UK CRF NETWORK
UK Clinical Research Facility Network

Advisory Notes for Quality Management Systems

Considerations when choosing a Document Management System (DMS)

Clinical Research Facilities (CRFs) are required to maintain their documents as part of their quality system in accordance with the requirements of ICH GCP Guidelines and the applicable regulatory requirements. Traditionally, CRF's managed their documents using paper based systems however there are now several computerised systems available to support these functions. Choosing the right system for your CRF can be a difficult process and knowing what to look out for when buying your document management system (DMS) package is not always obvious.

This guidance document aims to inform CRF Quality Managers and other colleagues responsible for maintaining quality assurance across the UKCRF network on the different systems available; and gives pointers on what to look out for and to consider when choosing a system.

General Requirements

Considerations: The system should be user friendly and allow intuitive access to any document and have search functions to quickly locate these documents ideally on the user's personal computer.

It should also ensure that only the up to date documents are available. An ideal system should allow users to request changes to documents. The system should be maintained and backed up regularly.

Users

It is likely that each Clinical Research Facility will expect all staff to be set-up as 'users' on the system.

Considerations: There will generally be one or two individuals primarily responsible for the overall management of the DMS; this could include the Quality Manager or SOP administrator. The DMS should allow for different users of the system with various levels of access and permissions to be allocated depending on the user's role. 'Primary' users should have full access to documents and be able to make changes to the system as required or 'administer' the system.

It should also allow ‘general users’ or ‘secondary’ users, these users should have limited or restricted access to the system as set by Administrators which may be a reduced functionality on the system. The DMS should be set-up in a way that allows the allocation of privileges to different users as required. All users will have an individual login and a unique password. There should be functionality to electronically sign for documents to essentially replace the wet signatures on a paper based system. The system should also allow concurrent users of the system and not have a limit on the number of individual users. It should allow each user to logout or automatically time-out if the system is not used after a certain length of time. The system should request that passwords are changed regularly. When a staff member leaves a CRF the user should be de-activated or archived in the system without removal of any of their activity on the system.

Document Numbering

All documents that form part of the quality system should be uniquely numbered or coded to identify them.

Considerations: The DMS should ideally generate a unique identifier when a document is created on the system. CRFs need to consider that this could cause problems if your system already has document numbers. The DMS should allow you to define your own document numbering allowing your current paper system to be transferred directly to the DMS.

Document approval

Quality system documents should be reviewed and approved by a defined number of approvers.

Considerations: The DMS should have a function to allow users to review draft documents and provide feedback to the document author. Once all parties are in agreement the DMS should allow the required users to approve the document electronically which would act as an electronic signature. Once the document is approved the system should allow it to be activated or released.

Document release

Once a document has been approved it needs to be released in a standardised way.

Considerations: The DMS should allow for a Master Copy to be generated and stored on the system. The final version of the document will be uploaded to the DMS which is the central repository for accessing electronic copies of the document.

The DMS could have a facility for sending out an e-mail to all relevant personnel informing them of the release. Relevant personnel must then document that they have read and understood the SOP by reviewing the document on the DMS and acknowledging that they have read and understood the document electronically using the electronic signature function.

If an SOP requires competency training then the system should allow this training to be documented. If training is not completed by a defined period or is outstanding then the system should alert the document owners to this via an automatic alert system by email. If paper copies of documents are submitted to different areas/departments, there should be a mechanism to allow the tracking and control of these documents to ensure that new versions are regularly updated and the obsolete versions are collected.

Watermarking

The document number, version and effective date should be easily identifiable to a document user. It is recommended that a system automatically watermarks documents to identify the version and effective dates of the document and identify which documents are 'master copies' and which are 'uncontrolled'.

Considerations: The DMS should allow watermarking of documents. Ideally there will be a particular function to automatically watermark documents prior to release. The watermark should be visible when printing the document.

