Royal College
of Physicians

National Mortality Case
Record Review Programme

National Mortality Case Record Review (NMCRR)

Annual report

2018

Contents

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Foreword

Just under half of deaths in England occur in hospital and around one in three hospital beds is occupied by someone who is in the last 12 months of their life. A large and growing proportion of the hospital population is people living with age-related problems including frailty and dementia, and there are adults of all ages living with (often multiple) long-term medical conditions.

With a growing focus on early front door assessment, treatment, earlier transition from hospital and alternatives to admission for unscheduled care of acute patients, those patients who are admitted have increasing levels of acuity and medical complexity. Even in patients admitted electively overnight for procedures and surgery, the patient case mix is growing older and more medically complex.

We could doubtless do more to ensure fewer people are in hospital towards the end of their life by providing alternative services and planning outside hospitals. However, with the landscape as it is, we must place a strong focus on doing more to improve the quality of care within hospital for those people continuing to require admission.

The National Survey of Bereaved people has shown that while most families find the experience of end-of-life care 'good' or 'excellent', there are failings which we could do more to avoid. National Clinical Audit of End-of-Life Care in Hospitals has confirmed this impression. There is also evidence from the National Confidential Enquiry into Perioperative Deaths, the National Sepsis Campaign – from the work used to develop Early Warning Scores and Critical Care Outreach Services, and from hospitals' own internal audits around resuscitation calls, of care gaps in the run up to patient deaths.

A number of national audits as well as emerging data from the Getting it Right First Time and NHS 'Right Care' Atlas have shown that we still have major variation in care processes and outcomes including mortality across NHS hospital systems.

In 2015, Hogan *et al*[1] published a study based on a review of 100 case notes from each of 34 randomly selected hospitals, using detailed case note review and statistical regression analysis, concluding that approximately 3.6% of deaths in NHS hospitals had at least a 50% chance of being avoidable. The authors acknowledged that especially in older, frailer, people this determination required nuanced, skilled judgment and could not be certain. A major lesson of this work and the national audits is that it does require structured, skilled case note review to identify gaps, delays or failings in care and to determine to what extent a death might have been preventable.

Meanwhile, national NHS leadership, in the form of the secretary of state for health, NHS Improvement and NHS England, have been active in driving national policy to ensure that we investigate deaths in hospital more closely and use the learning from deaths to help drive systematic improvements. One initiative is the planned introduction by April 2019 of Medical Examiners in every NHS trust to examine all death certificates. Another is The National Quality Boards' (representing NHS Improvement, NHS England, the Care Quality Commission and Public Health England) national *Learning from Deaths* Programme.[2] This includes information and guidance for trusts on learning from deaths and reporting.

Learning from Deaths required all trusts to carry out mortality reviews by 2017 and to publish a quarterly dashboard reporting their data on deaths, including data on preventable deaths and reports on their actions to learn and improve. Sometimes the political and media narrative has focussed on the relatively small percentage of deaths which appear preventable. It has also rightly majored on the need for better information and support for the bereaved – not only those who have raised complaints or concerns or been through coroners' inquests.

To support the work at a national level on deaths in hospital, the National Mortality Care Record Review Programme (NMCRR) was launched in 2016 to review retrospectively the quality of a deceased patient's care from hospital admission to death.

Commissioned by the Healthcare Quality Improvement Partnership (HQIP) with funding from NHS Improvement and the Scottish Government, the Royal College of Physicians NMCRR programme is contracted to develop and offer to all NHS hospitals in England and Scotland a validated Structured Judgment Review (SJR) tool for case notes of patients who have died, alongside delivering educational support for local reviewers and trainers of those reviewers.

At the time of writing, 106 trusts in England and 1 health board in Scotland are using the SJR as a key part of their wider national mortality case record review work.

The feedback from practitioners using the tool, and from organisational leaders using its findings to learn from deaths and use the learning for improvement, has been overwhelmingly positive. Many trusts have now used the learning as the starting point for locally led quality improvement work. Some of the learning and improvement examples are presented in this report and will feature at our inaugural NMCRR conference, hosted by the RCP in October 2018.

We have co-ordinated public involvement so far in the steering group and IAG meetings, and RCP Patient and Carer Network members have read and commented on the annual report**.**

For 2018/19 as the use of SJR becomes embedded in trusts and may be adopted by more of them, we plan to publish a further evaluation and update report on its adoption and use to improve care.

Professor David Oliver – Clinical vice president, Royal College of Physicians

Executive summary

The National Mortality Case Record Review (NMCRR) programme is a 3-year programme which began in 2016, was commissioned by the Healthcare Quality Improvement Partnership (HQIP) and is funded by NHS Improvement (NHSI) and the Scottish Government. The programme was created and is delivered by the Royal College of Physicians (RCP) in conjunction with partners at the Yorkshire and Humber Improvement Academy and the software company Datix.

This report is intended to be of general interest to all healthcare professionals but specifically is aimed at those who are responsible for patient safety and quality improvement (QI) within healthcare in addition to patient groups and healthcare users.

The programme's primary aim is to introduce a validated method of retrospectively reviewing deaths in the acute hospital setting. It uses a structured judgement methodology tool known as the Structured Judgement Review (SJR).

The purpose of introducing such a methodology is to allow organisations to analyse the results of mortality reviews and to create and implement QI initiatives that improve healthcare.

This report sets out to describe the aims and objectives, the detail of the development and implementation of the programme and specifically focuses on how the findings from mortality reviews are translated into improvements in healthcare. We use a series of case studies collected from early implementers of the SJR to illustrate this process.

The NMCRR programme has a number of phases which are described in greater detail later in the report:

- Launch the programme in England and Scotland
- Select pilot sites and implement a pilot phase
- Develop training tools
- Implement SJR training
- Develop an electronic platform for analysis
- Develop adjuncts to support the NMCRR

The programme team have delivered training events in over 25 cities in England and Scotland, teaching around 480 clinicians who have in turn cascaded the training to at least 1,500 healthcare professionals.

The development principles of the RCP National Mortality Review tool (online platform) and its analysis capabilities are described, along with an initial analysis of data from a variety of hospitals covering the topics of sepsis and end-of-life care.

The programme has a three year duration and aims to consolidate the work that has been done, support healthcare providers to embed the processes within their organisations and where needed continue to train individuals in the methodology.

NMCRR programme milestones

NMCRR Programme milestones

2016

November 2016	NMCRR Programme officially launched
July 2016 to January 2017	Pilot phase
June 2017	Platform implementation begins
November 2017	Pilot reports published
By July 2018	107 English acute trusts are using SJR
	480 Tier One trainers
	More than 1500 hospital reviewers
By September 2018	56 trusts/health boards have implemented the platform, with another 32 having expressed an interest
	763 users registered for platform, representing 58 trusts/health boards
	1290 SJRs entered onto the platform

2018

Introduction

The Healthcare Quality Improvement Partnership (HQIP) was asked by NHS England and the Scottish government to commission a programme to investigate the potential for learning from retrospective mortality reviews. A scoping exercise and associated options appraisal was undertaken by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) between December 2014 and May 2015. This explored how hospitals could improve the standardisation of and learning from case note reviews of deceased patients, and considered how this local approach could support the establishment of the National Mortality Case Record Review (NMCRR) programme for hospital deaths. The options were reviewed by an NHS England programme board.

In 2015, bids were invited to establish a process to implement a standardised methodology for retrospective case record review for adult acute deaths in English and Scottish hospitals, in order to improve learning about problems in care that may have contributed to a patient's death.

