Business Services Organisation

User Requirements Specification

Regional

Mortality and Morbidity Review System Project

Version 2.1

17 February 2016

Providing Support to Health and Social Care

Document History

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Approved By	Date

Contents

Introduction

This document is an outline of the user requirements and functionality required by a Regional Mortality & Morbidity Review system (RM&MRs).

The implementation of a RM&MRs has been incorporated into death certification reforms being taken forward by the Death Certification Implementation Working Group as agreed by the Executive in April 2012. The implementation and roll-out of the RM&MRS was **endorsed by the Minister for Health Social Services and Public Safety on 8 April 2014.** This system will also support all aspects of the Mortality and Morbidity (M&M) meetings of the 5 HSC Trusts.

The minister in his announcement gave the, **"***go-ahead for the phased regional implementation of an enhanced assurance process for all deaths in hospitals in Northern Ireland. He stated that the mortality and morbidity review system will be rolled out across Northern Ireland hospitals over a three-year period and will record, review, monitor and analyse all hospital deaths*".

He stated that the system, "*if used effectively, will provide additional scrutiny of the death certification process; enhance a culture of learning across trusts; improve reporting of serious adverse incidents where a death has occurred and act as an additional safeguard to ensure that deaths are appropriately reported to the coroner".*

He added that, "*rolling out the system will ensure that the causes of death are accurately recorded, reviewed and analysed, thereby facilitating identification of poor care management; learning from errors; openness and transparency; and improvements in patient safety and care. This will provide, not only a means by which to quality assure information on deaths at hospital level, but additional assurance and oversight in line with statutory responsibilities, and will ensure the identification and sharing of learning from all deaths that occur in all hospitals*".

The Ministers statement indicated that a RM&MR system, based on the functionality of the Belfast Health and Social Care Trust system, should be developed and rolled out across the HSCNI.

Ownership

The Regional Mortality & Morbidity Review system will be developed under the guidance of and will be owned by the Department of Health, Social Services and Public Safety (DHSSPS). It has responsibility for policy and legislation concerning hospitals, community health and personal social services including all Mortality and Morbidity matters.

Delivery of the required services in the acute sector is the responsibility of the Health and Social Care Northern Ireland (HSC) which comprises five Trusts providing acute and community care within geographical areas and a number of regional organisations providing management and support services. Business Services Organisation (BSO) ITS provide a range of support functions for the whole of health and social care system.

Background

The rationale behind the development of the Regional Mortality & Morbidity Review system (RM&MRs) encompasses providing solutions to the following requirements within the healthcare system and society in general,

- Complete and accurate death certification;
- Scrutiny of deaths (and its certification) by medical peers;
- Learning from any avoidable issues identified during scrutiny to eliminate recurrence; and
- Facilitating the possible future development of a system for the independent scrutiny of deaths.

Complete and accurate death certification

A long term strategic aim of the Department of Health Social Services and Public Safety has been to enhance and strengthen existing Death Certification throughout Northern Ireland by carrying out reforms of existing processes.

The DHSSPS has taken forward a programme of work in relation to Death Certification in response to recommendations made by the,

- Luce review (2003) on death certification and the Coroner services in England, Wales and Northern Ireland; a fundamental review of the process of ascertaining, certifying, registering and investigating the fact and cause of death and which recommended independent medical examiners to investigate the medical cause of death, revised death certificates and death certification process.
- 3rd Report of the Shipman Inquiry (2003) set up to investigate the circumstances surrounding the murders of over 200 patients by their GP, Dr. Harold Shipman. It examined the present arrangements for death registration, cremation certification and coroners' investigations in England and Wales and set out recommendations for changes to protect patients from the concealment of homicide in the future; and
- Clostridium Difficile Inquiry (2011).

In 2008, an Inter-departmental Death Certification Working Group, established to review existing death certification processes in Northern Ireland, recommended enhancing the existing assurance arrangements for death certification with a view to strengthening and improving them and allowing for the implementation of independent medical review of non-reportable deaths.

Scrutiny of deaths (and its certification) by medical peers

In order to establish that death certification has been reported in a complete and accurate manner, as recommended above, there is a requirement to perform scrutiny of the circumstances surrounding death.

There are different methods available for submitting death certification to this scrutiny along with studying the associated adverse events and hazards that arise within a

healthcare system and each has its strengths and limitations. Their primary aim is to reduce the incidence of these incidents through learning from past experience.

A study of mortality and morbidity (M&M) is one of the oldest quality assurance approaches in health care. It has become increasingly important for trusts to demonstrate that they are systematically and continuously reviewing patient outcomes and especially mortality and morbidity.

Scrutiny of mortality rates and concerns about patient safety have intensified with the extensive coverage of investigations into NHS hospital failures e.g. Francis report - Mid-Staffordshire NHS Foundation Trust, 2010. The Health Care Commission (now Care Quality Commission), in its review of the Mid Staffordshire Trust, found that the Trust did not know about key issues in mortality and was not able to provide convincing evidence that it was capable of finding these out or taking action as a result. Recommendations from these hospital inquiries have led to an increased drive for NHS Trust Boards to be assured that deaths are reviewed and appropriate changes made to ensure patients are safe.

Learning from any avoidable issues

A recent study by the National Institute for Health Research[1] indicated M&M meetings did not always identify whether a death was unexpected; they lacked a systematic and standardised mechanism for highlighting contributory factors & corrective measures and few recorded proceedings or action plans.

For M&M meetings to focus on quality improvement, they need a systematic and transparent way to examine the causes of a patient's death, highlight contributory factors and identify what can be done to prevent recurrence of avoidable errors.

Furthermore, some M&M meetings reported issues to their clinical governance and risk committees, but there was no reporting framework between these committees and the Board regarding mortality data. Because the public focus on patient safety increases, Boards need to be assured that the deaths that occur in their hospitals are not the result of unsafe care in the services they provide.

Facilitating the future development of a system for the independent scrutiny of deaths.

In April 2012, following the Shipman and Luce reports, the NI Executive approved the implementation of a series of enhancements to the existing death certification process with a view to establishing the appointment of independent medical examiners for Northern Ireland) at a later date if this was considered necessary following the initial enhancements.

[1] NIHR King's Patient Safety and Service Quality Centre. Mortality and morbidity meetings: a study of the structure, format and reporting framework in a hospital setting. March 2011.

Mortality & Morbidity (M&M) meetings

Mortality and Morbidity meetings may also be known as a Specialty Mortality Review and Patient Safety meetings.

Mortality refers to the state of being mortal while Morbidity refers to the unhealthy state of an individual, an illness or an abnormal condition or quality. In a discrete medical context, it refers to the presence or frequency of complications following a surgical procedure or other treatment. As such, their existence can be a prodrome to mortality and can be viewed as a warning or near miss.

Mortality & Morbidity (M&M) meetings are traditional, recurring medical conferences or meetings usually attended by peer members who review the care of patients including avoidable factors. The objectives of a well-run M&M meeting are to learn from complications and avoidable factors that lead to mortality and morbidity, to modify behaviour and judgment based on previous experiences and to prevent repetition. M&M meetings occur regularly, highlight recent cases and identify areas of improvement for clinicians involved in the case.

As any avoidable factors are very often identified are being multifactorial in origin and also multidisciplinary in nature, the attendee makeup of the M&M meetings should be multidisciplinary. This should ensure learning and resolution of avoidable factors can be assigned to the most suitable profession(s) and follow-up at subsequent meetings can be maintained.

A fundamental feature of M&M meetings and their attendees is that they are primarily specialty based and can therefore function as a peer group, able to bring to bear critical analysis on matters relating to mortality and morbidity. Their strength and validity is based upon the fact that they are often made up of frontline, ward/unit based staff based geographically where avoidable factors arise and where solutions are implemented.

Management M&M meetings are 'managed' by a M&M lead – a clinician from that specialty who has been appointed into that post. They need to work with their CD and AMD to ensure the format of the M&M group (size, makeup and frequency of meeting) in order to allow robust discussion and learning from mortality review and Patient Safety items.

They need to prepare for the meetings and coordinate with other audit, educational, patient safety, pharmacy, governance and legal elements. These meetings should have a standard 'templated' agenda with the following headings,

1. Review of previous M&M action points.
2. M&M case discussion.
3. Crash Call & Cardiac Arrest details.
4. Review of Safety Graphs.
5. Safety alerts and Learning letters from DHSS, HSCB, PHA, BHSCT.

6. SAIs/ RCAs action points.
7. Shared learning from Pharmacy and Medication alerts.
8. Shared learning from Litigation findings & Coroner's verdicts.
9. National Audit reports, NCEPOD.

The meetings would usually occur on a Rolling Audit morning or afternoon i.e. all the meetings in the Province may occur at the same time.

The meetings must have a record kept of the salient points discussed and decisions made.

Setting up M&M team within RM&MRs.

Each hospital will need to formulate a number of M&M teams sufficient to ensure every patient death can be allocated to at least one M&M team. M&M teams will generally align themselves to recognisable clinical specialties. Every Consultant must be allocated in turn using their name to at least one M&M team. By reference to the Active Directory, the Consultant name can then allow the generation of emails and attendance lists.

The RM&MRs will request that each M&M team has a nominated lead and also the name of their Clinical Director.

Establishing the list of M&M teams with their lists of Consultant names is only time intensive at the beginning. Maintenance of these lists because of the appointment and retirement of Consultant staff is less work. It only requires non-IT staff to have periodic access to the lists to make the necessary amendments.

Overall Aims

The Regional Mortality & Morbidity Review system (RM&MRs), set up by the Death Certification Implementation Working Group, DHSSPSNI to the aid compliance with strands 4 & 6 of option 1 of the 'Review of death certification in Northern Ireland working group recommendations – October 2009'
will,

a. accurately record and review the details either recorded on the Medical Certificate of the Cause of Death (MCCD) or notified to the Coroner;

b. facilitate the examination and scrutiny, in detail, of avoidable factors or areas of learning associated with the patient's death at Mortality and Morbidity meetings;

c. eventually also lead to the scrutiny of morbidity (complications) as well as mortality with learning to avoid the repeating of harm; by 'ward based' multidisciplinary clinical teams and units; and,

d. eventually facilitate independent medical scrutiny for a (to be defined) percentage of deaths.

LOCATIONS WHERE SYSTEM WILL BE USED

The system will be used by the five Health & Social Care Trusts in Northern Ireland.

The current main locations are as follows:

Belfast HSC Trust	Royal Victoria Hospital Belfast City Hospital Mater Hospital Musgrave Park Hospital Knockbracken Healthcare Park Muckamore Hospital Beechcroft Centre Iveagh Centre
Northern HSC Trust	Antrim Area Hospital Causeway Hospital Whiteabbey Hospital Mid-Ulster Hospital Holywell Hospital
Southern HSC Trust	Craigavon Area Hospital Daisy Hill Hospital Lurgan Hospital St Luke's Hospital Site South Tyrone Hospital Mullinure Hospital
South Eastern HSC Trust	Ulster Hospital Newtownards Hospital Downe Hospital Downshire Hospital Lagan Valley Hospital
Western HSC Trust	Altnagelvin Hospital South West Acute Hospital Tyrone County Hospital Lakeview Hospital, Gransha site Tyrone and Fermanagh Hospital

Risks & Issues

Whilst the detail of the functionality can be outlined in this document, the detail of the expectations of the users cannot be fully described. This will depend on discussion and demonstration at Trust level.

Use of emails

The RM&MRs uses emails and email addresses to,

- alert users to the presence of a new record;
- act as user identifiers;
- remind staff that they need to access a record; and
- alert staff to the presence of appended files to a record.
- alert staff to changes made to a record e.g. to a trainee after changes made by by Consultant after review.
- follow up after learning lessons and action points are agreed upon at M&M meeting

Also, in order to comply with security of access, the RM&MRs uses the Trust email system. Therefore, staff **must** access and use their own Trust's email system. Any other email address, outside of the Trust's system, would not be secure enough to warrant their use.

