

Scanning and Document Management in Practice

Making IT work for you!

Contents

INTRODUCTION	3
WHAT IS SCANNING?	3
A SUMMARY OF PAPER AND COMPUTER RECORDS	7
OPTICAL CHARACTER RECOGNITION (OCR) AND CODING	11
WHAT IS A DOCUMENT MANAGEMENT SYSTEM	12
WHAT DO WE WANT TO ACHIEVE?	15
HOW WILL WE ACHIEVE THIS?	17
WHO DECIDES WHAT IS CODED	18
WHAT ARE THE OPTIONS FOR ACTIONS – THE ELECTRONIC “STAMP”?	18
MOVING ON... YOUR ORGANISATIONAL DEVELOPMENT TOWARDS PAPERLESS PRACTICE	19
APPENDICES	20
ACKNOWLEDGEMENTS	20

INTRODUCTION

SCIMP have produced this simple guide to implementing the single scanning and document management system that has now been procured for Scottish General Practices - this is Docman by PCTI plc.

The definitive guidance on this topic is in Good Practice Guidelines (GPG) for General Practice Electronic Patient Records (version 3.1) produced by the General Practitioners' Committee of the British Medical Association, the Royal College of General Practitioners and the Department of Health¹. This covers the broader topic of full electronic record management not just scanning, but it is based on English law and guidance. A new Scottish version is currently being prepared and will be available on the SCIMP website². These guidelines are referred to throughout this document as GPG v3.1. The SCIMP Good Practice Guidelines will be referred to as SCIMP GPG.

There is a distinction between scanning and being paperlight: practices can choose to be paperlight first then start scanning as part of that process, or the other way around. Practices should carefully consider the reasons for the move and the best time to make the change. Pressures on space, changes in staff and a consensus across the practice are good reasons to make this change. Enthusiasm of a sole partner or manager, pressure from the Board or 'because it is there' are poor reasons – see p 19 'Planning your move to Paperlight'.

WHAT IS SCANNING?

A scanner processes a paper document by taking an electronic photograph of all that is printed on it. Some scanners look and work like photocopiers, the original paper being laid face-down on its glass top – these are known as flat-bed scanners. However most scanners used now are sheet-fed: the single-sheet original is pulled through the scanner by motorised rollers. Most scanners now support multiple sheet feeds – a stack of original papers are pulled through automatically one at a time; the best are also able to read both sides of a document in the one paper feed.

The Document Management software, in Scotland now supplied as Docman by PCTI plc, then automatically shows on screen the image of the scanned document. The scanning operator can then select a suitable location to electronically file it e.g. the electronic record of that patient, or any other folder for general documents, and store it there.

Document images attached to a patient's electronic record become part of it and can be directly viewed from within the record on the clinical system. Most systems also enable direct access from the scanned images to each one's linked clinical record – useful for example when sorting through the day's mail.

Further guidance is available by clicking on the links below:

¹ [DoH GPG](#)

² [SCIMP GPG](#)

ADVANTAGES

Accessibility

A paper letter can only be in one place at a time. If several people need to see it then this will take time and increase the likelihood of the letter being mislaid. However, once scanned to a file it can be viewed, even though the clinical record is being accessed elsewhere.

Tracking

When a letter arrives in the practice it may need to go through several stages e.g. stamping, review by clinician, date coding and filing. Tracking each letter is difficult and robust systems are needed to ensure that they are read, actions completed and correctly filed. Document management software makes this easy.

Audit trail

As a letter is processed it is useful to know who has seen it and if any actions have been suggested. Paper and stamps can do this, but the audit trail is limited and relies on the original not being mislaid. Document management software offers a full audit trail, and the messages will be retained on the clinical system.

Cannot be mislaid

It has been suggested that paper records are unavailable at 10% of consultations and in hospitals this can rise to 30%. Electronic systems are more reliable and once a letter is scanned its electronic copies are unlikely to be mislaid.

Coding

Letters are now coded in most practices before they are filed and coding can be carried out before or after the letter is scanned and linked to the patient record.