A partnership led by the Royal College of Physicians (RCP), along with the Yorkshire and Humber Improvement Academy (IA) and Datix, secured the contract to implement the NMCRR programme in England and Scotland. It was commissioned by HQIP, funded initially by NHS England and latterly by NHS Improvement, and commenced in June 2016.

HQIP created a robust governance process to ensure timely progression through the various phases of the programme, which included regular contract reviews and scrutiny of the programme by a multi-partnership independent advisory group (IAG). In addition, the NMCRR programme receives input from a multi-partner, multi-professional steering group that has representation from national medical organisations and includes patient groups as key members.

We acknowledge that patient and public involvement (PPI) in safety and improvement programmes is vital to ensure that their perspectives inform development and progress. To this end the NMCRR programme has also engaged with PPI at IAG meetings, during drafting text for a collaborative public leaflet with NHS Improvement, and to review a draft of this annual report. The programme team plans to support trusts and health boards to involve bereaved families in the SJR process to ensure their opinion of the care received by their loved one is incorporated into the mortality review, and also to ensure that learning and consequent improvement initiatives are shared.

A key aspect of the development and implementation of this work has been the notion of iteration. The function of the programme team as a responsive, dynamic collaboration has allowed the constant improvement of training materials, the training model and the development of the online platform. Furthermore, the core themes of feedback, collaboration, anticipation and learning have been present throughout.

Effective engagement and network building has also been vital to the programme's success. For example, a substantial communications and media effort has promoted the programme throughout the NHS and aligned organisations, including talks at a variety of meetings and events such as at the Royal College of Surgeons and the Royal College of Physicians of Edinburgh. Relationships with the Academic Health Science Networks (AHSNs) have been important in engaging with hospitals and clinicians and in supporting some of the training sessions.

The programme team have also instigated a national first in hosting meetings with the collective mortality review/enquiry programmes (invited teams include: the Confidential Enquiry into Maternal Deaths, the Confidential Enquiry into Neonatal Deaths, the Learning Disability Mortality Review Programme, NCEPOD, NHS England and the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness) to explore sharing intelligence, collaboration opportunities and the potential for future reporting across the programmes.

Establishing links within the developing medical examiner community has also been necessary to support future collaboration and alignment.

Programme governance

Table 1 sets out the team members responsible for managing the programme and Fig 1 the organisational structure of the programme.

Table 1 Current team members (June 2018)

Title	Name	Organisation
Clinical director for quality improvement and patient safety	Dr John Dean	RCP
Operations director for quality improvement and patient safety	Sarah Campbell	RCP
NMCRR programme manager	Clare Wade	RCP
NMCRR clinical lead	Dr Andrew Gibson	RCP
NMCRR programme coordinator	Jaya Varsani	RCP
IA director	Beverley Slater	Improvement Academy
IA leadership fellow and renal registrar	Dr Usha Appalsawmy	Improvement Academy
Lead methodologist	Professor Allen Hutchinson	School of Health and Related Research (ScHARR) Sheffield / Improvement Academy
IA clinical director	Dr Michael McCooe	Improvement Academy
IA research analytics programme manager	Dan Mason	Improvement Academy
Datix project manager	Alysia Atkinson	Datix UK
Datix application specialist	Gemma Harris	Datix UK

NMCRR IAG

NHS Improvement

NHS England

Scottish government

Patient/public representation

NMCRR Programme Team

HQIP

Meets twice per year

NMCRR Contract Review Group

HQIP

NMCRR programme manager

RCP QIPS operations director

+/- NMCRR clinical lead

Meets quarterly

NMCRR Steering Group

NMCRR Programme Team

Royal College of Physicians of Edinburgh

Healthcare Improvement Scotland

Royal College of Nursing

Action against Medical Accidents

RCP Patient and Carer Network

Academy of Medical Royal Colleges

Faculty of Medical Leadership and Management

Institute for Healthcare Improvement Fellows

Patient/public representation

Meets twice per year

NMCRR Programme Delivery Team

RCP QIPS clinical director

RCP QIPS operations director

NMCRR programme manager

NMCRR clinical lead

Director IA

Lead methodologist IA

Clinical director IA

Senior data analyst IA

Patient safety leadership fellow IA

Project manager Datix UK

Meets up to six times per year

Fig 1 NMCRR programme organisational structure. QIPS = Quality Improvement and Patient Safety Department; HQIP = Healthcare Quality Improvement Partnership; IA = Improvement Academy; IAG = Independent Advisory Group; NMCRR = National Mortality Case Record Review; RCP = Royal College of Physicians.

NMCRR Independent Advisory Group (IAG)

The NMCRR Independent Advisory Group act as an independent advisory group to HQIP as commissioners of the programme and act as a forum for discussion with funders and key stakeholders.

NMCRR Steering Group

The NMCRR Steering Group provides engagement and challenge across allied organisations and facilitate the dissemination of key programme information.

NMCRR Programme Delivery Team

The NMCRR Programme Delivery Team oversees delivery of the programme, ensuring that governance structures are in place. This team also provides a link to RCP Quality Improvement (RCPQI), to embed QI throughout trusts and hospitals that are implementing the NMCRR programme.

NMCRR Contract Review Group

The NMCRR Contract Review Group meets quarterly, to inform HQIP of progress against agreed deliverables and of any variance that may have occurred.

Aims and objectives

Aims

The aim of the programme is to establish and roll-out a standardised methodology and process for retrospective case record review (RCRR) for adult acute care deaths in England and Scotland in order to support improvement by understanding and learning about problems in care that may have contributed to patients' deaths.

This work is not designed to generate data to compare trusts' performance or to contribute to a national measure of the number of avoidable deaths. The data that are generated from this programme are primarily for use by trusts to support their own learning and improvement.

Objectives

- To develop and promote a single standardised mortality review process: SJR, across all acute care hospitals in England and Scotland.

- To promote and support SJR within acute hospitals' wider clinical governance systems, ensuring that deaths that are thought to result from problems in healthcare are reported to local risk management systems.

- To design and deliver training for clinicians to become patient note reviewers in hospitals and to support them to cascade training to healthcare colleagues.

- To engage with patient group representatives, healthcare professionals, commissioners and regulators to support the high-quality local reporting of outcomes and learning from SJRs.

- To promote and inform national and local learning and improvement within acute hospitals as a result of SJRs.

- To develop and promote an online platform to support the local and national collection and analysis of SJRs to support learning and QI.

The SJR tool

The purpose of introducing SJR into the acute hospital setting is to allow organisations to analyse the results of their reviews of acute hospital deaths and to then create and implement QI initiatives that improve healthcare.

Contact made with English trusts in July 2018 confirmed that 107 have implemented SJR with 11 using an alternative method. 23 did not respond.

Mortality case note review – using SJR

In order to provide the benefits to patient care that are commensurate with the effort put into case note review, review methods need to be standardised, yet not rigid, and usable across services, teams and specialties.

SJR blends traditional, clinical-judgement-based review methods with a standard format. This approach requires reviewers to make safety and quality judgements over phases of care, to make explicit written comments about care for each phase and to score care for each phase.[3] The outcome is a relatively short but rich set of information about each case, in a form that can also be aggregated to produce knowledge about clinical services and systems of care.

The objective of the review method is to look for strengths and weaknesses in the caring process, to provide information about what can be learnt about the hospital systems where care goes well, and to identify points where there may be gaps, problems or difficulties in the care process. In order to ask these questions, there is a need to look at the following: the whole range of care provided to an individual; holistic care approaches; the nuances of case management; and the outcomes of interventions.