Interface Systems and organisations

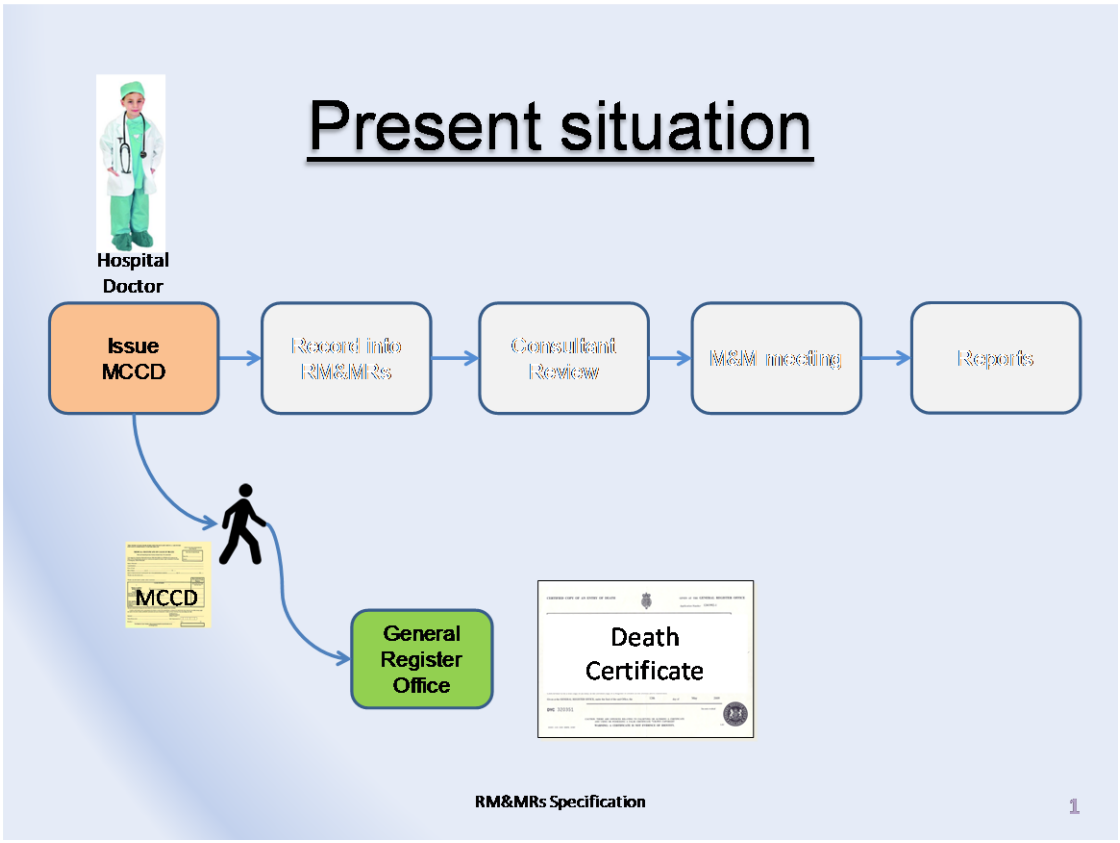
The RM&MRS will be required to interface with a number of systems and organisations such as:

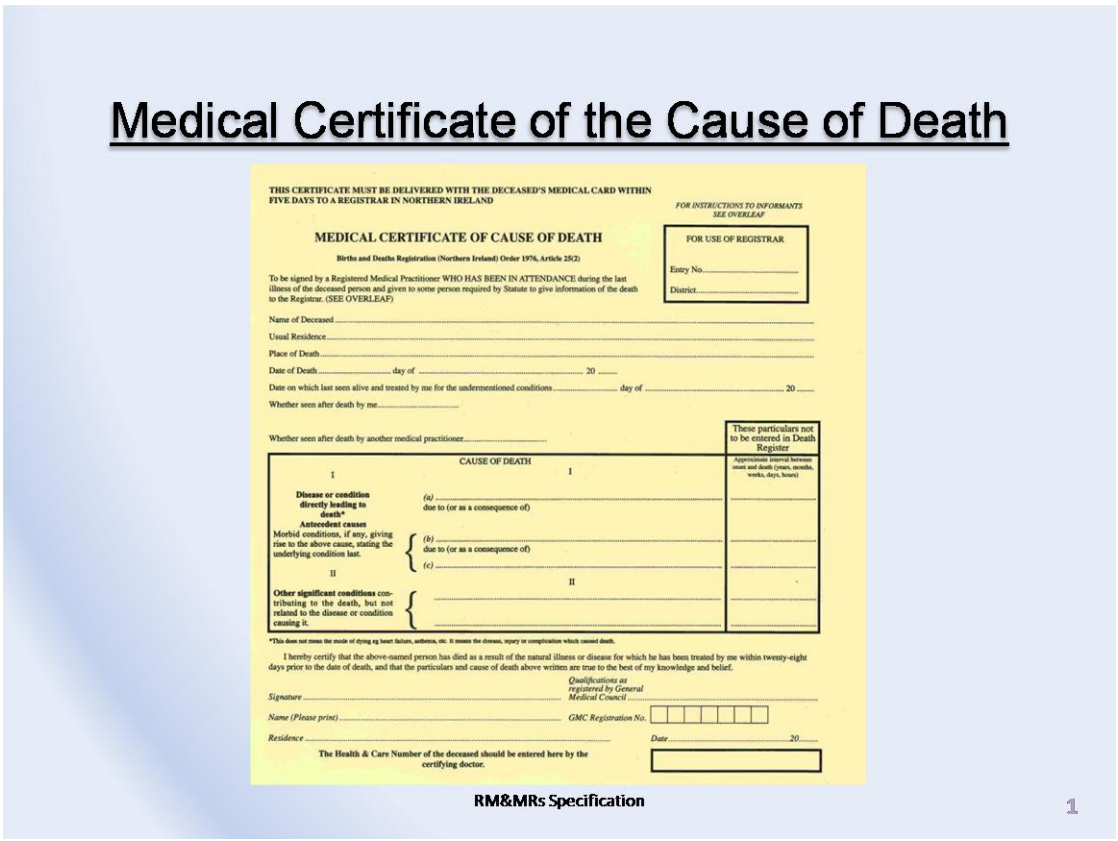
Electronic Interface
Trust Intranet
Central Master Patient Index - PAS, BOIS
Active Directory
Email system
Reporting software e.g. Business Objects
DATIX – if possible in future

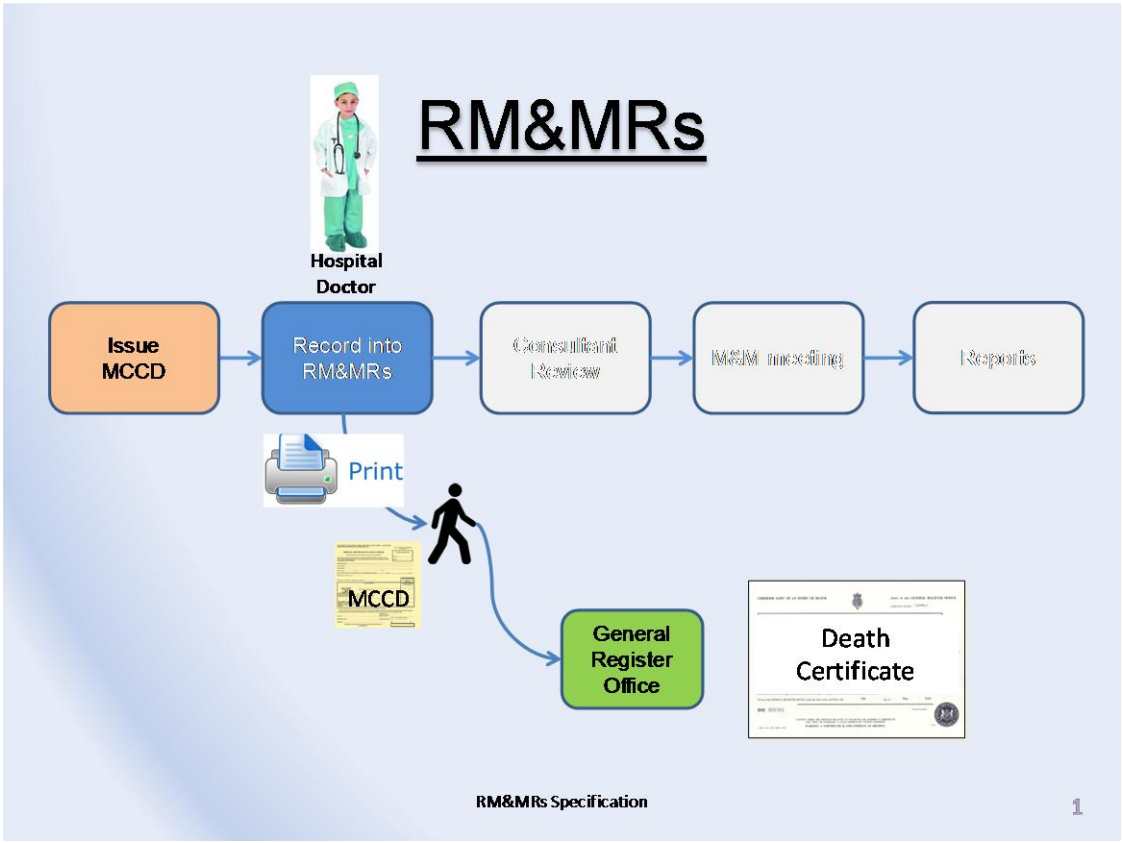
Organisations
DHSSPSNI
BSO - network
HSCB, PHA e.g. – safety alerts
ECR
GRO
Coroner's Office
NISRA

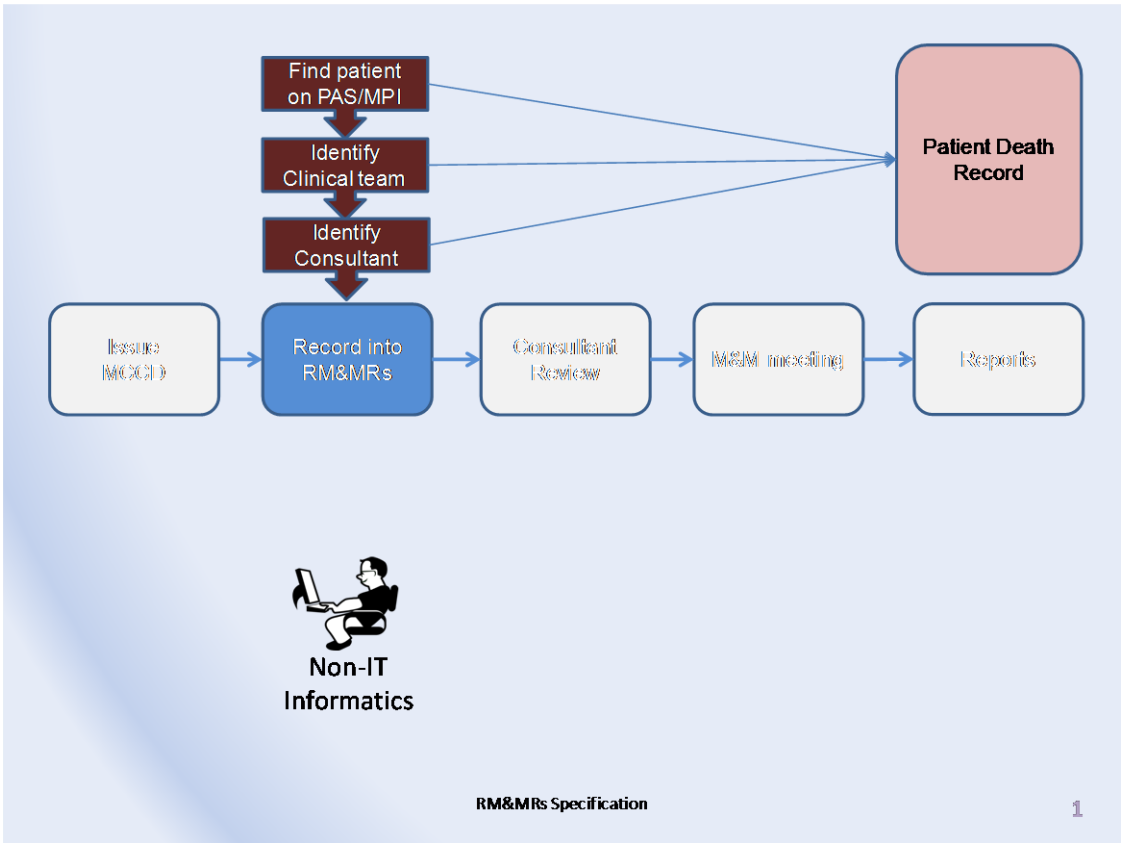
Human Interface
Clinical teams (medical, nursing, pharmacy etc,)
Trust Corporate teams, Management
IT dept.
Clinical Admin team, PAS
Governance dept.
Audit dept.
Incident reporting team
Complaints team
Litigation dept.
Appraisal / Revalidation team