Messaging

All clinical messaging will eventually be electronic and systems for managing paper will be phased out. Scanning prepares the practice for this so that clinicians will deal with an email letter or a scanned letter in a similar way. The message system built into Docman, and any messages in emails, all need to be retained to form part of the patient record, and these actions are recorded by the software in an audit trail which must be retained by the practice.

Paperless practice

Scanning of paper documents is a major part of achieving a paperlight practice where clinical information is only recorded on a computer record.

Effective use of staff

If it takes, for example, 45 seconds to access a record and 80 seconds to file a letter, a practice will require one receptionist for three doctors simply to pull records and file letters. Scanning can remove a large part of this work.

Secondly, practices often have their own format of A4 records folder, and staff will waste much less time on re-file of papers to be consistent with the practice format.

Thirdly, a Scotland-wide national index is now supplied with Docman in order to file letters in a standard way to help when the records are transferred to or from another practice.

DISADVANTAGES

Existing systems

Many practices are fully summarised and coded on A4 paper records, and work well with large quantities of paper records. There needs to be a strong case to move from this and scanning must show specific benefits.

Higher staff skill level required

It is simpler for staff to file letters than to operate a scanning system, and redeployment needs to be linked with training and support.

"A paper record is easier to use"

This is true. Flicking through letters gives much more information than simply what is written on the letter. Hospital logos and headers, page colour, size, shape and even weight of paper are subliminal cues which allow us to find the relevant information quickly. The patient with the 'fat file' immediately gives you information, as does noticing that the bulk of the letters are from one department. The paper record requires little training either to use or maintain.

Comfort zone

Many of these issues are due to the convenience and familiarity of the paper record which is a long established and effective tool of general practice. However, modern information technology is challenging the paper record from many sides e.g. email, electronic transmission of results, centralised records, and scanning offers a way ahead for practices facing these changes.

Access to health records

Practices need to ensure that once they introduce scanning, their Subject Access procedure is reviewed to ensure that whenever a patient requests access, an appropriate search and collation of the record is made. If patients are able to view their record on screen, there needs to be a facility to blank out display of 3rd party and sensitive information. If not provided by the clinical system, clinician checking of the displayed record is needed first.

PAPER RECORDS	SCANNED RECORDS
<p>Physical</p> <p>Paper records exist only where they are physically located (or copied)</p>	<p>Scanned document locations depend on the setup of supporting hardware and software</p>
<p>Accessibility</p> <p>Paper records have to be physically present at the time of use</p>	<p>Scanned images may be read at any point where electronic access is provided</p>
<p>Resource</p> <p>Paper records are generally cheap, however they are bulky and have real storage costs. There are also costs when access is required.</p>	<p>Scanning systems have significant capital costs. Like other IM & T equipment these may recur every three-five years. There is also a continued investment required for maintenance, upgrades and training.</p>
<p>Maintenance</p> <p>Paper records require little maintenance beyond filing and internal ordering.</p>	<p>Scanning systems require technical maintenance, upgrades and preservation of their integrity which require quite different organisation skills and resources.</p>
<p>Security</p> <p>Physical security against fire and theft incur costs in premises design</p>	<p>Copy of the data onto backups such as tapes that can be stored off-site gives a physical security impossible for paper documents to match. However there are new risks if access controls to the data, such as passwords, are lost.</p>
<p>Training</p> <p>Paper records are generally intuitive in their use. Filing and record structure require minimal training.</p>	<p>Scanning systems are not usable without both basic IT skills and system specific training</p>

A SUMMARY OF PAPER AND COMPUTER RECORDS

SOME QUESTIONS AND ANSWERS

In all sections relating to IT security it may be helpful to refer to the national IT security manual available on the web at <http://www.show.scot.nhs.uk/security>

Is it legal to save only scanned images?

Yes, the Defence Societies are comfortable with scanning letters and then shredding the original providing the system is robust enough to comply with the recommendations in the GPG. This means that there must be verification of backups, normally done by your supplier, and a system for recovering from computer crashes to maintain Business Continuity. In Scotland Regulation 66 of the NHS (GMS Contracts)(Scotland) Regulations 2004 states that practices require to obtain NHS Board approval before becoming paperlight/paperless. It is expected that this is included in any request to the NHS Board for funding for going paperlight, which should also include a Business Case describing the practices own Organisational Development Plan. Some examples are included in Appendix 5.