Structured judgement case note review can be used for a wide range of hospital-based safety and quality reviews, across services and specialties, and not only for cases where people die in hospital. For example, it has been used to assess the care of people who have had a cardiac arrest in hospital; to review safety and quality of care prior to and during non-elective admission to intensive care settings; and to review the care for people who are admitted at different times of the week.

An important feature of the method is that the quality and safety of care is judged and recorded whatever the outcome of the case, and that good care is judged and recorded in the same detail as care that has been judged as being problematic. Evidence shows that most care is of good or excellent quality and that there is much to be learnt from evaluating high-quality care.

The scientific basis of SJR

SJR builds on an international history of retrospective case note review methods development.[4]

Hulka *et al*[5] contributed to the methods debate by using two forms of quality measurement in a study of ambulatory care peer review: explicit criteria and implicit judgements. Explicit review criteria were developed to ask binary questions – for example 'was the blood pressure measured, yes or no' or 'was the systolic blood pressure above 140 mm hg, yes or no'.

Implicit judgements took the form of statements about the treatment of the blood pressure, such as 'treatment given to manage the blood pressure is x', but the statement did not usually include an explicit comment about what the reviewer thought of the value of the treatment. It was often left to the subsequent reader of the review to try to determine whether or not the reviewer thought the treatment was appropriate.

The concept of using a process of care framework to provide a phase of care structure for case note review was developed in 1989 by Rubenstein *et al*.[6] A phase of care framework was subsequently used in the assessment of nursing care quality, using both explicit criteria and implicit statements, and in the assessment of cardiac surgery mortality rates.

In the early 1990s the by-now well-established trend of using implicit review judgements as a key component of peer review and quality assessment began to raise concerns about the replicability (ie the repeatability) of written implicit judgements of care. A study was therefore commissioned by the NHS Health Technology Research Programme in England to explore which review methods were most appropriate for quality and safety review.[7,8] Evidence-based review criteria and structured implicit review methods were to be used to review the quality and safety of care for over 3,400 acute care patients across 20 hospitals. Early results indicated that the written implicit review criteria statements did not include enough clarity on whether care was expressly thought to be good or poor: a problem that was already acknowledged in previous research. The review process was therefore modified to enhance the understandability of the judgement comments through reviewers being more explicit: a form of review that was subsequently titled 'Structured Judgement Review' (SJR).

The NMCRR and the National Learning from Deaths Programme

In March 2017, the National Quality Board (NQB) published the first national guidance on *Learning from deaths*,[2] drawing on the recommendations of the CQC in its report, Learning, Candour and Accountability, published in December 2016. The guidance set out the approach of the NHS to learning from deaths and the new responsibilities on acute and community trusts. These included the requirements to: publish a 'Learning from Deaths' policy, develop their approach to reviewing deaths in their care, strengthen their ways of engaging with bereaved families and ensure support is available to staff. Trusts are required to publish quarterly information through their board reports on deaths in their care and reviews undertaken and to summarise this information, together with an account of their learning, as part of their annual quality accounts. The Department of Health has responsibility for the overall Learning from Deaths programme, which comprises a number of work streams, including the Learning Disability Mortality Review (LeDeR), the development of a

methodology to support mental health trusts to review deaths in their care, and work to support trust boards with Learning from Deaths implementation.

The NMCRR programme is referenced in the NQB guidance *Learning from deaths*,[2] and it is important to clarify the purpose of the NMCRR programme in the context of this guidance. Central in this clarity is the definitions of the terms 'review', 'structured judgement review (SJR)' and 'investigation'. These terms appear frequently in the NQB guidance and they have the following meanings.

A 'review' of the case notes, which is also in some cases referred to as a 'screening' of the case notes, is any non-validated variously structured and usually relatively brief review of the case notes. These reviews are variable in quality and do not create a validated care score, even when they are lengthy and complex.

The 'SJR' is an example of a validated research methodology that when used appropriately can create an overall care score. The methodology and validation of the SJR is explained in more depth earlier in this document.

Both simple reviews and the SJRs are retrospective analyses of case notes and they both have the ability to generate comment on the quality of care that is delivered, albeit to different levels of confidence. However, and additionally, the SJR methodology allows the reviewer to comment on whether harm had occurred to the patient. Both methods can be used to flag up poor care and can trigger further enquiry into the quality of care that is delivered.

It is important to recognise that neither the simple retrospective review nor the SJR methodology can generate an outcome that describes whether the care that was observed was more likely than not to have contributed to the death of the patient. This is a much more complex judgement.

An 'investigation' is a formal process where it is established, what happened and why, and in the context of patient safety is designed to elicit learning to reduce the risk of the incident in question happening again. The investigation will usually draw on evidence from a variety of sources, which will in many circumstances include the outcome of the validated SJR. As with SJR, a judgement about the death can be made thereafter but is not the aim of the investigation.

An investigation into the quality of care received by patients is therefore a fundamentally different process from either of the retrospective case note reviews described earlier.

Case studies

A number of the early adopters of this methodology have already determined themes which have established work streams within their organisations that have led to QI work. Some of these have been translated into case studies which are described in this section. These case studies have, in some cases, identified common themes and concerns across the sector, but they have also demonstrated specific problems and unique solutions. The themes identified in these case studies include work on:

- end-of-life care
- resuscitation issues and decisions
- sepsis care
- deteriorating patients
- improving death documentation
- analysis of fractured neck of femur mortality
- mortality and stroke
- differential admissions from nursing care homes.

The case studies and implementation strategies outlined below articulate the quality improvements that have been achieved so far when using the standardised review of deaths in acute hospitals. In addition, the methods by which the regional spread of training and trainer engagement was achieved are described in an English AHSN and a Scottish health board.

Two further case studies on sepsis management and end-of-life care describe how thematic analysis is used to draw information together from groups of structured judgement case note reviews to provide material for Quality Improvement initiatives.

Overview of case studies

Cases one and two: These case studies demonstrate how the West of England AHSN created a collaborative to implement a regional initiative using SJR to standardise their approach to mortality review as well as identifying the need for earlier recognition of the end of life and its management.

Cases three and four: These cases highlight the transformational work at Doncaster and Bassetlaw NHS Foundation Trust in utilising the SJR methodology as a central component of their mortality review process as well as describing how concerns over the management of the end of life were discovered using the process.

Case five: One aim of the City Hospitals Sunderland NHS Foundation Trust Mortality Review Panel (MRP) has been to encourage that the resuscitation status of hospital in-patients is appropriate and effectively communicated among all relevant staff at all times.

Case six: At Mid Yorkshire Hospitals NHS Trust, the deputy medical director for quality and safety led an initiative to incorporate using SJR alongside demographic analysis to identify areas for improvement in the care of patients with acute cerebrovascular disease.

Case seven: NHS Highland has incorporated the use of SJR into their process aimed at reducing overall mortality. SJR underpins the 'primary' drivers in leading to the aim of mortality reduction.

Cases eight and nine: York Teaching Hospital NHS Foundation Trust has used the methodology in reviewing deaths over four years using SJR with a focus on essential processes of care.

Cases ten and eleven: Buckinghamshire Healthcare NHS Trust have described how they have embedded SJR into their process and articulated the introduction of the Medical Examiner. Of particular interest is how they have linked SJR to the LeDeR programme.