Document Review Cycle

An important element of any DMS is ensuring documents comply with current processes, actual procedures, legislation etc. To achieve this, a document should be reviewed on a regular basis and the review should be carried out by a suitable person. Clinical Research Facility documents are typically valid for a defined period from the effective date (for example, two or three years). In the interim, documents must be revised when there are significant changes to procedures or to relevant legislation to ensure that the content remains compliant with the applicable regulatory requirements.

Considerations: The DMS should automatically set the review date at the document's release and should ideally send alerts when a document is approaching its review date. The DMS should record this review including who the review was completed by and when it was completed and the outcome of this review, e.g. Change required, No change, obsolete. Once the review is completed, if appropriate, the review date should re-set to the next review date.

Version control

Version control ensures that amendments to documents are tracked and verifiable and that the correct version of a document is in use. Documents that form part of the quality system should be version controlled.

Considerations: The DMS should enable the current approved version of the document to be readily available. However, there should also be a function to allow users to view the history of the document. Previous versions and obsolete versions need to be accessible for audit and inspection.

Distribution

Quality system documents should be distributed to all relevant staff that need to be trained on them and the system should record this training using an electronic signature function.

Considerations: The DMS should have a function which allows for relevant users to be added to user groups. Therefore particular documents can then be distributed to those staff groups which need to acknowledge the updated or new document. Ideally the DMS will generate an e-mail which goes out to the relevant individuals. On receipt of the e-mail staff can login to the DMS to read and acknowledge the document.

Training

It is important to ensure all staff are trained in quality system documents relevant to their role. Staff are required to read and record the fact that they have read and understand documents and associated SOPs.

Considerations: The DMS should allow automatic notifications to all users of documents they are required to review, approve and train to. The user could be informed via an e-mail alert. There should be a function to enable the logging of training of personnel. The DMS should record which user's training is up-to-date and also flag training that is reaching its renewal date, for example mandatory training. In the event that training is not completed the system should send alerts to the trainee and other functions as required.

Document reversion / making documents obsolete

When a document is no longer in use, it should be archived and marked as inactive or obsolete on the system.

Considerations: The DMS should enable documents to be made obsolete and be removed from view. However, these documents should still be accessible as part of the audit trail of the document.

Periodic Review

All documents are subjected to periodic review to ensure that the content remains up-to-date, in line with best practice and compliant with the applicable regulatory requirements.

Considerations: The DMS should alert users when a document is approaching its review date by sending out an e-mail alert to a designated individual.

Change Control

A system should be in place to ensure that the latest copies of all documents are readily available to ensure effective functioning of the quality management system. There is also a documented process used to ensure that changes to a system are introduced in a controlled and coordinated manner and to ensure that changes are appropriately controlled, documented and approved by designated functions. In addition a user may consider that a document needs to be changed or revised due to a change in work practice or, new legislation. In this instance the system should allow the user to inform the document owner.

Considerations: The change control process should be transferable to the DMS. Ideally, draft versions could be uploaded to the system that can be sent to staff responsible for their review. These documents would remain hidden from general users until they are approved, released and 'made live' on the system. The system should allow the documentation of the change process and ideally should allow the user to raise uniquely numbered 'Change Controls' or 'Change Requests' to detail the change. This Change Control should allow the uploading and storage of attachments as required. This system should inform the person who is responsible for the document.

Reporting

It would be useful for staff managing the DMS to be able to generate reports on the status of document reviews, approvals and training. The following are example reports that could be useful:

- Which staff have outstanding training on a quality system document
- Which staff have training coming up for renewal or which are out of date
- Which documents are approaching their review cycle and when the review isn't completed on time
- Documents awaiting to be signed off
- Allow a user's training to be compiled and printed as required by auditors etc.

Validation

Any computerised systems, such as a DMS, must be appropriately validated to demonstrate that that they are fit for purpose.

Considerations: Computer Systems Validation can be a lengthy process, depending on the complexity of the system, and this should therefore be considered when selecting the DMS. Ideally the vendor should perform most if not all of the validation of the DMS and instruct the end user on how all changes to the validated system should be or will be handled.