Is a scanned image admissible in a court?

Yes, so long as the requirements in the latest GPG are met to demonstrate its admissibility as evidence. However this has not yet been fully tested.

Do we need patients' consent?

If scanning is added to an existing clinical computer system there are no differences in the consent required. However, as the scanned image is part of the patient record it needs to be included in patient Data Access protocols.

Can we shred the letter when we have scanned it?

The GPG recommends that:

'Once a document has been scanned and stored in an appropriate format and subject to the appropriate system safeguards detailed in these guidelines, then the paper original can be shredded'.

So a simple answer is Yes, however, this assumes that you have a stable system with adequate Business Continuity procedures in place – see http://www.scimp.scot.nhs.uk/technical_advice_paperless_tips.html

Whether a scanned image or the original paper copy is kept does not alter any of the requirements to keep parts of the medical records for defined periods to comply with the current legislation.

Best practice is to wait until the scanned image has been processed and included in at least one back-up cycle. By then the image will have been viewed by at least one person to confirm it is satisfactory and attached to the correct patient, and integrated into the clinical records. Common practice is to save a day's scanned letters in a box, from which practices should only shred once full Business Continuity has been assured: data has been backed up, and all the tapes verified by the software. A partial test restore should also be carried out each quarter.

Many of the benefits of scanning come from not filing letters. This is a significant step for many practices and can be delayed until the practice is comfortable with scanning. It is important, however, to agree to move to not filing the letters at some point.

What about scanning our existing letters?

This is known as back-scanning. There are 2 main reasons:

1. For maximum clinical effectiveness in referencing all of the past medical history. However, most clinicians find that adequate summarising and coding of the past record covers 99% of clinical use, and reference to old paper records is very exceptional.
2. Some practices may gain a lot of space if all the existing case records and letters were scanned in –. This requires that :
 - The practice is able to do current work without any paper records and should have been proved this by so working for some time
 - Considerable resource is available to work back through the records. If the space is to be used then the records either need to be shredded as per above guidance, or paper records returned to the NHS Board, whose guidance should be sought before considering this.

How much space do we need for scanned images

A practice of 5,000 will accumulate about a CD's worth of data every year if they scan all letters. Hard disk space should not be an issue as modern hard disks will cope with several decades of scanned images, but they need equally capacious back-up devices.

What should we keep when a patient leaves the practice?

A feature of computer records is the audit trail of changes. As practices move to electronic patient records (EPR), the problem of transferring audit trails between practices has been highlighted. Recently all practices have been granted an exemption from the fifth principle of the DPA:

The GP to GP communication project will ensure that EPRs can be sent from one practice to another. However, because of differences in design between different systems, the receiving system may not be able to retain the structure and inter-relationships of the data elements of the transferred record.

Neither will it be possible to transfer the EPR audit trails between systems in the foreseeable future.

With this in mind the GPC has reached an interim agreement with the Information Commissioner that aims to preserve patient EPRs with their associated audit trails. Until such time as electronic transfer of GP EPRs is able to include the associated audit trails, GPs are exempted from complying with the Fifth Principle of the Data Protection Act 1998 and are not expected (or advised) to delete the records of ex-patients.

This also accords with the advice of the Medical Defence Organisations to keep records for as long as possible as there is no general statutory time limit on claims and patients expect to be able to reference their whole record. It is however an interim exception only until in the long term audit trails can be preserved, and has not been tested in court.

What is sent on to the new practice?

MDDUS advise that a full medical record must include everything and must be sent onto the new practice. However there is no clear guidance on how this is to be implemented. This reflects the differences in record keeping customs between different practices. In time the issue will be addressed with full transfer of electronic records and national standards.

No patient data should be stored in Outlook or other insecure email systems. Note that NHS Mail can be acceptably secure, but not if it is set up to display messages in Outlook. It is advisable to copy and paste any clinical email record into the clinical system and delete the insecure original.