Case twelve: Describes how Barking, Havering and Redbridge NHS Trust have implemented SJR using a mortality faculty with plans to develop a faculty of junior doctor mortality reviewers.

Case thirteen: Describes how Barking, Havering and Redbridge NHS Trust have used SJR to drive QI in the management of biliary sepsis.

Case one
West of England AHSN approach to implementation

'Safe space': discuss experiences, share best practice, address issues

Aim to share learning, issues and outcome themes and encourage region-wide QI initiatives including NEWS2 and ReSPECT

High level support ensures: open, honest culture and means improvement work remains high on regional agenda

Collaboration integral to **higher-quality, safer care**

Strong approach: multilevel, multidisciplinary collaboration – recommended for trusts implementing SJR

Collaboration includes **GPs, public contributors, community care and mental health colleagues**

Collaborative approach across **six trusts**

Case two
West of England AHSN quality improvement

Opportunity: co-designed work with patients, families, community, and GP services to create conditions for open conversations about future emergency care

In the emergency department need to consider EOL care rather than purely focussing on emergency care

Need to improve: patients sent to hospital inappropriately; and limited conversations happening with the patient, families or carers about their wishes

Quality Improvement work improve recognition of EOL, using symptom triggers and conversations with patients, families and carers

Strongest themes from SJR: need earlier senior decision making when patients deteriorate and need conversations about end of life care earlier during admission

HOSPITAL

Case three

Doncaster and Bassetlaw Teaching Hospitals NHS FT approach to implementation

The process

The Mortality Group produces quarterly reports of reviews and learning outcomes: identified care issues drive QI initiatives

Actions are taken and **messages are fed back** to specialities

Exemplary practice is recognised with a letter from the deputy medical director

Overall care score less than 3: cases go to the Mortality Case Review Meeting for further review

Timely SJR is vital

Specialties with more than 10 deaths per month aim: review a minimum of 10 deaths

Specialties with 10 or fewer deaths per month aim: review 100% of deaths

DONCASTER AND BASSETLAW

Case four
Doncaster and Bassetlaw Teaching Hospitals NHS FT quality improvement

Result: 22% increase in appropriate and timely start of end-of-life care pathways since January 2016

Result: more timely and correct use of DNACPR forms

Theme: inappropriate admissions from care homes and other community care settings

Led to: awareness raising campaign

Outcome: unnecessary interventions for dying patients

Led to: cases being analysed and information fed back via clinical commissioning groups (CCGs)

Result: aim to reduce inappropriate admissions and reduce patient anxiety

Most common theme: missed opportunities in recognising end of life

Case five
City Hospitals Sunderland NHS FT quality improvement

Example one:

Mortality Review Panel (MRP) aim: the resuscitation status of patients to be appropriate and effectively communicated among relevant staff at all times

Absence of a DNACPR (when one should be in place) may result in: inappropriate investigations and treatments, which may mean an undignified and uncomfortable death

DNACPR decisions with a consultant signature:

2014 **50%**

2016 **89%**

DNACPR decisions issued on the day of death:

2014 **10%**

2016 **4%**

Between 2014 and 2016, the MRP observed significant **improvement in senior clinician involvement** with timely DNACPR determination

Conclusion: a standardised mortality review process can lead to new insights into performance and prompt improvements in the quality of care

Example two:

In 2014, MRP identified a **lack of senior doctor involvement** when determining ceilings of care with patients where DNACPR discussions were indicated

SJR review comments associated with 'resuscitation management' included: issues surrounding ceilings of care; issues with DNACPR; end-of-life initiation being dealt with exclusively by the F2, including all conversations with the family

Result: In 2016 SJR comments demonstrated an improvement in resuscitation management

CITY HOSPITALS SUNDERLAND NHS FT

Case six
Mid Yorkshire Hospitals NHS Trust quality improvement

136 deaths in the index period

Average age 80.5 — **77 deaths**

Average age 75.3 — **59 deaths**
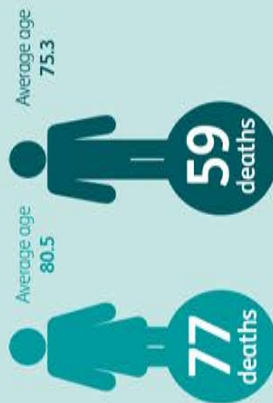
Deaths (<60 years old)

Male 19%

Female 5.2%

Stroke deaths (<54 years old)

3% Nationally

7% Mid Yorkshire Hospitals NHS Trust

SJR showed no mis-coded episodes

MID YORKSHIRE HOSPITALS

Issue:

In April 2016,there was a high standardised mortality ratio (130) for acute cerebrovascular disease

Aim: identify lessons and implement actions within 8 weeks

➤ Identify index cases and compare with a similar time period 1 year later

➤ Conduct demographic analysis

➤ Select 30 cases for SJR – including all deaths in patients less than 60 years old

➤ Share with CCG and send letters to GP practices

Result: the trust´s SMR for acute cerebrovascular disease was 130 initially but reduced to 114 a year later

Learning points:

➤ Combination of statistical review and SJR: process issues and specific care problems are identified

➤ Training of adequate numbers of clinicians in SJR vital

➤ Quality assurance of case note reviews needed

➤ Active forum to discuss internal and external process issues is a necessity

Case seven

NHS Highland (Scotland) implementation and quality improvement

In NHS Highland a team of clinicians have incorporated the SJR methodology into a wider system of quality and patient safety articulated in a 'Mortality Reduction Driver Diagram'

Aim

Reduce HSMR by 10% by the end of 2018

Achieve high reliability of safe, person-centred and effective clinical care processes

