagnosis. This should be recorded in free text, for example, from Version 2, “chronic bronchitis [H31..], not asthma”, rather than “chronic bronchitis [H31..], not asthma [H33..]”.

Recording H/O (history of) a disease rather than a definitive morbidity with a date

Recording a diagnosis instead of a procedure screening for that condition.

Recording a procedure (syringing the ears) instead of a morbidity (excess wax in the ears).

A morbidity entered instead of an immunization or test; for example, tetanus, rather than the tetanus immunization.

Recording neonatal problems to a mother’s record, especially where the baby was not yet registered. Or recording birth details in the baby’s record (e.g. Caesarian section)

4.11 Lifestyle and risk factors

Recording data on lifestyle and risk factors can provide a powerful tool for targeting health promotion activities and for predicting morbidities; for instance, smoking, weight, blood pressure and cholesterol levels are all predictive of heart disease. Practices are already likely to be recording some data on risk factors. New Patient questionnaires and medicals offer an opportunity to gather information on lifestyle and risk factor data.

4.12 Linking data items

A morbidity may be directly associated with one or more of;

Treatment

Medication

Referral

Treatment or investigation carried out outside the practice

Linked data can be used to obtain information on;

Actions taken in response to specific morbidities

Effectiveness of treatments provided

Outcomes for specific morbidities

Linked data is most commonly employed in systems using a Problem Orientated Medical Record (POMR). For example:
Asthma (H33..) may be defined as a “Problem” and be linked within the record by the system to all related medications, associated episodes of care and referrals.
This normally requires an element of structuring the record which the Clinical Information System may not support. Typically it also requires some active data hygiene to be done by the clinicians.
Outside the POMR the most common use of linkage has been to attach a new repeat prescription to a clinical code describing the reason for the prescription. This is part of the Quality and Outcomes framework of the GMS Contract 2004.

4.12.1 Contacts or encounters outside the surgery

To obtain a complete picture of the care provided to a patient, it is necessary to capture contacts or encounters taking place outside the surgery. Systems are able to record contacts or encounters which take place other than during a surgery consultation; for instance, a home visit. Generally, location codes are user-defined, and so will be practice-specific. They may, therefore, refer to a number of different things in addition to location, such as type of practitioner, reason for contact, and so on. The default location is generally surgery attendance, so it would usually be necessary to overwrite this with the appropriate location code.
As the login identifier is used by systems to identify the individual making the contact, the member of staff involved in the contact ideally should enter the data. If not, the identifier should identify the individual entering the data, and the clinician on whose behalf the data are being entered should be recorded in the consultation details.

4.12.2 Referrals

Any type of referral can be recorded, such as consultant outpatient referrals and referrals for investigations. Where a patient is referred for a diagnosis, the symptom should normally be recorded, rather than the possible diagnosis (which can be entered in free text if needed to provide clarification).
The following data set is recommended for practices recording referrals;

Data Item Comments

ID of GP referring usually generated by the system and based on login identifier

Date of referral

Diagnosis or symptom Clinical-coded using the code which best describes the clinical situation, e.g. breast lump

Referral type Clinical code combines type (e.g. emergency, consultation) with specialty (e.g. orthopaedics) in one code, e.g. 8H58

Provider ID/Hospital name and code

Reason for referral, confirmation of diagnosis, further investigations, etc.

4.13 Interventions carried out elsewhere

Community care terminology (e.g. district nursing) is not always well represented in the Clinical codes, so it may be difficult to code this information on GP systems currently. Care provided outside the surgery, for instance in hospital, should be recorded as a consultation, but in a way that identifies it separately; for example, by using an appropriate location code other than surgery. Care provided in the surgery but by someone from outside the practice, such as a hospital consultant holding an outpatient clinic, should also be recorded as a consultation, but identified separately, by using a different personal identifier.
The following data set is recommended for treatments and investigations;

Data item comments

Date of event

Author identifier of individual entering the data

Confirmed diagnoses as reported, entered as Clinical code

Results of investigations/tests as reported, entered as Clinical code

Procedures as reported, entered as Clinical code

Location where the procedure or investigation took place

Medication as reported

A link to the relevant scanned or electronic discharge or outpatient report where available

There are different issues involved in capturing data from outpatient letters and discharge summaries and test results, so they are considered separately below. In addition, the following general advice is given;

Whilst information provided by hospitals is generally recorded in free text, some may be coded using ICD or OPCS codes, rather than Clinical codes. There is no exact map between these coding systems and Clinical codes, so decisions will need to be made by a clinician as to which Clinical code is most appropriate.