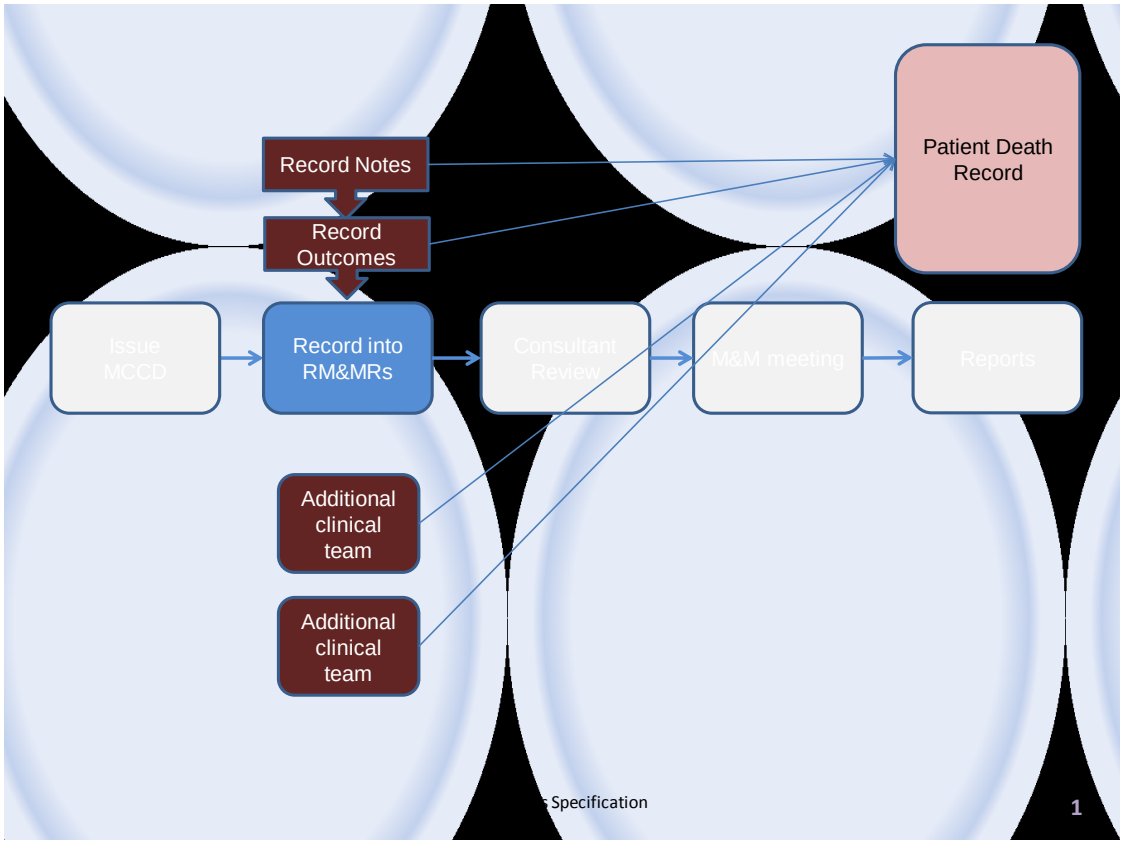
Schematic workflow for the RM&MR system

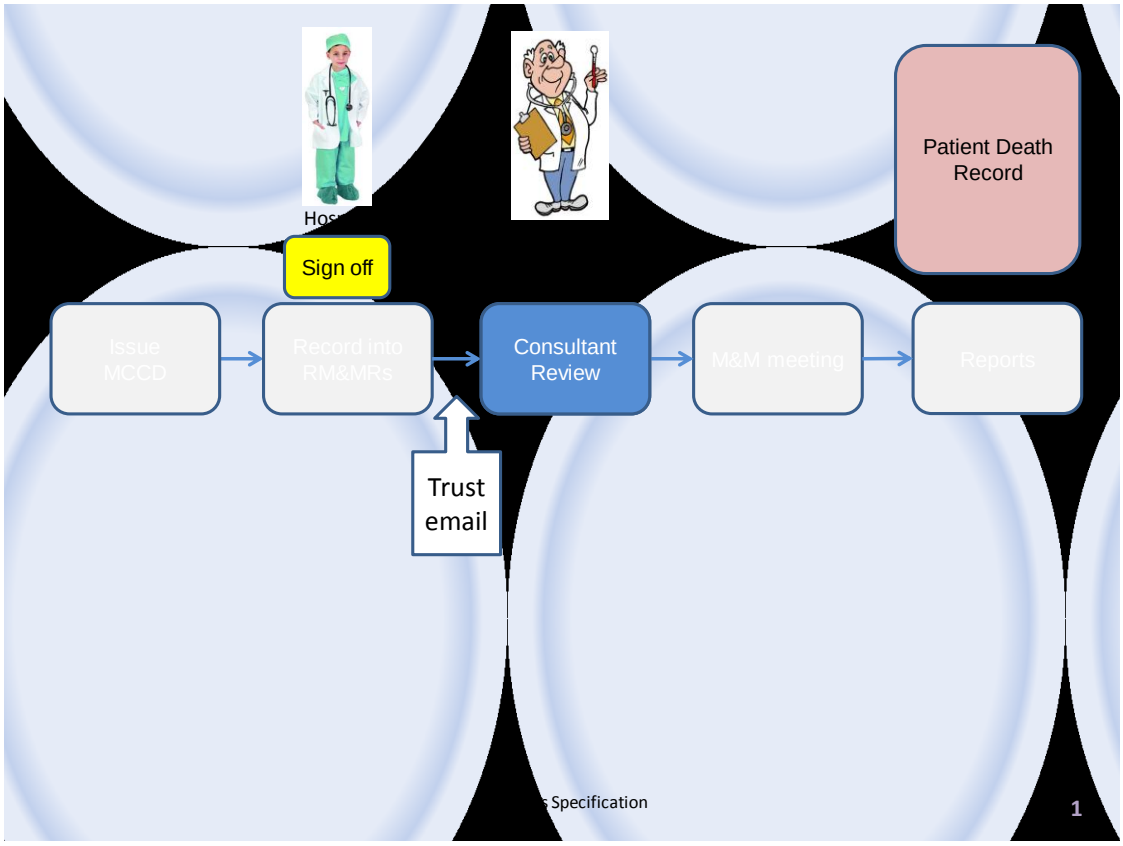


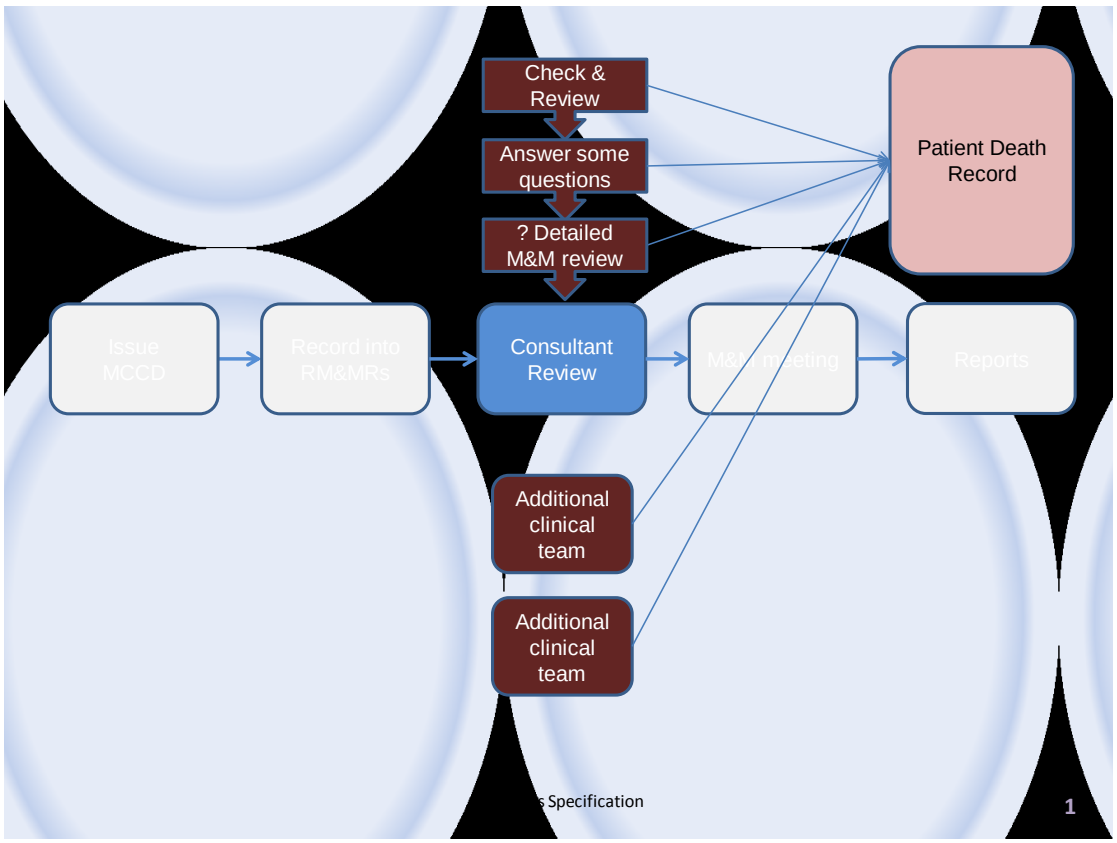


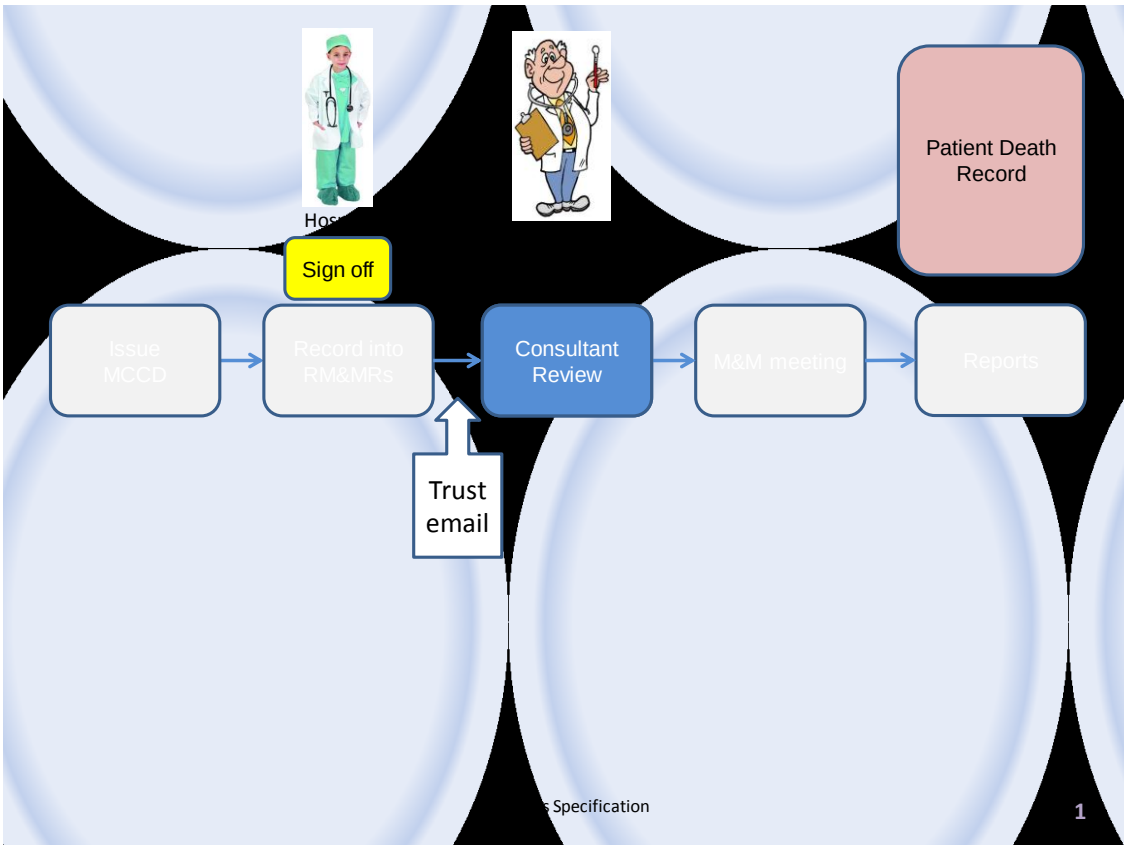

RM&MRs
Hospital Doctor
Issue MCCD
Record into RM&MRs
Consultant Review
M&M meeting
Reports
Print
MCCD
General Register Office
Death Certificate
RM&MRs Specification
1

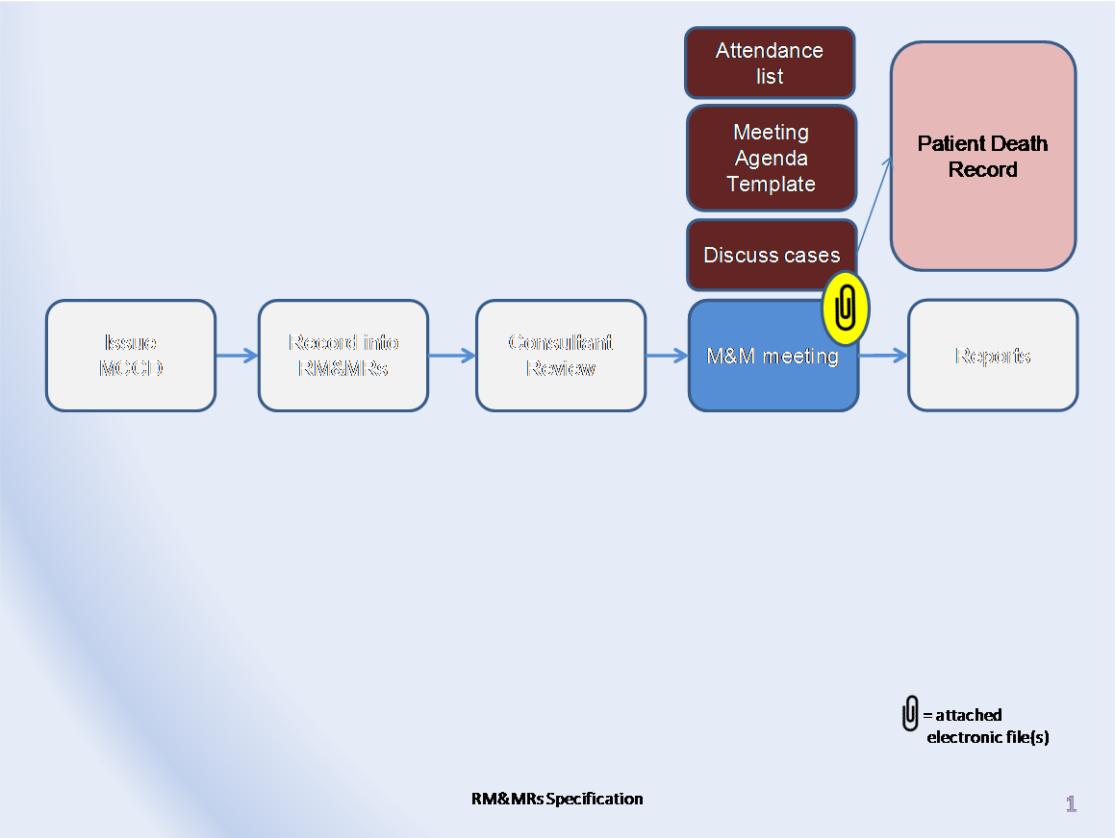

Find patient on PAS/MPI
Identify Clinical team
Identify Consultant
Patient Death Record