Primary drivers

Comprehensive implementation of the 10 patient safety essentials

Implementation of nine point-of-care priorities

Implementation of reliable structured clinical review

Implementation of reliable administrative recording processes

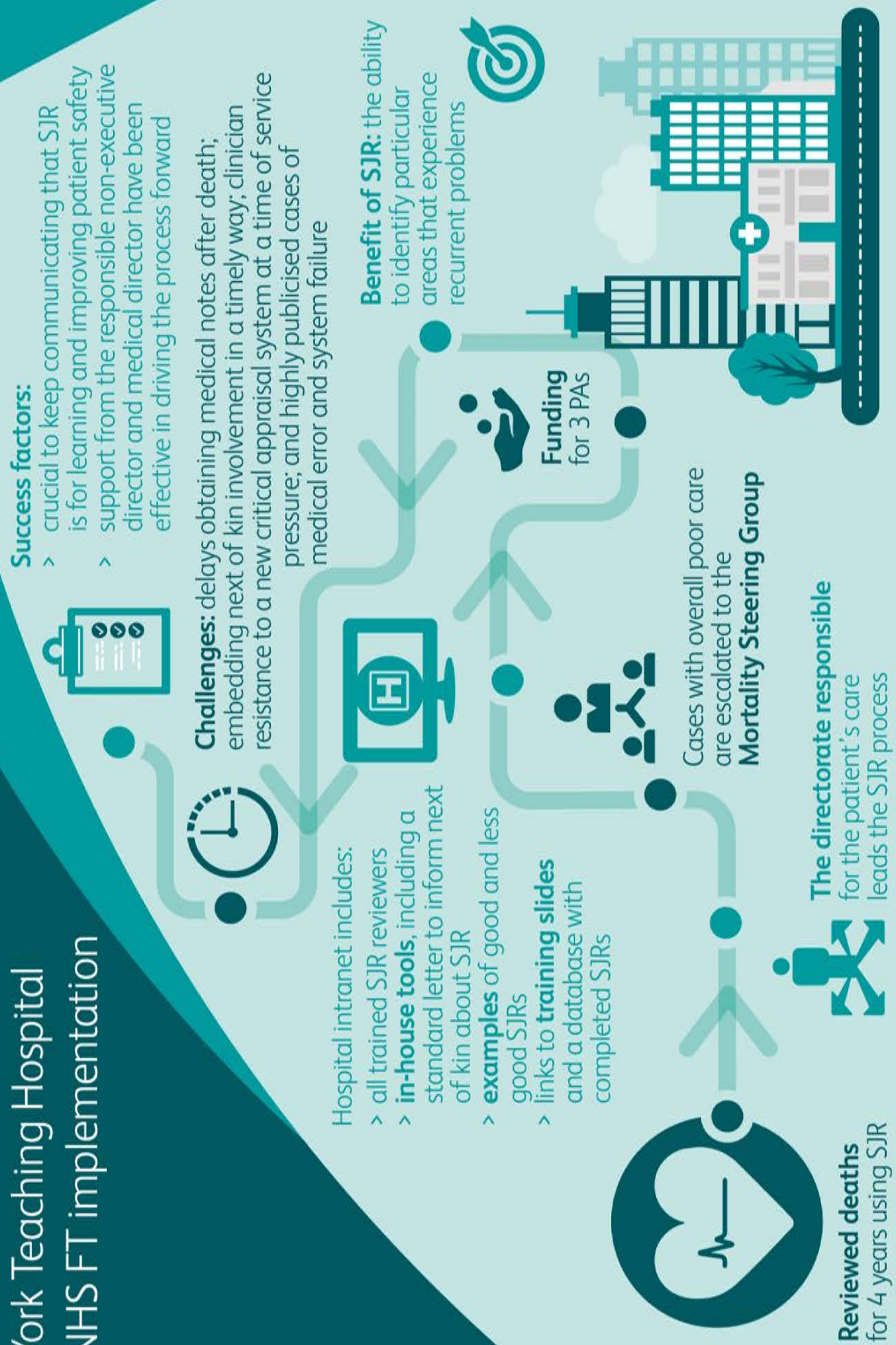QI infrastructure and communication

Secondary drivers

- Full-scale implementation of the applicable 10 patient safety essentials to all clinical areas
- ≥95% or > reliability of the 10 patient safety essentials
- Reliable system for internal and external validation of self-reported data
- Patient safety essentials reviewed as part of daily management at ward and hospital management levels
- A system to identify process reliability and to enable appropriate step down or escalation of data reporting

- Reliable person-centred response to deteriorating patients
- Reliable recognition and care delivery for patients with sepsis
- Reliable risk assessment to prevent venous thromboembolism
- Reliable care delivery for patients with heart failure
- Reduce surgical site infections (SSI)
- Prevent catheter associated urinary tract infections (CAUTI)
- Reduce falls
- Prevent avoidable pressure ulcers
- Reliable implementation of medication reconciliation and interventions to improve safety with high risk medicines

- A reliable system for all emergency patients to be seen and assessed by a consultant within 14 hours of admission
- A reliable system for all emergency patients admitted before 7pm to be seen and assessed in person by a consultant on the day of admission
- A reliable system for all patients referred for ambulatory emergency care assessment to be seen in person by a consultant before any decision is taken not to admit them
- A clear record is maintained of the status of all investigations that are required and requested

- Investigation results actioned in a timescale commensurate with their urgency and within 24 hours of availability
- A structured consultant review and management plan to be recorded at initial assessment and all ward rounds
- A robust system in place for all medical handover

- A reliable system to accurately record the patient classification code on PMS on admission
- An IDL to be sent to the GP for all patients discharged/transferred and completed prior to discharge/transfer
- A final discharge letter containing a core dataset to be sent to the GP within a maximum of 2 weeks of discharge
- Following urgent ambulatory assessment (not admitted) a typed electronic assessment and management plan to be sent to the GP within 24 hours
- Accurate coding to take place within 6 weeks of patient discharge with a validation system in place

- Each hospital site to identify a core leadership team to oversee and drive implementation of this plan
- Produce a hospital and organisational communication plan to inform frontline staff of prioritised QI activities
- Each hospital site to identify QI capacity and capability to ensure pro-active demonstrable progress against aims
- Review of SPSP and KPO core team infrastructure to optimise central QI capacity and capability
- Maintain a data platform to ensure that QI data are available and accessible to all healthcare staff to inform improvement
- Develop a data dashboard to facilitate daily management with the aim of improving overall quality
- Collate thematic analysis from case note review, SAERs, RCAs for organisational learning and improvement

Case eight
York Teaching Hospital NHS FT implementation

Success factors:

> crucial to keep communicating that SJR is for learning and improving patient safety

> support from the responsible non-executive director and medical director have been effective in driving the process forward

Challenges: delays obtaining medical notes after death; embedding next of kin involvement in a timely way; clinician resistance to a new critical appraisal system at a time of service pressure; and highly publicised cases of medical error and system failure

Benefit of SJR: the ability to identify particular areas that experience recurrent problems

Hospital intranet includes:

> all trained SJR reviewers

> **in-house tools,** including a standard letter to inform next of kin about SJR

> **examples** of good and less good SJRs

> links to **training slides** and a database with completed SJRs

Funding
for 3 PAs

Cases with overall poor care are escalated to the **Mortality Steering Group**

The directorate responsible for the patient's care leads the SJR process

Reviewed deaths
for 4 years using SJR

Case nine
York Teaching Hospital NHS FT
quality improvement

- Failure to identify and treat deteriorating patients
- The emergency department, the acute medical unit and out of hours identified as key risk areas
- Failure to consider and incorporate advance care planning (ACP)

Action:
Repeatedly fed back to medicine for older people meetings

Triangulation with CPR audit showed few survivors to discharge among in older, frailer patients with multimorbidity

Action:
Led to development of a new protocol for traumatic brain injury patients

Actions:
Complete review of the communication procedure for laboratory staff

Development of a situation, background, assessment, recommendation (SBAR)

Results:
Led to a marked increase in ACP decisions being documented

Concomitant fall in inappropriate cardiac arrest calls

A patient with traumatic subdural haematoma and anticoagulation for a long-term indication **suffered harm** when warfarin was restarted in error too soon

There was a case of **poor communication** of a severely low potassium result

Case ten
Buckinghamshire Healthcare NHS Trust implementation

Cases presented at M & M meetings for shared learning and multi-disciplinary review

60+ SJRs completed and entered onto the RCP National Mortality Review Tool (online platform)

80+ users have access to the online platform allowing transparency of reporting and data sharing across primary and secondary care

Training in SJR facilitated by regional AHSN

Results: during first six months

97% of deaths were screened

12% of all cases had SJR

Regional AHSN Mortality group created to share learning and standardise practice

Objectives met: screen all deaths, meaningful engagement with bereaved relatives

Introduced medical examiners and structured judgement review (SJR) process

Case eleven

Buckinghamshire Healthcare NHS Trust quality improvement

Conducting SJR has led to positive feedback:

'I just wanted to say thank you for your calm reassuring voice when you explained about my dear mothers death. I was really so upset and having you explain everything to me in a simple but factual way has helped me to understand all that went on'

Trust initiative – linking SJR with learning disability mortality review programme