Whilst data are often entered by clerical staff, clinical responsibility is essential. A consistent approach needs to be employed across the practice and monitoring processes should be implemented.

4.14 Clinical letters

Treatments and procedures are generally obtained from a hospital discharge summary or outpatient letter.

Date should be recorded as date of letter, not the date of entry onto the clinical system.

Where care was provided in hospital, location should be hospital or similar, not surgery.

Medication should be recorded where the GP continues to prescribe it and in case of possible contraindication or allergy.

4.15 Investigations

Investigations and results can be entered from paper reports but their capture is both less time-consuming and more accurate if electronic links are used to transfer the results from the laboratory to the GP system.
Specifications on managing pathology messaging are available from your computer system supplier and from the Scottish Care Information (SCI) website (http://www.show.scot.nhs.uk/sci/).

4.16 General practitioner reports (GPR)

The questions asked by insurers of GPs and the content of the reports produced in response are governed by agreements struck between the Association of British Insurers (ABI) and the BMA, most recently revised in Nov 2003. The major GP system suppliers have written specific extraction routines for these reports (GPRs) and it has become common practice for GPs to use these, edited as needed, for their responses to insurers. Recently, the facility to convey the finished reports electronically to the insurers (eGPR) has become available.
For both GPR and eGPR:

GPs should be aware that they have the option to decline to complete a GPR in any form.

The responsibility for ensuring the appropriateness, correctness and completeness of a GP report remains as firmly with the GP as if he/she had hand-written the whole of it personally.

In fulfilling this responsibility, GPs must be aware of the fundamental difference between electronic and paper GPRs. A paper GPR is an empty document that the GP populates by adding data to it. The electronic GPR is automatically loaded with data by the GP's computer system and the GP then has to take out (i.e. edit) any information that need not or should not be included:

1 Negative HIV, Hepatitis B or Hepatitis C test results;

2 Instances of sexually transmitted disease without long term health implications;

3 Genetic test results which are unfavourable for the patient;

4 Information about third parties which was not supplied by the patient.

The patient's consent for release of the information must be confirmed in every case. This also applies to any third parties identifiable in the report.

Each draft report needs to be scrutinised and edited where necessary by the responsible GP.

When GPs are editing a report to remove inappropriate material, they should be aware that the same information may appear in more than one place in the medical record, and therefore also in the extract that forms the draft report (e.g. in problem list and in consultation record(s).

Practices should keep a copy of the report which is submitted to the insurer (i.e. the last version after any editing) together with a record of who was responsible for it and when it was sent. An outline of suitable storage formats (such as TIFF) can be found in Section 6.4 of these guidelines

The obligation to observe the 21 day rule remains, regardless of the form of the report.

Specifically for eGPR:

The eGPR service should be treated solely as a mechanism for swiftly dispatching a completed report, and not as a further opportunity for editing it.

GP system-specific information on how to use eGPR is available on the eGPR Website (http://www.egpr.co.uk). Each individual GPR[2] request form contains an explanation of the information required for that report. Comprehensive guidance on such issues as: access to GPRs, sexually transmitted infections, HIV, hepatitis, genetic testing, family history and third-party information is available from both the ABI[3] and BMA websites, in a document agreed between the two organisations in

[2] GPR request form www.bma.org.uk/ap.nsf/Content/GPR
Last Accessed September 2006

[3] BMA/ABI, Medical information and insurance www.bma.org.uk/ap.nsf/Content/MedicalInfoInsurance or www.abi.org.uk/Display/File/Child/106/Blue_Book.pdf
Last Accessed September 2006

December 2002. The ethical considerations which are provoked by an insurer's request for a GPR are outlined in a paper on the RCGP website[4].

4.17 Role related issues

4.17.1 Clinical IT lead

A clinical IT lead for the practice helps to provide an in-house source of expertise in the use of the practice clinical information systems and to give direction to the development of the system. Their role includes;

Leading the production of the strategy for development of the practice clinical information system

Developing audits of the information system usage by the practice

Develop a rolling practice data quality audit

Developing knowledge of the Clinical Code system sufficient to ensure accurate coding systems within the practice and to support and oversee non-clinical coders

Establish procedures for direct, indirect and non-routine data entry.