Issue MCCD
Record into RM&MRs
Consultant Review
M&M meeting
Reports
Non-IT Informatics
RM&MRs Specification
1

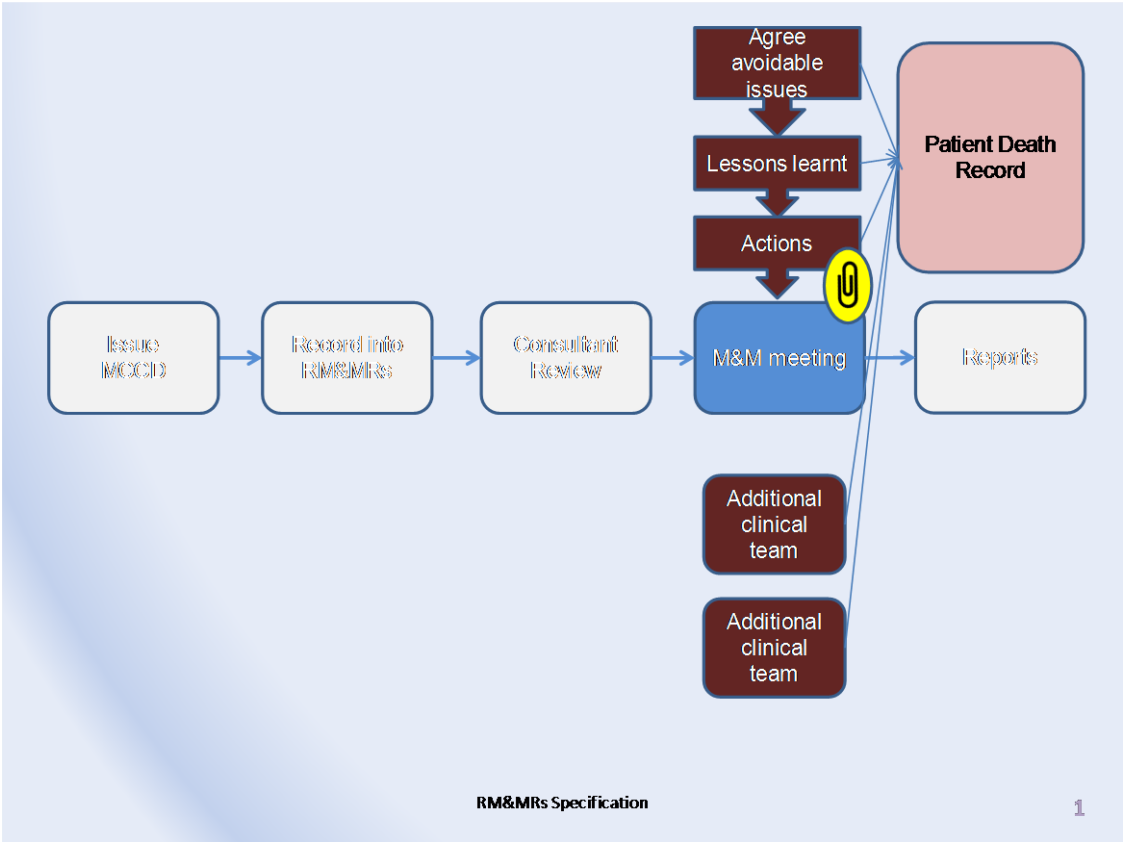

Record Notes
Record Outcomes
Patient Death Record
Issue MCCD
Record into RM&MRs
Consultant Review
M&M meeting
Reports
Additional clinical team
Additional clinical team
Specification
1

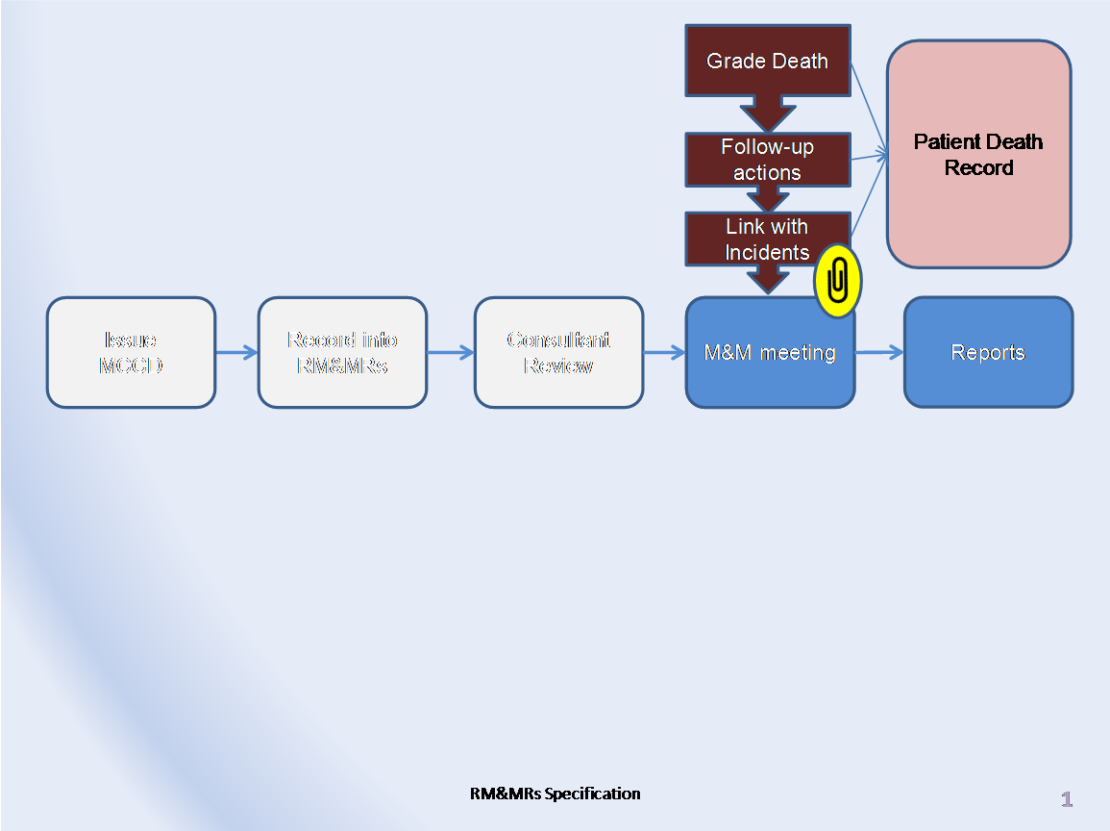

Sign off
Patient Death Record
Issue MCCD
Record into RM&MRs
Consultant Review
M&M meeting
Reports
Trust email
Specification
1