LeDer regional lead has direct access to SJRs as a user of the on-line platform
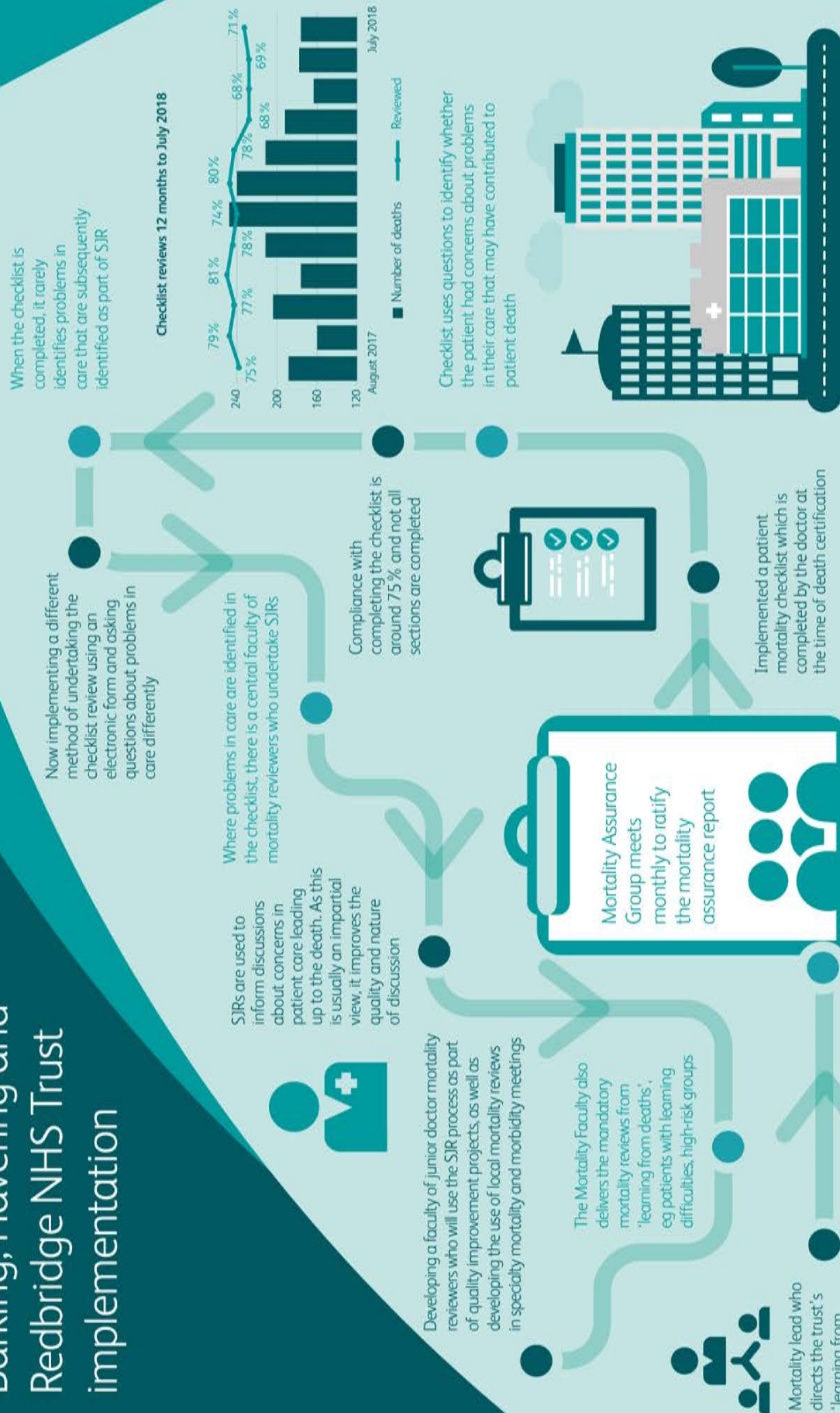
Outcomes from SJR

- Led to improvements in end of life (EOL) care promoting patient choice
- Formulating personalised care plans in the hospital and the community
- Deteriorating patient initiative – improve sepsis recognition and treatment
- Increased awareness of timely DNACPR decisions and treatment escalation plans (TEP)
- Cardiac arrest deaths outside critical care now have SJR

Case 12

Barking, Havering and Redbridge NHS Trust implementation

When the checklist is completed, it rarely identifies problems in care that are subsequently identified as part of SJR

Checklist uses questions to identify whether the patient had concerns about problems in their care that may have contributed to patient death

Now implementing a different method of undertaking the checklist review using an electronic form and asking questions about problems in care differently

Where problems in care are identified in the checklist, there is a central faculty of mortality reviewers who undertake SJRs

Compliance with completing the checklist is around 75% and not all sections are completed

Implemented a patient mortality checklist which is completed by the doctor at the time of death certification

SJRs are used to inform discussions about concerns in patient care leading up to the death. As this is usually an impartial view, it improves the quality and nature of discussion

Developing a faculty of junior doctor mortality reviewers who will use the SJR process as part of quality improvement projects, as well as developing the use of local mortality reviews in specialty mortality and morbidity meetings

Mortality Assurance Group meets monthly to ratify the mortality assurance report

The Mortality Faculty also delivers the mandatory mortality reviews from 'learning from deaths', eg patients with learning difficulties, high-risk groups

Mortality lead who directs the trust's 'learning from mortality' strategy

Checklist reviews 12 months to July 2018

79% 81% 77% 78% 80% 74% 78% 78% 68% 68% 69% 71%
75%

240

200

160

120

August 2017   July 2018

■ Number of deaths   — Reviewed

Case 13

Barking, Havering and Redbridge NHS Trust quality improvement

SJR was used to inform and develop a new biliary sepsis management strategy and a review of service provision of endoscopic retrograde cholangiopancreatography (ERCP)

Held QI workshops

BARKING, HAVERING AND REDBRIDGE NHS TRUST

The ability to reach to all specialties with complex pathways remains a challenge, but the use of the SJR highlights the ongoing need for improving care pathways

Engaged the clinical teams responsible for the care of these patients to undertake SJR and develop a quality improvement strategy based on their learning

BHRUT was identified as being an outlier for mortality in patients with pneumonia and in patients with biliary sepsis
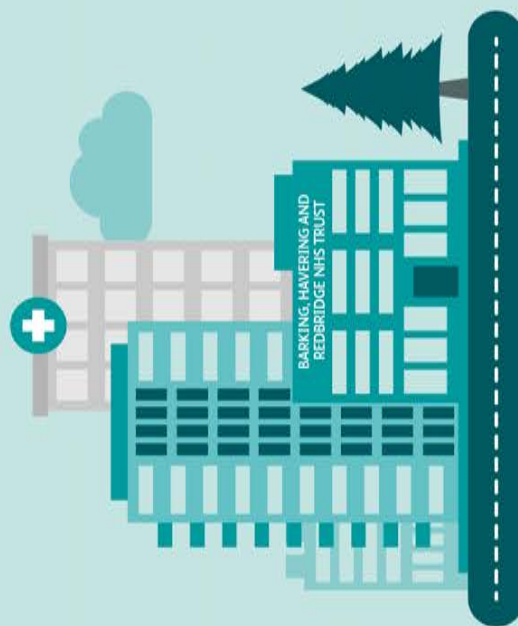
Using structured judgement review comments to assess local care quality – two demonstration case studies

Background

The written review commentaries produced using the SJR method have a value beyond the individual cases themselves because, when grouped together, they can be used to create a snapshot of the quality and safety of care provided for a particular group of patients or for a particular clinical problem.