4.17.2 Locums

A locum's knowledge of the IT system in the practice should be established when engaging the locum. If the locum is likely to be a regular at the practice or filling a prolonged absence such as maternity or sabbatical leave then it is good practice to offer the locum training in the practice IT system prior to them taking up their engagement if they are unfamiliar with the system used in the practice. This should include the opportunity to become familiar with practice guidelines for clinicians on use of the IT system and coding as well as practicalities such as how to log on and log off. For temporary locums, such guidance should be part of the locum information pack and its presence in the pack should be drawn to the locum's attention.
In England locums will need a smartcard and PIN to access Spine-enabled clinical systems. In Scotland, the common logon method (if any) has yet to be determined.
It is good practice to ensure that Locum and other temporary staff are given unique logins to networks and clinical systems, with the emphasis on the latter. In a paperlight environment it may be impossible to determine who the locum doctor was in future years if they are only supplied with a generic login. Logins should only be activated for the period for which the locum is present in the practice, and deactivated or deleted after the locum's term of engagement ends.
Paperlight practices should remember that locum doctors may not be familiar with their clinical system. Brief training to familiarise the locum with the practice's clinical system may be required. Contracts with locum doctors should specify the required competencies on clinical software use wherever possible.
If the practice uses a transcription method (after the event) of capturing written input, the locum doctor should be made aware of this and advised on what will happen to their original clinical note.

[4] RCGP website http://www.bma.org.uk/ap.nsf/content/medicalinfoinsurance
Last Accessed September 2006

Locum doctors should be provided with clear guidance on where the clinical note is to be made, what information should be entered in a structured fashion and if any information is not available through the computer record.

4.17.3 Attached staff

The information requirements created by the clinical staff attached to the practice should be identified through interview and audit. Where such individuals are regular contributors to the patient record appropriate training in use of the IT system should be undertaken. For some personnel such as midwives the data entry is very structured and the use of templates or protocols can dramatically facilitate data entry. The member of attached staff should be provided with their individual password and a security level commensurate with their role in the practice. Regular visiting clinicians can be treated in the same way as attached staff.

4.18 Maintaining an electronic medical record system

A change to the GPs terms of service effective from August 1999 (PCA(M)199911) allowed for GPs in Scotland to maintain part or all of their patient medical records on a computer system if they so wish. Responsibility for approval of such requests now rests with Primary Care Organisations and the practice must have this approval in writing (see chapter 8 of these guidelines).

4.18.1 Where practices might go for help.

There are a number of sources of help available to practices to support the move towards becoming paperless.
All PCOs in Scotland have an IT Facilitators team with documentation, training and advice with a local emphasis. They can be contacted directly by practices and can also help put you in touch with other local practices using the same clinical computer system to share ideas, and processes. Contact details can be obtained from their website http://www.show.scot.nhs.uk/gmsimt/training.htm.
SCIMP also provides guidance available through the website http://www.show.scot.nhs/scimp. General guidance on moving to paperlight working is available for download, as well as a checklist to assist the process.
The clinical system suppliers also provide training, documentation and help screens that cover many of the specific areas mentioned above. Part of the SLA required by the NHS ensures that suppliers provide documentation and training packages to support their clinical systems in clinical practice. The suppliers will often have material available for download from their websites.
Supplementing this information are the GP system user groups which usually operate at national and regional levels. The User Groups may have conferences, training programmes and web based packages suitable for the practice clinical system. Additionally, the user groups may run email lists where users can post questions or observations, and have answers from other users around the country.

4.18.2 User group contact details

EMIS National User Group

Unit 12, Enterprise House
Kingsway North
Team Valley

Gateshead
NE11 0SR
Tel: 0191 4874571
Fax: 0191 487 5471
Email: bward@emisnug.org.uk
www.emisnug.org.uk/

National Vision User Group

Administrator: Mr Richard White
Tel: 087087 44040
Fax: 087085 55272
E-Mail: admin@nvug.org.uk
www.nvug.org.uk/

iSOFT User Group (Primary Care)

Judy Hayes (administrator)
Amicus Conferences
3 Beech Avenue
NorthWorcester
WR3 8PX
Tel: 01905 756826
Fax: 01905 454791
www.tug.uk.com/

GPASS User Group

Cath Stevenson
3 Crescent Road
Nairn
IV12 4NB
http://www.gpassusersgroup.scot.nhs.uk/