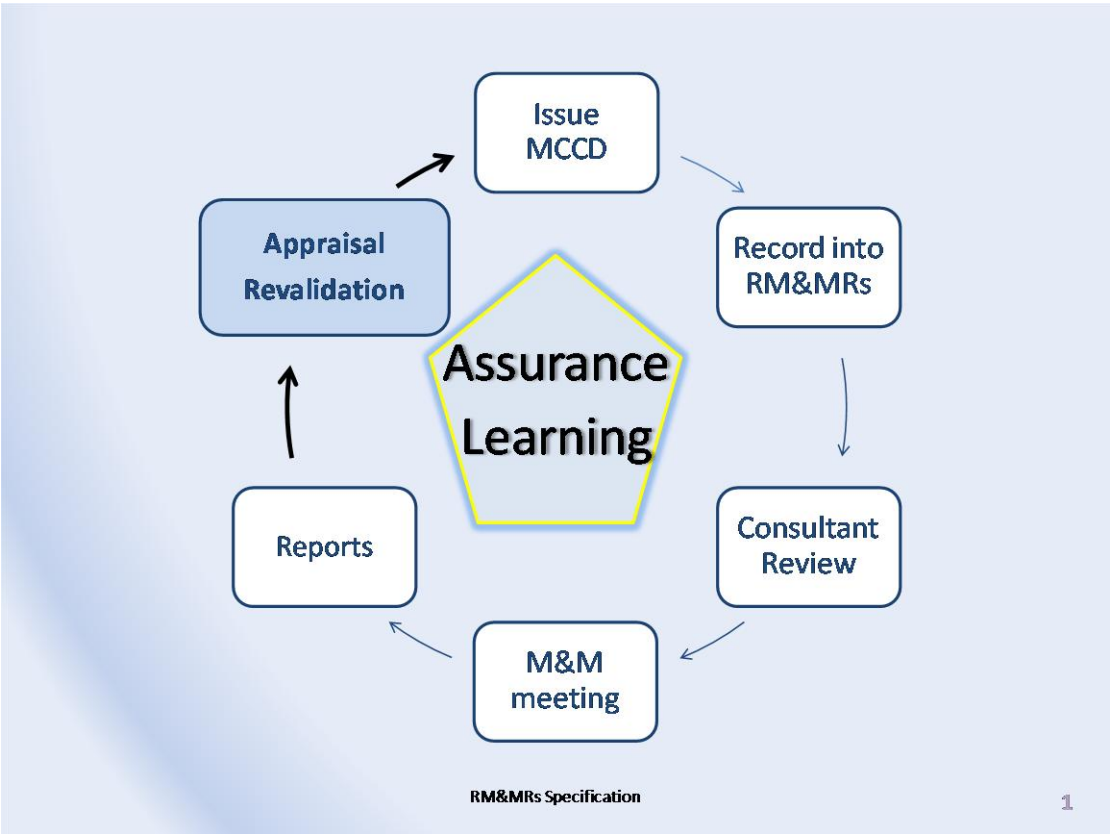

Check & Review
Answer some questions
? Detailed M&M review
Patient Death Record
Issue MCCD
Record into RM&MRs
Consultant Review
M&M meeting
Reports
Additional clinical team
Additional clinical team
1

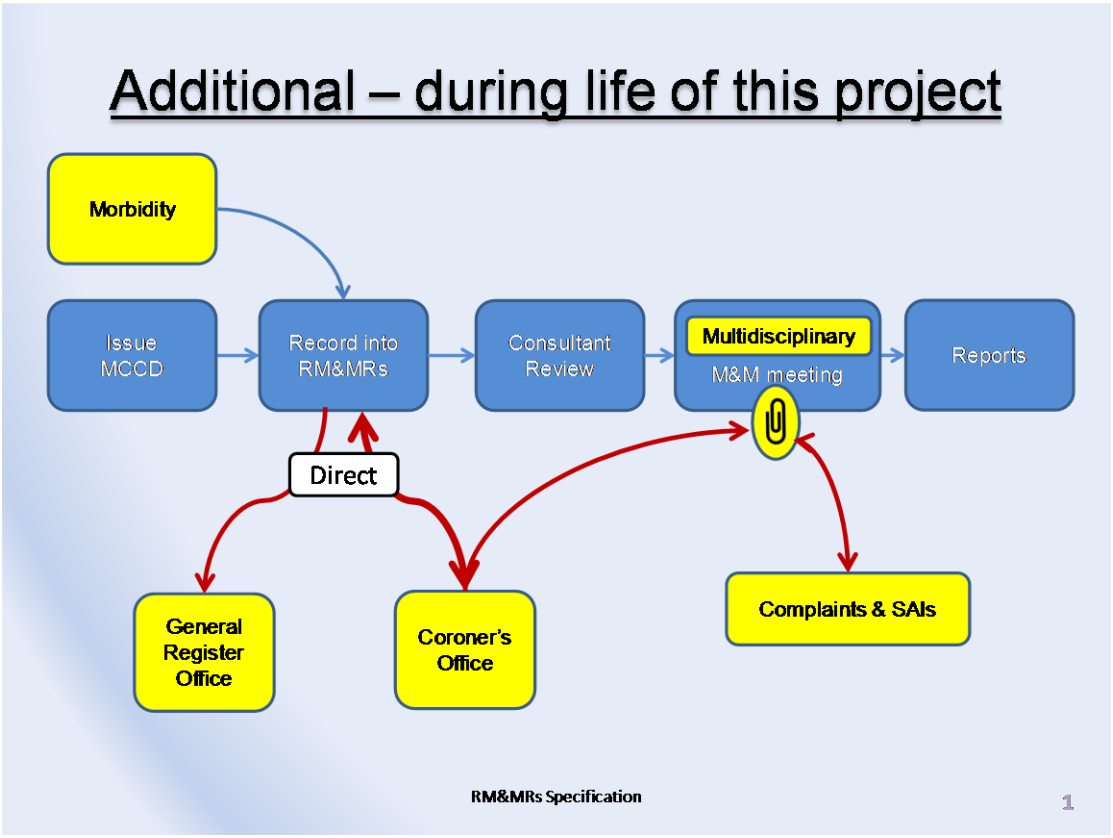

Sign off
Patient Death Record
Issue MCCD
Record into RM&MRs
Consultant Review
M&M meeting
Reports
Trust email
1

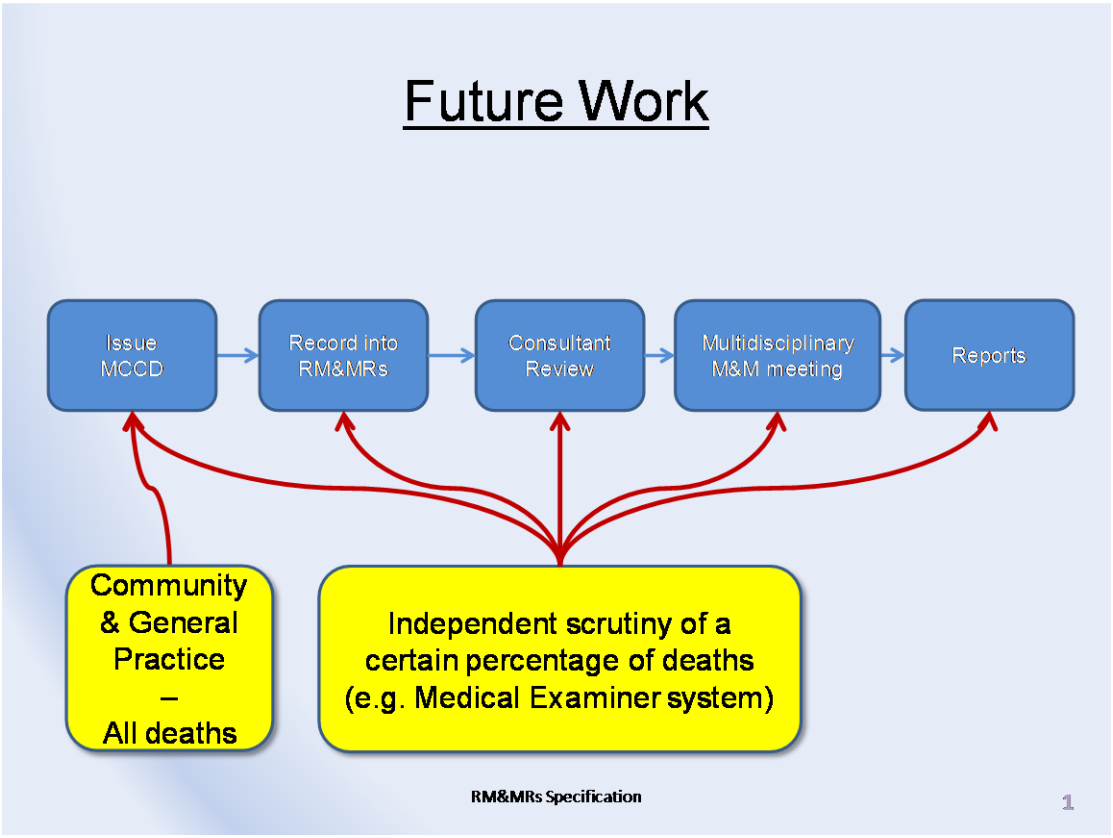

Attendance list
Meeting Agenda Template
Discuss cases
Patient Death Record
Issue MCCD
Record info RM&MRs
Consultant Review
M&M meeting
Reports
= attached electronic file(s)
RM&MRs Specification
1


Agree avoidable issues
Lessons learnt
Actions
Patient Death Record
Issue MCCD
Record info RM&MRs
Consultant Review
M&M meeting
Reports
Additional clinical team
Additional clinical team
RM&MRs Specification
1


Grade Death
Follow-up actions
Link with Incidents
Patient Death Record
Issue MCCD
Record info RM&MRs
Consultant Review
M&M meeting
Reports
RM&MRs Specification
1


Issue MCCD
Record into RM&MRs
Consultant Review
M&M meeting
Reports
Appraisal Revalidation
Assurance
Learning
RM&MRs Specification
1


Additional – during life of this project
Morbidity
Issue MCCD
Record into RM&MRs
Consultant Review
Multidisciplinary
M&M meeting
Reports
Direct
General Register Office
Coroner's Office
Complaints & SAIs
RM&MRs Specification
1


Future Work
Issue MCCD
Record into RM&MRs
Consultant Review
Multidisciplinary M&M meeting
Reports
Community & General Practice – All deaths
Independent scrutiny of a certain percentage of deaths (e.g. Medical Examiner system)
RM&MRs Specification
1