In this section we demonstrate how this process of information aggregation can work through the use of thematic analysis of textual data (also known as thematic review). This form of analysis is used to group commentaries together around a topic or theme (for example: recognition) and to group those comments within a theme according to whether the clinical reviewers judged the care good or otherwise. The purpose of doing this is to identify what care is good and where it is good (the hospitals have information about the teams, but the online platform does not), and also to identify where care does not go so well; QI action may require implementation to improve a situation where a regular issue is identified.

Although hospitals undertaking thematic review will naturally use their own SJR data held locally in electronic or paper formats, the two demonstration analyses here draw on a range of cases from the RCP National Mortality Review Tool (online platform).The platform contains over 1,000 cases on a wide spectrum of clinical problems and diagnoses and from a range of hospitals (currently >30).

These analyses draw on the programme team's privileged access to reviews that are entered by all the hospitals contributing to the platform. There is no access to any identifiable patient information nor is there any information to indicate what proportion of any particular hospital's deaths is included in the dataset. It is also not possible to determine what selection criteria hospitals used to choose the cases that have been entered. The results from this analysis therefore cannot be attributed to the work of any particular hospital.

Choosing the two exemplar thematic review topics

In hospital practice, the prioritisation of which thematic review to undertake will depend on a range of local factors. In the two case studies illustrated here the priorities are different, the objectives being (1) to test how well the database could facilitate the thematic review process and (2) to demonstrate both the similarities and differences in thematic review approach and output across two different clinical issues. One clinical syndrome topic has been chosen – the issue of 'Sepsis' – together with one process of care topic – the management of end-of-life care.

Two senior clinical analysts from the programme team undertook the analyses, each taking responsibility for one analysis following prior discussion on the data selection and analytical approach to be taken. There followed subsequent discussion on the emerging findings.

It is important to reiterate here that the analysts have not conducted the SJRs themselves. Instead they are acting as clinical analysts would do in a hospital – that is they are drawing material from mortality reviews already undertaken using the SJR approach.

Case study 1: The management of sepsis

Sepsis management has become a high priority in acute hospitals. Perhaps for this reason, when the database 'word analysis' tool is used to search for the top 50 words in the SJR initial management/admission phase, 'sepsis' is the only diagnostic word that stands out. Currently more than 150 cases are selected when 'sepsis' is used as the search criterion (around 20% of the dataset).

Case selection

A thematic review of judgement comments was undertaken on a sample of 50 SJR cases that were selected from the platform in June 2018. This number was chosen because it was known from previous experience in the Yorkshire and the Humber Mortality Review Programme that 40–50 reviews of a service or a particular patient journey (such as that relating to sepsis) is likely to provide what is needed for the organisation both to praise staff for their care and to provide a focus for quality improvement (QI) initiatives where required.

This subset of 'sepsis cases' were selected by using the NMCRR word analysis tool (part of the online platform) to identify cases within the whole dataset in which the word 'sepsis' was written in the initial management judgement comments. Fifty cases were then selected from the total 150 'sepsis cases', by commencing with a random number and then further selecting every third case.

Undertaking the review

Three SJR phases of care were included in the analysis:

1. admission/initial management
2. ongoing care (with procedures where appropriate)
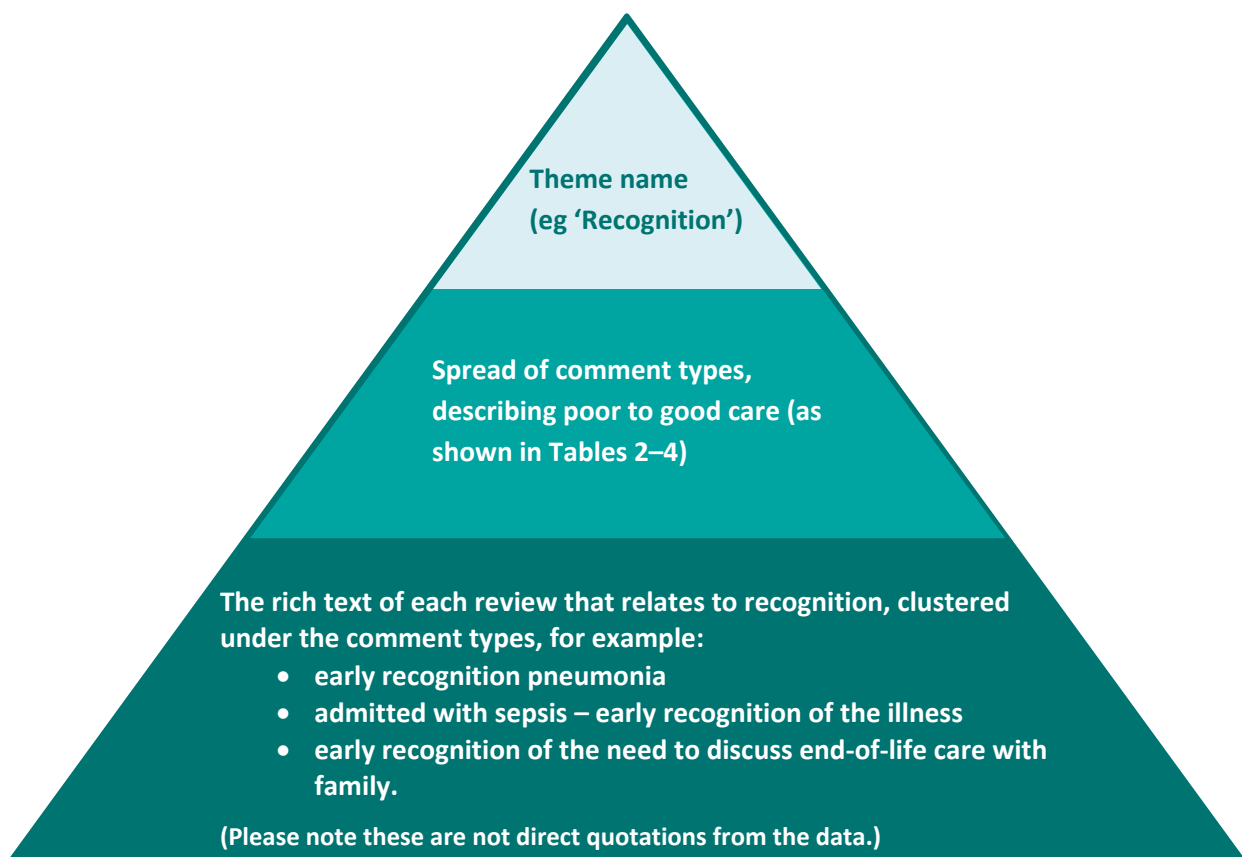3. end-of-life care.

The first stage of the thematic review involved reading each of the 50 SJRs in full across all phases of care, so that the analyst could understand the type of language the reviewers were using to describe their views on care. This enabled the analyst to use the textual data to develop some initial thematic review headings, which act as 'clustering words'. For example, these clusters included 'recognition', 'sepsis 6 pathway' and 'communication with relatives/patients'. Some of the theme headings were the same across each of the three phases of care.

Experience shows that the themes themselves are not static but build over time. Some emerge from the review data, for example 'missed opportunities', but prove to be only occasionally used in this data set and are discarded. In other areas, such as commentaries on therapy, two closely related themes were brought together later when there seemed to be an artificial separation between the two.