The patient record in a practice could consist of a combination of many different elements

- An A4 folder containing letter, referrals, results and clinical continuation sheets
- Scanned images of letters with or without the originals in the A4 folder
- Computerised clinical notes
- Electronic attachments to the computerised clinical notes
 - Referrals
 - Other word processed letters
 - Photographs
 - ECGs
 - Dispensing records
 - Voice notes
- Messages about or from the patient in an email system such as Outlook
- Administrative records – either paper or electronic
 - Appointment book
 - Message book
 - House call book

MDDUS advise that all these are kept for 10 years.

As explained in the previous section, it is both appropriate and recommended that the electronic patient records are retained in the practice even after the patient has left. This storage function is performed by your clinical system, which also links to the scanned parts of the record in Docman, when you use it to deduct patients from the practice list when requested by PSD.

It is a legal requirement that the record which leaves the practice should contain the whole clinical record. In context “clinical” means all data used in the clinical care of that named patient. How this is achieved reflects the state of the computerisation of the practice.

1. A non computerised practice would simply send the A4 folder.
 2. A fully computerised practice where nothing about a patient is written on paper may send
 - The original A4 folder, which may have been untouched since it was summarised
 - A computer-generated summary compliant with the Data Protection Act, for example including all records of encounters, results and screening activities, and all summaries, normally provided by the clinical system.
 - Printouts of all scanned documents, normally provided by Docman
 - Printouts of any other clinical data e.g. emails
 3. A hybrid practice using both paper and computer must send both components of the clinical record.
- PSD and SCIMP are working with Docman and the system suppliers to simplify and automate these functions.

Scanning surely takes more time?

A practice normally receives 8-20 letters / 1000 patient / year.

With paper records, to file a hundred letters in the records and note the arrival on a continuation sheet takes about 80 – 150 minutes. For each access, to locate and pull a case record takes 30 seconds and to re-file it takes a further 45 seconds.

With paperlight working, to scan and attach 100 letters to patient records takes about an hour. Once this is done there is no additional clerical workload to access the letter, and this immediate access remains indefinitely.

So paperlight working takes less time, with accumulated benefit.

If the letters are also coded with new diagnoses, significant investigations and tests entered and then checked for changes in medications, the time taken to scan, attach and process a 100 letters increases to 3 – 4 hours.

What about house calls and care homes

In paperlight practices the clinical system can print out the last few letters with a clinical summary of all recent prescriptions and encounter notes when a home visit is made. The printouts can be used for ad-hoc notes when visiting, then notes typed in and shredded when they return to the practice. Ideally the practice should be able to define and produce a summary sheet that meets their specific needs including data from the clinical record and scanning system. Appendix 3.

Clinical systems now support small handheld computers known as Personal Digital Assistant or PDAs — which can contain the whole practice list with all clinical details and even all scanned letters. This can be updated from the practice data daily, or just before house calls; even requests for house calls that arrive after the doctor has left the practice can be visited without returning to the practice for full clinical information.

Some suppliers will offer remote access to the practice data from small PDA devices using secure wireless technology. These systems can also be used with a laptop, which may be more useful for example in a Care Home that is more secure than patients' homes, and better supports use of a full keyboard.

There is formal guidance on operation and security by Connecting for Health at www.connectingforhealth.nhs.uk/technical/security

Can scanners deal with all paper types and formats?

The correspondence needs to be sorted before it is scanned.

Modern scanners can scan double sided but need to be set up to do this. For single-sided scanners, double-sided letters need to be dealt with separately e.g. the back is photocopied and scanned.

Letters with staples should be removed from multiple page reports but a system is needed to make sure that they are kept together.

Scanners do not cope well with faint copies of handwritten documents on coloured paper. Docman allows tuning of settings for grey-scale levels, contrast, brightness or resolution. If the image is still not satisfactory some skilful setting of a photocopier can be tried to produce a copy for an acceptable scan.

Docman can accept scanned images and also other pictures, emails, photos, clinical images and reports and even voice messages just as effectively. As a result scanning and document management systems will allow the practice to manage all types of information in the future. Data quality may not be a significant issue with modern scanning systems, however it is a DPA requirement and practitioners should ensure the scanned images they are storing are as legible etc as the original. This is particularly the case for handwriting – they should be happy that they can make it out as readily in the scanned version as in the original.

Surely scanning is a dead-end in the new eNHS

Only if you believe in a paperless world - when sales of printers have never been so high!