User Functional Requirements

Key		
	Business	Bus
	Information Technology	IT
	Bus and IT	Both

	User Functional Requirement	Key	Information, Mandatory or Desirable	
1.	**Regional Mortality & Morbidity Review system Definition** The Solution **must** establish a consistent system for recording and reviewing the mortality and morbidity (M&M) details of cases occurring across all the HSC **Trusts** in Northern Ireland. There are four main processes relating to Mortality which the solution should encompass with a focus on recording, reviewing, monitoring and analysing a death; 1. collect details entered onto the Medical Certificate of Cause of Death (MCCD) or given to the Coroner; 2. review (and correct if necessary) those details by Consultant medical staff; 3. review deaths at a peer group Mortality and Morbidity Meeting; 4. record discussions, learning lessons and action plans; and then use this information for Consultant appraisal and revalidation processes.		M	
2.	The system **must** provide all the current functionality of the existing Belfast HSC Trust M&MR system. A demonstration of the Belfast Trust system can be arranged to allow the potential supplier to understand the detail associated with this requirement.	Both	M	
Design and Data Entry *The RM&MRs is an electronic database based upon a patient episode and their associated death (Mortality) and complications (Morbidity).*				
3.	The system design screens **must** be visually clear and uncluttered with the screen only containing items relevant to current process being undertaken.	Both	M	
4.	Its design **must** be focused on an intuitive data entry process leading the clinician through the workflow using tabs and easily identified buttons sequenced to promote an easy flow of work.	Both	M	
	The use of drop down lists **must** be prominent throughout the system to aid data entry. Non-IT informatics staff should be able to compile, amend, manage and manipulate these lists.			
5.	Guidance and message prompts **must** be available to help with the flow of data entry.	Bus	M	
6.	Tabs **must** become coloured when active, to further foster movement through a workflow – speeding up the	Both	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
	entry of data.			
7.	The system **must** provide guidance and help throughout the work flow process; message prompts must be available to help with the input and flow of data entry at all times.	Both	M	
8.	All boxes which take textual data entry **must** have a spell checker enabled.	Both	M	
9.	Certain boxes will have mandatory entry enabled. The system **must** have an alerting system for any missing mandatory information which needs displayed prior to leaving any tabbed data entry page and on the sign off screen.	Both	M	
10.	The system **must** allow the attachment of files either to a patient record and/or to a M&M meeting. The files may be a Word or PowerPoint presentation, spreadsheet, data file from DATIX or a pdf file. They are to be annotated e.g. with a paperclip symbol, embedded on each page of a record.	Both	M	
	The presence of a file attached to a patient or meeting **must** be visually obvious on the system with a numeric notation beside the paperclip symbol to represent the number of appended files.			
	The addition of a file **must** be date and time stamped with the author's details retained.			
	The files **must** also be capable of being 'announced' by email to predesignated personnel e.g. M&M lead.			
	Once appended, the files must not be capable of being altered or corrupted.			
	They **must** be retained in compliance with relevant data protection and retention legislation.			
Patient Details				
11.	Global groups managed in each Trusts domain will be given membership of universal groups, with application privileges, in the domain hosting the application.	IT	M	
12.	The system **must** easily allow retrieval of the demographic details of the patient whose death is being entered; Patient Title, Surname, Given Name, Address, Post Code, Gender, Date of Birth and Date of Admission. There **must** be the option of obtaining these details from an electronic patient index (MPI), searching by surname and a unique patient identifier. The system should not encourage the manual entry of the unique patient identifier and the Health and Care	IT	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
	Number. The system **must** also allow for manual entry of patient details only when not available from the central MPI.			
13.	The system **must** allow manual entry of the Trust and hospital site.	Both	M	
14.	The system **requires** manual entry of the ward where the death occurred. This is a mandatory field.	Both	M	
15.	The system **must** allow the recording of the date and time of death by manual entry.	Both	M	
16.	The system **must** allow the recording of the initial Review Consultant to be entered from a drop down list. This list will vary depending on the Reviewing Team selected.	Bus	M	
17.	The system **must** allow recording of the initial Clinical Reviewing Team from a drop down list. This list will vary depending on the hospital. Non-IT informatics staff should be able to compile, amend, manage and manipulate these lists.	Both	M	
18.	The system **must** allow the Consultant (or M&M lead) to have the ability to indicate anonymity of patient details on the system, from the moment of data entry until the case is being discussed at M&M meeting.	Bus	M	
19.	The system **must** provide a mechanism whereby a Consultant, nominated in error, can easily correct the error and nominate a 'new' correct Consultant. If they do not know the correct Consultant, the system **must** send the mortality details onwards to the appropriate M&M meeting. These changes **must** be reflected in an auditable trail.	Bus	M	
20.	The system **must** record the staff member who was responsible at each stage of the process and identify their involvement in the case through logging their username (email address) e.g. Medical staff, Junior or consultant.	Both	M	
21.	The system **must** allow an entry if the death is being recorded as 30 Day Mortality (Yes or No selected from a drop down). Initially, the recognition of a 30 day mortality will need notification mechanisms and compilation external to the RM&MRs. Where these exist, the 30d mortality can then be entered onto the RM&MRs.	Bus	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
Additional Team Review Screen *Transmission of patient's mortality details to another specialty M&M meeting for discussion (if required) by way of nominating an 'additional clinical team'. These can be added at initial entry, Consultant review and at M&M meeting and be from any Hospital or Ward. These teams will be able to enter learning lessons or required actions. This will facilitate the sharing of information and learning by allowing all the clinical teams involved in the whole of the patient's episode of care to have an opportunity to discuss and record their views at M&M meetings.*				
22.	The system **must** allow entry of - Additional Team Review. There must be drop down lists of, • Hospital • Reviewing Clinical Team • Reviewing Consultant • 30 Day Mortality.	Bus	M	
23.	The system **must** allow entry of up to 5 additional review teams.	Bus	M	
Notes *This allows the entry of details to describe the clinical course of this patient.*				
24.	The system **must** allow entry of Brief Clinical Details. The system **must** allow entry of Admission Diagnosis. The system **must** allow entry of Cause of Death.	Bus	M	1500 word max per box.
	The set of data fields **must** be capable of being used as a clinical summary for transmission to the Coroner for Outcomes 2, 3 and 4.			
25.	The system **must** allow the entry of clinical details using the Situation, Background, Assessment and Recommendation model (SBAR), if this becomes the preferred method.	Bus	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
Outcome *This section allows entry of the outcome following death i.e. process to be followed after death and disposal of the body.*				
26.	The system **must** allow selection of an Outcome from a drop down list. 1. Medical Certificate of Cause of Death. 2. Coroner informed – discussed – MCCD issued. 3. Coroner notified – for Coroner PM. 4. Coroner notified – Coroner requested Proforma. 5. Stillbirth Certificate issued. 6. Hospital PM Requested – MCCD awaited. 7. 30 Day Mortality.	Bus	M	
27.	<u>Outcome 1 - Medical Certificate of Cause of Death – Cause of Death section.</u> The system **must** display on screen a replicated MCCD form with data entry boxes to mirror the paper-based hand written document intended for General Register Office (GRO).	Bus	M	
28.	The system **must** allow completion of the exact terms used on the handwritten MCCD cause of death section. Medical Certificate of Cause of Death (MCCD) • The system **must** record the cause of death Ia • The system **must** record the cause of death Ib – if completed on MCCD. • The system **must** record the cause of death Ic – if completed on MCCD. • The system **must** record Co-morbidities II – if completed on MCCD.	Bus	M	
29.	The system **must** allow recording of approximate interval between onset and death for each Cause of Death (COD) entry above.	Bus	M	
30.	The system **must** record who issued the MCCD, stating - issued by …..	Bus	M	
31.	The system **must** record General Medical Council (GMC) number.	Both	M	
	The system **must** be capable of accommodating future searching for the GMC number from the user name and applying a checking mechanism.			
32.	The system **must** allow for the addition of further data fields (to be defined) to e.g. allow direct printing of the	Both	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
	MCCD at ward level. At present, these extra data fields include items such as 'whether seen after death by me' and 'whether seen after death by another medical practitioner' and also the certifiying doctors contact number. These fields may be rationalised or added to, following legislation changes, so the option to accommodate changes needs to be present within the RM&MRs.			
33.	The system **must** allow for the completion of the MCCD on the system followed by the active printing of the MCCD form at ward level. This will then be manually signed by the doctor and presented to the relatives/next of kin. An exact copy of the MCCD (minus signature) **must** be retained within the system.	Both	M	
34.	The system **must** allow for the transmission of the completed MCCD electronically to the GRO, once this can be accommodated by the GRO IT systems.	Both	M	
35.	If digital signatures of medical staff become widespread, the system **must** be able to accommodate that facility.	Both	M	
36.	The system **must** not accept incomplete Medical Certification Cause of Death (MCCD) details. It **must** have an alerting system for any missing mandatory information.	Both	M	
37.	<u>Outcome 2 - Coroner informed – discussed – MCCD issued</u> The system **must** record the date Coroner contacted. The system **must** record who contacted Coroner The system **must** allow recording of the details of discussion with the Coroner.	Bus	M	
38.	The system **must** allow recording of the MCCD details as in Outcome 1.	Bus	M	
39.	The system **must** allow for the recording of the details of any contact with the Coroner's Office and development of the ability to electronically transmit mortality related details directly to the Coroner's Office; this should include the Coroners Reference Number.	Bus	M	
40.	<u>Outcome 3. - Coroner notified - for Coroner Post Mortem (PM)</u> The system **must** record the date Coroner contacted. The system **must** record who contacted Coroner.	Bus	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
	The system **must** allow recording of the details of discussion with the Coroner.			
41.	The system **must** allow recording, at a later date, of the verdict reached by the Coroner. See section 10. This is to be entered by the **Trust's** Medical Litigation or similar department. This is to be followed by the generation of an alert email to the M&M lead.	Both	M	
42.	Outcome 4. - Coroner notified - Coroner requested Proforma The system **must** record the Date Coroner contacted. The system **must** record who contacted Coroner. The system **must** allow recording of the details of discussion with the Coroner.	Bus	M	
43.	The system **must** allow recording of the MCCD details as in Outcome 1.	Bus	M	
44.	The system **must** allow recording, at a later date, of the subsequent action taken by the Coroner. See section 10. This is to be entered by the **Trust's** Medical Litigation or similar department. This is to be followed by the generation of an alert email to the M&M lead.	Both	M	
45.	Outcome 5. - Stillbirth Certification Issued The system **must** allow the recording of the details on the paper Stillbirth certificate of death.	Bus	M	
46.	Outcome 6. - Hospital Post-mortem (PM) required – MCCD awaited The system **must** allow recording of the MCCD details at a later date as in Outcome 1.	Bus	M	
47.	Outcome 7. - 30 day mortality The system **must** allow entry of the details of the death and progression through the M&M process. Initially, the recognition of a 30 day mortality will need notification mechanisms and compilation external to the RM&MRs. Where these exist, the 30d mortality can then be entered onto the RM&MRs.	Bus	M	
Recorder details and Sign-off				
48.	The system **must** automatically extract the system generated Log-on details (**must** not be amended) and enter them along with the date the record was created.	IT	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
49.	The system **must** allow entry of, • Grade of staff • GMC Number. The system **must** be capable of accommodating future searching for the GMC number from the user name and applying a checking mechanism.	IT	M	
50.	The system **must** allow sign-off & then the submission of this initial recording function of the RM&MRs	Bus	M	
51.	The system **must** allow an alert to be raised if this recording of a death is not completed. There needs to be a mechanism to recognise when the initial recording of mortality has not been fully completed and is being kept as a draft. Forwarding of this draft onwards to the Consultant after a predetermined time period.	Bus	M	
52.	On completion and printing of the MCCD an email should be directed to the hospital mortuary, the Child Death Notifications team inbox, HSCB and the GP of the deceased.	Both	M	
Consultant Review of death				
53.	The system **must** generate an email to the reviewing Consultant once the initial recording has been submitted. This email will alert the reviewing Consultant and request a review of the death, soon. The email contains a link to take the Consultant directly to patient specific box identifying patient, date of death plus other details.	IT	M	
54.	Global groups managed in each Trusts domain will be given membership of universal groups, with application privileges, in the domain hosting the application.	IT	M	
55.	The system **must** provide a mechanism whereby a Consultant, nominated in error, can easily correct the error and nominate a 'new' correct Consultant. If they do not know the correct Consultant, the system **must** send the mortality details onwards to the appropriate M&M meeting. These changes **must** be reflected in an auditable trail.	Both	M	
56.	The system **must** have an automatic reminder service which will alert a Consultant, by email, if they have yet to review 'their' case after 48 hours, 5 days and then 12 days.	IT	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
	If the case is still awaiting Consultant review after the allotted time period, the case details **must** be automatically passed to the next scheduled M&M meeting of their team.			
57.	The system **must** allow the reviewing Consultant to have the opportunity to add to or provide amended notes already entered but cannot alter original entries; Also **must** be able to amend outcome details.	Bus	M	
58.	The system **must** allow to generation of a 'MCCD correction form' if Consultant wishes to make a significant change to the MCCD; this will be transmitted to the GRO. This "Consultant correction MCCD form" **must** be available as a printable or (in future) a transmissible form to the GRO.	Both	M	
59.	The System **must** have a mechanism to feedback to the individual who completed the initial record and MCCD, if amendment was necessary.	Both	M	
60.	The System **must** record and state - Was there an expectation, realised at the time of admission that this patient would die during this admission? Yes or No.	Bus	M	
61.	The System **must** record and state - Did the patient receive palliative **End of Life Care**? Yes or No.	Bus	M	
62.	The System **must** record and state did the patient receive treatment from the multi-disciplinary **Specialised Palliative care team**? Yes or No.	Bus	M	
63.	The System **must** ask, "Has a **Serious Adverse Incident** (**SAI**) been recorded that you are aware of?" If the answer is yes, a field is offered to enter the incident number.	Bus	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
64.	The System **must** use check boxes to aid the selection of this patient for a detailed review at M&M meeting. Each check box selection is independent of all other check boxes. The system **must** record and state - Were any of the **triggers** below fulfilled? • It is Area, Unit or Specialty policy to review all deaths • Unexpected death (e.g. Fall in hospital) • Following complications / Misadventure / Incident • Elective admission-except cancer / haematology • All deaths in low risk Health Related Groups (HRG) i.e. unexpected • All Paediatric (18 years or less), Neonatal, Obstetric • Cases referred to the Coroner's Office • Complaint(s) received which is M&M related.	Bus	M	
	The system **must** allow this trigger list to be amended/updated in future.			
65.	The System **must** record and state "Nominate this patient for a detailed review at the next M&M meeting" Yes or No. If Yes, than system to proceed to offer this patient at the M&M meeting for detailed discussion. If No, then the system to proceed to list the patient on the initial M&M meeting screen, with other such patients. Opportunity to still progress to detailed discussion **must** still be available.	Bus	M	Default = Yes
Accept review *This section offers the Consultant the opportunity to 'sign-off' the previous sections as correct or, if not correct, what elements are not correct.*				
66.	The system **must** allow the Consultant to state, "*I have reviewed the entries of this patient's M&MR record, including Medical Certificate of Cause of Death (if applicable) and accept them as complete, accurate and correct.*" If I am unable to do that, enter reasons in a box. The System **must** allow users to enter free-text comments field related to the above.	Bus	M	
67.	The system **must** then offer the Consultant the opportunity to sign off.	Both	M	
68.	This patient death **must** then be allocated to a M&M meeting and be identifiable as a 'thumbnail box'	Bus	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
	containing the patient name, number, Consultant reviewing. The option of providing patient anonymity **must** be available.			
69.	As the patient death is allocated to a M&M meeting, it will wait here till picked up at a M&M meeting. This process **must** be capable of being audited and the waiting time used in automatically generated audit reports.	IT	M	
Mortality & Morbidity meeting – setting up a M&M team				
70.	The system **must** allow the establishment of M&M groups, with an identified M&M lead. This **must** easily be changed by **Trust** based non-IT 'system informatics staff'.	Both	M	
71.	The system **must** allow the establishment of M&M groups, with a list of Consultant staff. They are to be identified by a **Trust** email address. This list **must** easily be changed by **Trust** based non-IT 'system informatics staff'.	Both	M	
72.	The system **must** allow the generation and presentation of an attendance list of Consultants. This will be used to generate individual Consultant Appraisal reports annually.	Bus	M	
73.	The system **must** allow the establishment of M&M groups, which can easily be amended, split or amalgamated by **Trust** based 'system informatics staff'.	Both	M	
74.	The system **must** allow the establishment of M&M groups, with a list of Non-Consultant staff, if this is what any particular M&M team wish. They will manage the list themselves. The system **must** accommodate this desire by allowing these lists to be manipulated easily.	IT	M	
Setting up an M&M meeting *The system must allow for the generation of a M&M meeting - meeting date, team and chair.*				
75.	The system **must** allow the setting up of individual M&M meetings by Consultant staff who may not necessarily be the M&M lead clinician.	Bus	M	
76.	The system **must** present this meeting in a box with a date and the chairman, waiting for the meeting to be started.	Bus	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
77.	The system **must** allow (if selected by a Consultant) anonymity of patient details when case is being discussed at M&M meeting. This will be useful for certain groups and individual cases.	Bus	M	
78.	The system **must** allow an initial check to ascertain what cases there are waiting for discussion. The M&M lead may wish to review and schedule cases for discussion e.g. they may wish to postpone certain cases till their Consultant is able to attend.	Bus	M	
	The system **must** allow the M&M lead and Consultants to check beforehand which cases are scheduled for discussion. This will allow Consultants to alert the M&M lead whether they are available to discuss their cases (i.e. email list of scheduled cases to Consultants) and reschedule if Consultant not available.	IT	M	
79.	The system **must** present a template meeting agenda for the chairman. This template agenda for M&M meeting must be capable of being produced by informatics, governance or audit staff. The agenda items will be populated by **Trust** staff attaching files to this meeting in a meeting module 'waiting area'; sent in from external sources e.g. presentations, graph sets from safety teams, audit spreadsheets, safety alerts, shared learning templates, discussion on progress of learning lesson actions etc. For circulation to attendees. See section 10.	IT	M	
80.	The system **must** allow setting up of joint M&M meetings with joined attendance lists discussing deaths from all teams present at the M&M meeting.	Bus	M	
Holding a Mortality & Morbidity Meeting				
81.	The system **must** allow the M&M meeting to be 'presented' in a format suitable for projection to an audience in a large room. It needs to present visually only those items pertinent to the M&M meeting. It needs to be responsive to scrolling and picking out certain areas for discussion.	Bus	M	
82.	The system **must** not degrade on audit days when multiple meetings occur.	Bus	M	
83.	The system **must** allow attendance to be recorded using tick box style control against each member of the team who are listed in a tile format. This is to be used to generate the Consultant Appraisal report.	Bus	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
84.	The system **must** allow the meeting agenda, already agreed when setting up the meeting, to be displayed and used as an agenda for the meeting.	Bus	M	
85.	The system **must** allow the display of the list of cases which were selected 'not for detailed review' by the submitting Consultant. However, these cases can still be selected and reviewed in depth if required.	Bus	M	
86.	The system **must** allow the meeting will begin with a review of the previous M&M meeting report which is to be shown on screen in the form of a meeting report.	Bus	M	
87.	The system **must** allow, once the previous minute is agreed, to be printed and/or emailed as a PDF. Agreed minutes to be verified and locked.	Bus	M	
88.	The system **must** be capable of being able to present cases to an audience while an individual simultaneously types onto the system the comments and conclusions discussed for each case.	Bus	M	
89.	The system **must** allow the entry for each death, • Discussion details; • Lessons learned (Up to 5 entries, each categorised using table below); • Action points associated with each learning lesson; and • who is responsible for carrying out those actions, within a time frame.	Both	M	
90.	The system **must** allow for the dissemination (by email if suitable) of the actions to the relevant staff member or team with a follow-up system with reminders.	Both	M	
91.	The system **must** allow the relevant staff access to update their actions taken.	Both	M	