While the rest of the NHS catches up with the advanced state of GP computing we will continue to receive paper from hospitals and many other services such as lawyers and social work offices. It is inescapable to set up systems to integrate these more effectively into the GP computer systems.

As email use becomes more commonplace, the origin of the electronic messages awaiting the clinician every morning will not matter.

Developing your practice to support scanning will help you to move to handling all information electronically. Perhaps in a decade or so when we are no longer receiving any paper the scanners can be quietly binned and these paperlight solutions will continue as message management systems.

OPTICAL CHARACTER RECOGNITION (OCR) AND CODING

To OCR or not?

Optical Character Recognition, known as OCR, is a process where a program 'reads' the scanned image of a document and converts the picture of text into a type that the computer can process as if it were typed in directly by keyboard. Such programs automatically select the text and ignore logos and letterheads but mixtures of letters and numbers (such as Read Codes) can cause a problem: for instance l (small l) and the number 1 are commonly confused. Handwritten letters or annotations can be a problem and such OCR errors are not simple misspellings but rather gobbledegook. Similarly, some typed forms which contain a lot of tabulated data in boxes are not usefully converted. However it is possible to 'read' most typed letters and accurately convert them to text data.

However useful this may seem there are some considerations :

Even if it is OCR'd, either the scanned image or the original will need to be retained, as above. This is because the OCR process is not completely accurate and you may need to refer to the original.

How often are letters read? Once read, information extracted then coded and added to the clinical record, most letters are not re-read. If one does require to be reviewed it is more intuitive to review a picture of the original rather than an extract of the text.

New OCR developments

PCTI, the suppliers of Docman, have introduced Intellisense. This is "smart" OCR which will read a hospital letter and extract patient's name and DOB to identify the patient's record in the clinical system and offer to attach to their record the consultant, hospital name, department, significant clinical terms and suggest possible new Read Codes, taking into account those Read Codes already found in the clinical record. These automated processes significantly speed up summarising. There are risks that if some uncertain diagnoses such as "possible myocardial infarction" are re-entered wrongly as definite codes it will have implications for the Quality & Outcomes Framework of the nGMS contract. Many letters are not Read Coded and the diagnosis is hidden in the text as 'myocardial damage was demonstrated' and the only OCR device that will translate this is a suitably trained data entry operator!

Any OCR solution should be carried out on a high specification workstation as the processor does a lot of processing work. These smart OCR programmes are useful and do add some functionality to the process. However, it is an extra cost item not currently included in any national procurement.

In summary, many practices may find Intellisense of benefit and should consider how to finance this.

WHAT IS A DOCUMENT MANAGEMENT SYSTEM

Before any practice moves to paperlight, they need to consider some questions :

- Are we ready ?
- What do we want to achieve ?
- How will we do this ?

Then they need to plan every aspect of the move – this is known as an Organisational Development Plan and will be required for NHS Board approval for supply of the Paperlight system, training and ongoing support.

Help and advice is on hand from the IT Facilitators network that is now available in every NHS Board - see Appendix 6. These are some of the issues they can help you with:

Are we ready?

A practice should be managing letters effectively to start with. Scanning is not a solution to existing problems in document workflow, but will give an opportunity to redesign it. There is a checklist for practices considering scanning which can form the basis for an Organisational Development Plan – see Appendix 3.

Before considering going paperlight a practice should:

- have a system for reviewing mail and identifying and managing actions
- be filing all mail chronologically
- have systems in place to code new diagnoses and
- have up to date summaries in most records

It is recommended that at least 60% of records be summarised and coded first. This was the standard in the RCGP's original quality mark, Practice Accreditation (PA); for the Quality Practice Award (QPA), the standard is 80%. Both these standards have been incorporated in the Organisational Indicators of the nGMS QOF. For further information on these topics see the SCIMP Good Practice Guidelines.

Setting up a safe and secure system – hardware, software and training.

Before moving to scanning, review the IT system to ensure that robust systems are in place to ensure a safe and secure system. NHS Boards are now responsible for the hardware and maintenance issues working to Service Level Agreements (SLA) on behalf of practices but the following headings also need to be considered.

Security Policy

The practice should develop and implement a security policy in collaboration with their NHS Board and system supplier. The RCGP's quality standards PA and QPA both specify requirements for practice policies in line with national guidelines, in this case the GPG v3.1.

Risk Management

Practices should undertake a formal risk assessment to inform a practice security policy as they may have local factors which differentiate them from other practices. Some examples are high numbers of housebound patients, unreliable electrical supplies, branch surgery, split-level office and clinical rooms, a large transient student population or close physical proximity to secondary care.

They should request help and advice about this from their NHS Board.

Accessibility

Practices need to ensure that they have an adequate number of workstations for staff to have access to scanned documents.

Capacity and storage

The NHS Board IT department should ensure that the system has adequate data storage capacity to meet future needs for storing the scanned images. The practice should consider the choice of scanner carefully and the network should be checked for the additional network load of scanned images.

Physical security

The system must be sited in a safe and secure location. Backups must be performed regularly and stored securely (e.g. a fireproof safe designed to protect electronic media for the duration of a fire). Backups must be verified routinely by the backup software, and a quarterly test restore of data performed. Physical security measures must be in place to prevent loss or failure of the system due to :

- theft
- fire, flood and other natural disasters
- mechanical, electrical or magnetic damage
- power failure
- exposure to environmental factors outside the manufacturers' specification (e.g. excess heat, cold, humidity or dust)
- deliberate tampering
- computer viruses
- staff problems (e.g. illness or absence of system manager)

While some of these will be covered by the hardware maintenance agreement, and others will be the responsibility of the Board, it is the responsibility of the Practice as Data Controllers to minimise these risks.

Access control

Practices must ensure that access to scanned images is controlled so that only those authorised to do so can have access. All authorised users must :

- have a unique identifier and password
- keep their password secure
- change passwords at regular intervals
- log out of workstations when leaving their workplace unattended

It would be highly desirable if the scanning system and clinical system were accessed through one log-in. If clinicians or patients have on-line or remote access to scanned images then additional security measures must be in place.

Disposal

Practices should ensure that they properly manage computers and storage media (e.g. hard discs, CD Roms, tapes, floppies etc) that are no longer required, ensuring that no hardware contains any personally identifiable patient information before disposal. All storage media should be securely erased with a software tool which destroys all trace of data before disposal – note that formatting a disk is quite inadequate as data is retrievable by thieves using simple special software. If there is any possibility that information might remain accessible on the storage medium after data destruction, then you should physically destroy the hard disk before disposal.

IT recovery

Practices should prepare detailed IT recovery arrangements before they move to scanning. Such arrangements should include the following :

- backup of the system to a suitable medium (usually magnetic tape) at regular intervals with a frequency of no less than once per day
- a system of cycling multiple media such that a single failed backup cannot render the plan ineffective (e g using different tapes for each day in a weekly cycle)
- secure storage of backup media to protect against accidental damage (e g flood or fire) or theft
- ensure that at least one recent backup is retained offsite to provide additional resilience against accidental destruction or theft (e g taking the previous day's backup off site each evening)
- ensure that any warnings or messages produced by the backup system are noted and acted upon
- regular replacement of backup media in accordance with the manufacturer's instructions
- regular e.g. quarterly submission of a specimen backup to an external verification service (where available) to ensure that backups obtained are able to be used to restore a functioning system
- ensure staff training, delegation and buddies

Remember that –

However traumatic it may be, hardware can easily be replaced, but years' worth of patient data cannot, unless it has been properly and verifiably backed up, securely stored and recovery tested.

WHAT DO WE WANT TO ACHIEVE?

Workflow

A substantial change in the practice workflow needs to be planned. Firstly it is useful to map what happens to the mail in the practice. To do this it is essential to interview every one involved and also useful to try and assess a timeline.

You may have a map something like

Letter arrives	10.20	Day 1
Date stamped and letter stamped	10.50	
Moved to back office	11.10	
Sorted into Doctor's folders	12.15	
Doctor's folders taken into room	13.00	
Read by doctor and annotated	17.00 or 13.00 the following day	
Data entry staff enter the letters on computer. Data queries given to doctors Completed by	17.00	Day 2
Letters for children under five photocopied and given to Health Visiting team	10.00	Day 3
Actions by GP's noted - records pulled, letter filed and put in doctor's tray- letter sent to patient	Completed by 17.00	Day 3
Letters filed in records and their arrival noted in the paper records Completed by	13.00	Day 4
Data queries back from doctors	17.00	Day 3
Letters filed in records	Completed by 17.00	Day 4

The outcomes need to be listed e.g.