<table>
<tr><th></th><th>User Functional Requirement</th><th>Key</th><th>Information, Mandatory or Desirable</th><th></th></tr>
<tr><td>92.</td><td>The system must include a ‘learning lessons categories scale’ for the learning lessons as identified below.
Suggested categories table
<table>
<tr><td>• To be managed by our M&M team
• To be managed by another M&M team
• Clinical
• Delivery of care/Task/Procedure
• Medication/fluids/pharmaceutical
• Communication
• Patient Involvement</td><td>• Documentation
• Equipment & Resource
• Organisation Culture/Team
• Staff Education/Knowledge/Training
• Staffing Levels
• Environment
• Other</td></tr>
</table>
The system must allow for the selection of a suitable list of categories and allow for updating as necessary. The listing suggested by Sir Liam Donaldson may become the favoured category list or an adaptation of this list.

The System must use check boxes to identify categories. Each check box selection is independent of all other check boxes.
The system must allow analysis of this information by Trust based audit, governance or non-IT ‘system informatics staff’.</td><td>Both</td><td>M</td><td></td></tr>
<tr><td>93.</td><td>The system must allow each case discussion to be completed by ‘categorisation of the death’ using the grading system :
1. There were no areas of concern or for consideration in the management of this patient
2. There were areas for consideration but they made no difference to the eventual outcome
3. There were areas of concern but they made no difference to the eventual outcome
4. There were areas of concern which may have contributed to this patient’s death.
5. There were areas of concern which CAUSED the death of this patient who would have been expected to survive.</td><td>Bus</td><td>M</td><td></td></tr>
<tr><td>94.</td><td>The system must allow, when one of the above categories is selected (possibly 3 and definitely 4 and 5), to trigger a message (e.g. email) to another system or person depending on the category e.g. DATIX system, Medical Director.</td><td>IT</td><td>M</td><td></td></tr>
<tr><td>95.</td><td>The system must allow within the system development life a similar layout and process for collecting Morbidity information, as is done for the Mortality Module.</td><td>Bus</td><td>M</td><td></td></tr>
</table>

	User Functional Requirement	Key	Information, Mandatory or Desirable	
Trust based 'system informatics staff'				
96.	The system **must** allow Person(s) within each **Trust** who have the capability to easily, • manage setting up and editing of medical M&M teams along with their Consultant members, • populate and manage drop down lists, • formulate and /or modify certain predefined text questions within the RM&MRs, • develop and produce certain reports, • perform a first line troubleshooting function for the system, • perform an informatics function to that **Trust** that is independent of system developers, but who do not have to be integral members of the **Trust** IT department or RM&MRs system developers. • Morbidity module management, • Appraisal/Revalidation reports, • For collection of Multidisciplinary attendance.	Both	M	
Reporting				
97.	The system **must** allow management of a Reports function by using **Trust** non-ICT informatics personnel i.e. development and production.	Both		
98.	The system **must** produce reports covering a wide range of areas and functionality. HSC Trusts to agree a set of detailed information reports that come as standard. Also, need to agree how ***ad-hoc*** **reports** are accessed, run and the means by which are produced and stored for future use. The supplier to indicate how reports and output from the reporting function interact or interface with other systems.	Both	M	
99.	The system **must** allow Trust and Region based reports; to be provided for a specified date range. Region reports should only be accessible to personnel with the appropriate access. **Trust** reports should only be accessible to **Trust** personnel.	Both	M	
100.	The system **must** have as standard the following reports in the system and available for **Trust** users to run. Consultant Appraisal report	Both	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
	Ability for each individual Consultant to create an appraisal report in PDF format for each calendar year, with one button push. Details attendance at M&M meetings, numbers of cases discussed/not discussed, learning lessons and action points. Produced using year parameter. <u>List of reviews report</u> Provides list of basic details (Name, Hospital number, Date of Death, Consultant, Team, Review date) of all cases stored in system. Exportable to Excel for manipulation and analysis. Produced using team and date parameters. <u>Generic report</u> List of cases stored in system with all available data fields. Exportable to Excel. Produced by date parameter. <u>Individual patient report</u> Ability to search database for ad hoc information requests using Hospital Number or Health and Care number. All fields available. Exportable to Excel. Requires hierarchy of access permission. <u>Summary report</u> Numbers of records created and the status of each (Stage of the review process that the case is currently being held at) grouped by team. <u>M&M meeting report</u> A report of the discussions, learning lessons, action points from the previous meeting. <u>Child Death Notification Form</u>			
101.	The system **must** accommodate further development of work already in progress in some Trusts to link: • entry of data onto the system, • obtaining accurate and reliable MCCD information, • engagement in the process of learning at M&M meetings, to • assessment of performance, appraisal and revalidation for Consultants and trainees.	Both	M	
102.	The system **must** allow the extraction of information by Trust based non-IT 'system informatics staff' for ad-hoc reporting. The supplier **must** state how this can be achieved and any restrictions on access.	Both	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
System Development				
103.	The supplier **must** allow scope for development of the RM&MRs. This **must** be capable of being accomplished within realistic time scales for completion of future project work and there **must** be flexibility in working with the business change team(s), sensitive to the needs of the Trusts and preferably with knowledge of the practices and practicalities of the clinical interactions within Trusts. It is acknowledged that the initial development cycle should be no longer than 24 months from initial roll out (presently planned to be from August 2016) and that any projected development work must be sanctioned by the Project Board or any future Change Management Process.	Both	M	
Security and Data Safety				
104.	The Solution **must** comply with the current HSC ICT Security Policy Statement document.	IT	M	
105.	Data **must** be available when required but be accessible only by authorised persons. The system will store personal information about patients which must be available for use by staff as and when required by their duties but which must otherwise be kept secure.	Both	M	
106.	The Supplier **must** provide a description of how data in the system will be kept secure including a description of the security and confidentiality rules built into the system. These **should** at least include password and privilege systems and **should** address the following areas: • Access Control • System Management • Printing Management.	IT	M	
Access Control				