- date of letter received is recorded
- record of who read the letter and what action was suggested
- record of the action being completed
- new diagnoses and other items highlighted by GPs entered by staff
- letter filed in the patient records
- arrival of the letter noted on the continuation sheet

Then the practice need to think about what they want scanning to change and what extra benefits it will bring e.g.

- tracking of letters
- quicker processing of letters
- reduction in the need to pull records
- full audit trail of who saw the letter, and who completed actions
- share children's letters with the health visiting team
- free up staff time for better and more data entry
- highlight letters where there has been a medication change
- save interesting and important letters when a doctor is away.

By adopting scanning with Docman, the practice must use the Scottish standard electronic index for filing documents developed for Docman – see www.scimp.scot.nhs.uk/technical_docman.html. This makes every document's location in the Docman filing system the same in every practice in Scotland, so that as electronic transfer is introduced, there need be no more re-filing of the scanned records of incoming patients.

Docman will display documents sorted using these headings. However, this may be insufficient for some practices, so it is also possible to index the documents using a template or keyword of the practice's own choice which can also be searched e.g. diabetes, satellite clinic, special patient, research. Draw up a list of what headings you would like to use for each document and then decide if the National Index is sufficient for your needs, or if you wish to use your own templates additional to the National Index. Templates are optional and can be added at any time, but it is mandatory to allocate one National Index label to each scanned document, to support future document exchange.

It is important for the clinical system to show clearly that there exists a linked document – if not directly displayed this may be 'letter received' or one of the many more specific Read Codes that are given in Appendix 2.

Clinical systems and scanning systems vary in the level of integration. It should be possible to enter Read Codes from within the scanning system, and to both view images directly from the clinical system, or the clinical record directly from the scanned images, without having to find the patient again in the other system.

Decide at this stage how your scanning system should be used to store non-clinical letters as well.

HOW WILL WE ACHIEVE THIS?

Developing a paperlight workflow

There is no one correct way to set up a scanning system – different practices will have different priorities.

One common workflow	10.00
Letters arrive in the practice	
Scanned	
Work through scanned images checking against paper and attach to patient record in the scanning system. Paper out in 'day box'	11.00 – 14.00
Patient found in clinical system. Read code entered describing letter	
New diagnoses, significant investigations and tests entered; and then flagged if any changes in medications	By next day
Put into doctor's folder	
Read by doctor, marked with actions; or forwarded as appropriate	By 17.00
Actions completed by data staff	Next day

Once the letter has been scanned, read and actions completed, it is filed and the workflow has finished. The image can be viewed at any point during the workflow without disrupting it – unlike paper. All stages of workflow are noted by the scanning system in an audit trail which records who did what and when.

There are several choices to be made in deciding workflow.

1. SCAN FIRST?

As soon as any letter is received is it scanned first ?

Advantages

- prevents it getting lost in the system
- creates a simpler workflow
- allows coding and attaching while the paper or image is being read

Disadvantages

- loss of opportunity to make annotations on the paper record. However annotations can be added to the scanned image.

Consider the 'request for medication' from the hospital outpatient department. Is the scanning workflow fast enough not to delay this or is the practice workflow robust enough not to lose the paper?

2. SHOULD THE CLINICIAN READ THE SCANNED IMAGE OR THE PAPER?

This is related but not dependent on whether the letter is scanned first. The letter may be received, scanned and processed but the paper is given to the doctor to read.

For paper

- familiarity
- able to note annotation directly on paper

For scanned image

- consistency – this is how the saved letters will be viewed
- scanned images allow annotations and notes to be added

WHO DECIDES WHAT IS CODED

Scanning software allows parts of the letter to be highlighted with the mouse just as if with a highlighter pen on a letter. In most practices the clinician highlights text and this is then coded and entered into the clinical record.

Other practices use data coding staff who read the letter and enter diagnoses according to protocols, developed over time to suit an individual practice's requirements. Coding staff may be more diligent, thorough and consistent than doctors in extracting information, can also code information useful for the Quality and Outcomes framework, and can highlight actions for the doctor. Overall this is a more effective way to use staff but requires training, a larger practice and a higher level of practice organisation.

Practices vary in who does the coding and it is clear that there is no single ideal solution. If coding staff are used it is best to identify one doctor who can answer any questions. This doctor can also monitor the quality of the data being entered and highlight any coding issues. It is better if there is one identified clinician in this role to ensure consistency!

WHAT ARE THE OPTIONS FOR ACTIONS – THE ELECTRONIC “STAMP”?

A rubber stamp is used in many practices to mark letters with the date of receipt and any actions.

A scanning system records the date and time an image was scanned, when it is read, the user can select from a list of options. This is equivalent to ticking the 'stamp', records that the image has been read and moves it along the workflow. As part of the audit trail the identity of the person reading the image and 'stamping it' is recorded.

There are many possibilities, but it is sensible to start with just a few options and use the free text annotation for other outcomes. For example, the following choices :

- no action
- call patient for routine appointment with doctor
- call patient for routine appointment with nurse
- forward on

and if the patient needs to be contacted immediately, then this will be done by the clinician.

Docman v7 now allows documents to be forwarded in multiple copies, unlike a piece of paper that can only be in one place between scanning and permanent filing. So as soon as it is scanned it can be both viewed and actioned by anyone at any point during the workflow process.

MOVING ON... YOUR ORGANISATIONAL DEVELOPMENT TOWARDS PAPERLESS PRACTICE

The benefits from scanning are that filing can be reduced and access to hospital letters no longer depend on the physical presence of the record. However if the practice continues to use paper records during consultations, the work involved in pulling and filing records needs to continue, and the manpower training and capital costs of maintaining paper as well as computer systems continue. In addition there are potential medico-legal pitfalls unless the practice is clear and consistent on what is recorded where.

So if a practice implements scanning there are strong reasons to also move to paperlight practice. (We use the term paperlight rather than paperless as for most practices reducing any use of paper to zero is seldom achievable.)

This is not something to be undertaken lightly, and the whole practice needs to agree this goal. Often some clinicians have doubts whether they could work in this way or if it has substantial benefits.

The Quality and Outcomes Framework of the new GMS Contract means that many more doctors are using computers during consultations, but before moving to paperlight, all clinicians (doctors and nurses) need to be competent, motivated and comfortable with contemporaneous and comprehensive recording of the whole encounter, not just selective data entry.

One simple way to develop this is to agree not to pull records for urgent appointments and ask the clinician to enter the details on the computer. The advantage for the doctor is that they can explain to the patient that they cannot deal with any inappropriate chronic problem in the "urgent" appointment because they don't pull notes. Most clinicians will find they can easily cope with this; it can then be suggested that they try entering the last two routine appointments from the morning surgery, then increasing to the whole session.

A simple programme entitled '26 weeks to using Computers in Consultation' is at Appendix 5.

The Good Practice Guide should be read in depth as part of the preparation for this move. It proposes a standard checklist for paperlight practice preparation at GPG Appendix 4. However the various clinical systems also vary in their functionality e.g. their usability for contemporaneously recording clinical encounters or the patient safety features around prescribing. When selecting an accredited clinical system, assess its suitability for use for paperless practice by reference to SCIMP's Appendix 2.

APPENDICES

These are available by clicking on the links below:

1. [Letter from Scottish Executive Health Department](#)
2. [System features](#)
3. [Scanning and Image paperflow](#)
4. [A standard checklist for paperlight practice preparation](#)
5. ['26 weeks to use Computers in Consultation'](#)
6. [Contact points for GMS facilitators](#)
7. [Docman National Folder structure](#)

ACKNOWLEDGEMENTS

Libby Morris

Colin Brown

Peter Kiehlmann

Jim Campbell

Bill Taylor

Patricia Ruddy

Chris McMail

William Edwards

Laura Anne McMahon MDDUS

Kim Kingan

Richard Buchanan

Annabel Chambers