	User Functional Requirement	Key	Information, Mandatory or Desirable	
107.	System access **must** be controlled by the use of unique individual usernames and passwords.	IT	M	
108.	Users **must** only have access to data authorised for their user group, including data entered by other user groups.	Both	M	
109.	Users **must** only be able to enter data authorised for their user group. This may be some or all of the data fields displayed in any given screen.	Both	M	
110.	Built into overall RM&MRs **must** be an ability to setup and allocate a hierarchy of access permissions downwards from Medical Director to Assistant / Deputy MDs to Associate MDs, CDs and downwards, progressively restricting abilities and areas of access.	Both	M	
111.	It **should** be possible for the system manager to define new user groups, to allocate staff to user groups and to define access levels for user groups at the following levels within the system: • Access to particular menus; • Restriction of individual menu items; • Access to individual functions/screens; • Access to particular fields. The system **must** restrict user and group access to menus and functions and screens particular to their individual business responsibilities and requirements	Both	D1	
112.	The system **should** have the ability to designate users as active or non-active. It **should** not be possible to delete users lD.	Both	M	
113.	Non-active users **must** not be able to gain access to the system Information added by users prior to becoming non-active **must <u>not</u>** be deleted from the system.	Both	M	
114.	When passwords are entered they **must** not display on the screen and they should be stored securely.	Both	M	
115.	User access to data **should** be definable at the following levels: • Read • Write • Execute • Delete	Both	D1	

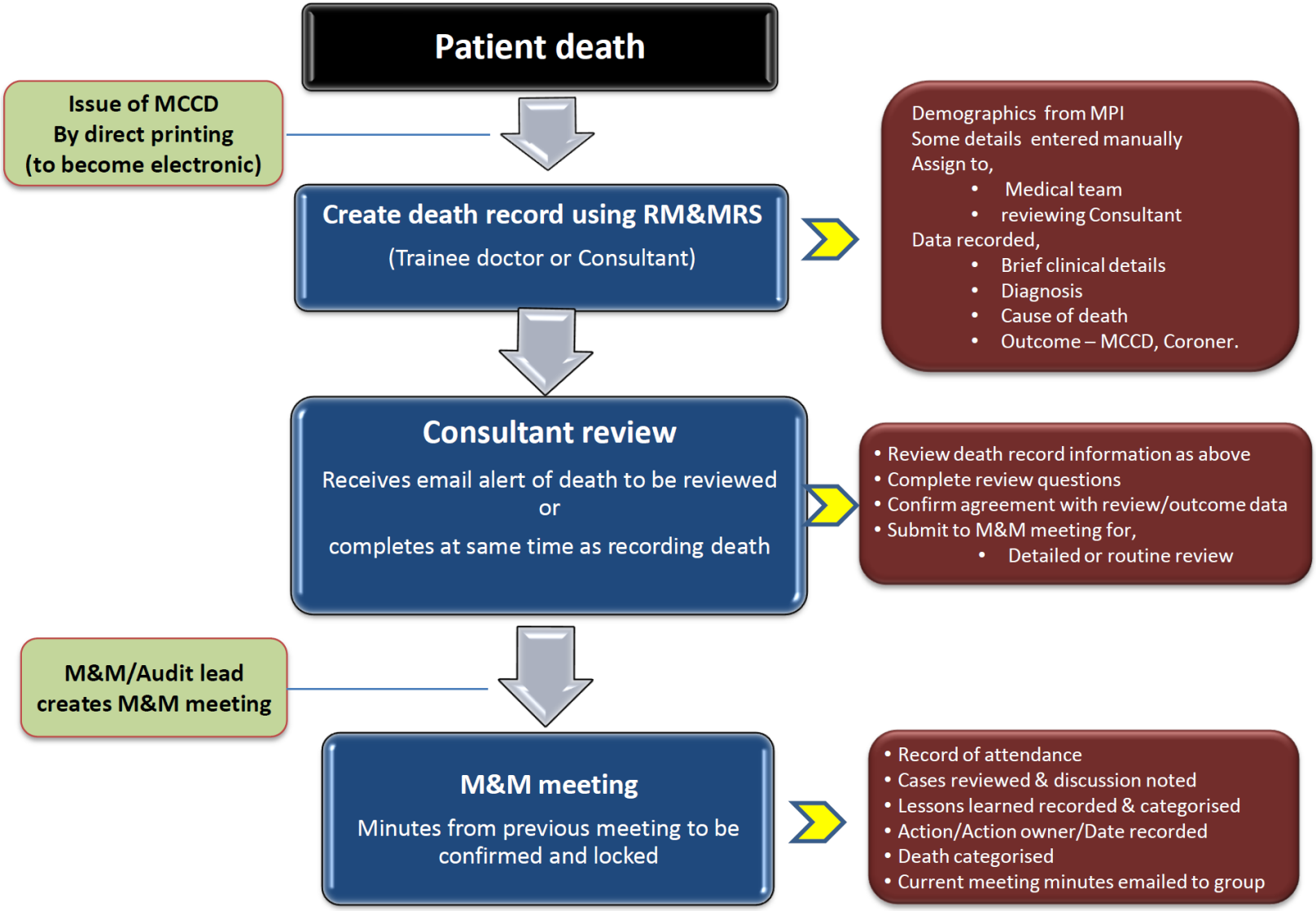
	User Functional Requirement	Key	Information, Mandatory or Desirable	
116.	The system **should** include a "time out" facility to log users out after a predefined period of inactivity e.g. standard desktop lockout in each Trust. "Time outs" **must not** degrade the system.	Both	M	
117.	Application Users **must not** have access to the operating system of the System server.	IT	M	
System Audit				
118.	The system **should** provide monitoring facilities to allow the system manager to: • Display active Users. • Display active and erroneous processes. • Remove any of the above.	Both	M	
119.	The system **should** provide an audit log which allows the system manager to identify: • User ID; • Transactions performed. • Date and Time • Terminal	Both	M	
120.	All actions, which cause a change to the systems data, **must** be logged. The log **must** contain the User ID, user name, date and time and terminal of transaction and the data content, both prior to and after the change.	Both	M	
121.	The system **must** provide for interrogation or printing of the system change log. The system **must** ensure that a hard copy of the system change log can be produced.	Both	M	
122.	It **must** not be possible to alter audit trail information.	Both	M	
123.	The system **should** provide a record of failed log-in attempts. This should show the user ID, the date/time and the terminal used for the access attempt.	Both	M	
124.	Repeated failed attempts to log-in from a particular terminal **must** be alerted to the system manager.	Both	M	
125.	The system manager **must** have the facility to limit the number of unsuccessful log-on attempts at a particular terminal or user ID.	Both	M	
126.	The system manager **should** be able to view records on line and be able to print ad-hoc reports. It **should**	Bus	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
	be possible to download information to an Excel spreadsheet for further manipulation.			
Servers				
127.	The system **should** provide a communication/message to all active users to alert them to system downtime.	IT	M	
	Shut downs or system downtimes for prolonged periods (longer than 2 – 4 hours) will require some form of continuity or contingency planning for the generation, by printing, of MCCDs e.g. temporary use of a WORD generated MCCD form completed 'outside' the system.			
128.	The Supplier **must** provide specifications for the server (Processor, memory and disk space) and associated operating system, database and any other software required to support the application, including its maintenance.	IT	M	
129.	The application **must** run on server platforms, databases and technologies as necessary to complement the existing BSO server, database, infrastructure and communication solutions.	IT	D	
130.	The application **must** be capable of running on virtual servers.	IT	D	
131.	The supplier **must** ensure that a version of the application is at all times supported on a platform built using software that is covered under Microsoft mainstream support.	IT	D	
132.	The server specification provided **must** support future growth of up to 50% in the number of user workstations linked to the system.	IT	M	
133.	The application should be fully supported and capable of working with all versions of internet explorer from IE8. The version of internet explorer is likely to vary from Trust to Trust and across other HSC Organisation so all versions must be supported	IT	M	
Online Storage				
134.	The Supplier **must** provide specifications storage requirement capable of managing the volume of data likely to be generated by the system. • The storage specification provided should be capable of storing at least 50% more data than expected. • Sufficient storage capacity **must** be provided to maintain patient records for a minimum of 10 years.	IT	M	

	User Functional Requirement	Key	Information, Mandatory or Desirable	
	• Note: Expected growth per year.			
135.	The system **must** be capable of meeting the following recovery objectives: Recovery Time Objective (Normal) - 8 hours (in normal circumstances a recovery should take no longer than 8 hours e.g. data corruption) Recovery Time Objective (Disaster) - 16 hours (in the event of a disaster a recovery should take no longer than 16 hours e.g. major system outage affecting more than just one system) Recovery Point Objective - 24 hours (data recovered should be no more than 24 hours out of date) Appropriate backup and recovery procedures should be configurable to achieve these objectives. Backups should not interfere with normal operation of the system. Appropriate notifications to be sent confirming success or failure of any scheduled tasks (e.g. email on successful completion of a backup).	IT	M	
136.	The Supplier, for their RM&MRS Service, **must** have and give details of their: • Service Continuity Plans, • UAT and upgrade plans, • Disaster Recovery (DR) Plans and • Archiving and restore arrangements			
137.	The Supplier **must** provide the following support for the RM&MRS Service: • Application Support - 9am to 5pm Monday to Sunday (7 day week) including public and bank holidays. Outside these periods application support must be provided under an on-call arrangement. • Hosting Support - 9am to 5pm Monday to Sunday (7 day week) including public and bank holidays. Outside these periods hosting support must be provided under an on-call arrangement. The Supplier must detail their support arrangements and show that they meet these minimum mandatory requirements.	IT	M	
138.	All support windows **must** be maintained within the supplier published support window.	IT		

	User Functional Requirement	Key	Information, Mandatory or Desirable	
139.	Where a new release of supplier middleware is made generally available, the application solution **must** be certified to run in the upgraded environment within 1 Year of release date.	IT		
140.	Where a critical security patch to supplier middleware is published, the application solution **must** be certified to operate with the new security patch within 3 months of its release.	IT		
141.	The application solution **must** be installed in a high availability configuration. The supplier must collaborate with ITS in selecting and configuring a suitable HA environment.	IT		

RM&MR System Workflow Analysis



+ Assigning additional team reviews available at any stage in process
+ Ability to attach files to patient record or to M&M meeting