Themes also contain contrasts because they are built from multiple cases. Therefore, in a theme that might be labelled 'recognition', there will be review data from some cases that went well and from

others where care was not so good. While the cases in this analysis come from multiple sources and the individual hospital 'why' questions therefore cannot be addressed in detail, it is still possible to get a sense of the diversity of the quality of care because there are clusters of judgements of both good and poor care under the same theme heading. Some reviews also pick up that care in a phase might go well at some points but is judged to be poor at another point, even within a 24-hour period. This appropriately influences the 'count' of the number of comments because it reflects what can be the reality of acute care. Overall, there are many more comments than there are cases.

The material supporting each theme can be seen as akin to layers in a triangle. Figure 2 uses the theme of 'recognition' to exemplify the idea. First comes the theme title. Then the analyst has grouped judgement comments into judgements of poor, adequate and good care to demonstrate where the 'weight' of the commentary lies, and finally there is the rich text below this which assists with asking the 'why' or 'what if' questions. Each theme is rich in judgement comments that explain how care went well or otherwise.

**Theme name
(eg 'Recognition')**

**Spread of comment types,
describing poor to good care (as
shown in Tables 2–4)**

**The rich text of each review that relates to recognition, clustered
under the comment types, for example:**
- **early recognition pneumonia**
- **admitted with sepsis – early recognition of the illness**
- **early recognition of the need to discuss end-of-life care with
  family.**

(Please note these are not direct quotations from the data.)

Fig 2 Layers of information contained within review themes.

Thematic review of sepsis care – overview results

Overall, 25 initial themes emerged in the admission phase analysis, though some containing only a few judgement comments were merged during the analysis.

The ten themes with the most applicable judgement comments for the admission and ongoing phases of care are shown in Table 2. In most of the judgement comments, there is a binary feel to

them when they are read – usually either the care is judged to be good or it is judged to be poor. There are relatively few comments in the 'adequate' judgement column.

Admission/initial management phase (approximately first 24 hours)

Table 2 Ten most common themes, with judgement weightings

Theme	Poor care judgements	Good care judgements
Assessment	5	16
Recognition	6	28
Sepsis pathway use	16	13
Sepsis management	4	16
Antibiotic management	16	23
Management plans	9	25
Senior review	7	17
Escalation	5	11
Referral/handover	5	21
Documentation – failure to record or missing for review	12	12

Ongoing care

Table 3 Ten most common themes, with judgement weightings

Theme	Poor care judgements	Good care judgements
Escalation	6	13
Recognition	7	5
Management plans	6	16
Review process	7	7
Decision making	5	10
Senior review	12	18
Investigations	4	10
Communications with patient and/or relatives	2	16
Medication/therapy	7	10
Appropriate care/ management	13	14

End-of-life care

In the dataset of 50 cases, some patients died of their acute illness before their end-of-life needs were recognised, so there are fewer entries than in the ongoing care section. Additionally, there is a tendency among these reviewers to provide a briefer commentary on the quality of end-of-life care than in the preceding phases of care. Thus there are only four themes that contain ten or more judgements are reported in Table 4.

Table 4 Four most common themes, with judgement weightings

Theme	Poor care judgements	Poor or only adequate care judgements	Good care judgements
Recognition of end of life	3		13
Discussion with patient/relatives	5		24
End-of-life care overall		9	15
Use of palliative care plan/path	5		8

Regarding the quality of the SJR reports, the great majority that are available in the dataset are undertaken well in line with the NMCRR guidance and are insightful and explicit. Phrases such as 'timely appropriate antibiotics', 'deterioration well managed', 'failure to recognise end of life' and 'timely end-of-life care plan commenced' are exemplars.

Reviewers sometimes also pick up on 'care management issues', commenting adversely, for example, on lack of a side ward when a patient is in need of palliative care or when a patient has been in the emergency department for an extended period of time. These are not comments about individuals (there are no patient or staff names in the 50 reviews), but they are instead comments on the fact that the system is unable to provide what the reviewers judge to be appropriate care.

The value of thematic review is its focus on demonstrating how such a review can identify ranges of care quality and perhaps enable a focus on particular clinical issues or care quality issues (for example, the institution's ability to respond rapidly or otherwise to a person who has rapidly deteriorating health).

SJRs from the online platform cannot, however, demonstrate what is happening in individual hospitals. Only a thematic review of the cases from each hospital, undertaken by staff in the hospital who know the clinical settings and the available services, can provide the real information for the 'why' questions about variations in care.

Case study 2: End-of-life care

Every SJR has an end-of-life care phase which, depending on the specific detail of the case, may be short or long but often provides an opportunity for learning or asking questions. The analyst recognises that the reviews contained on the online platform represent only a portion of the SJRs that have taken place in acute hospital trusts and health boards across England and Scotland, but this analysis nevertheless has the potential to shed some light on those themes pertinent to the provision of care for all who die.

While the platform dataset is a potentially rich source of information, the analyst did not have access to the thought processes or motivation of individual acute hospitals with regard to case selection. As such, cases may or may not have been selected with 'end-of-life care' as the focus or driver for the review and hence no overarching conclusions can be drawn by the analyst on either a global or trust level. The real value of this material, as stressed throughout the entirety of the NMCRR programme is to individual acute care providers who can see the reviews and their

judgments in the context of a real and varied clinical environment. This analysis draws on reviews from approximately half of the hospitals who have contributed cases to the online database.

The choice of the end-of-life care phase as one of the case studies was prompted by two key factors. Firstly, as discussed above, it forms part of all reviews, delivering the potential for themes to be derived from almost every SJR. Secondly, during the training sessions for the programme, end-of-life care generated some of the most vibrant and engaging debate amongst clinicians. Several large reviews have shown that the vast majority of deaths within our hospitals are inevitable; hence, many of the reviews in this thematic analysis elicited valuable themes around holistic care, such as the provision of good end-of-life/palliative care and the support and communication received by relatives and carers.

Review approach

A further sample of 50 SJR cases was selected from a total of more than 700 available on the platform in July 2018. As with the sepsis review, records were chosen by commencing with a random number and thereafter selecting every third case. No cases were rejected after employing this selection process.

To maintain the fidelity of the analysis, the case selection, as far as possible, employed the same process as that undertaken for sepsis reviews. As all reviews necessarily contained judgment comments on end-of-life care, the analyst elected to review those cases in which death occurred more than 24 hours after presenting to hospital. This was not a judgment on the quality of end-of-life care provided for those patients; indeed, there was clear evidence of exemplary palliative care for patients who had spent only a short time in hospital. However, a number of patients who died within the first 24 hours of attending hospital were clearly very unwell on first presentation, receiving much more focus on active care rather than end-of-life support.

Analysis process

The thematic review of records was a relatively uncomplicated process, aided greatly by the functionality of the RCP National Mortality Review tool. The searching and analytical capabilities of the package allowed easy identification and exclusion of those patients who had died within 24 hours of attendance to hospital. Of the 50 cases selected, analysis of the free text specifically relating to the 'End-of-life care' section was combined with review of the 'Ongoing care' and 'Problems in care' sections to verify that useful information was not missed.

As highlighted in the Sepsis review, and in spite of removing the records of patients who died within 24 hours of attendance, there were cases of patients dying acutely without their end-of-life needs being recognised. These cases, however, often produced themes around the holistic elements of care, such as communication with a patient's family and friends.

The analysis again used the good/poor judgement around each of the themes, as this best represented the tone of the comments collected. The context of the judgement comments around these themes is also important and the analyst felt that the inclusion of some judgment comments is of value to demonstrate how clinicians express their judgements when using SJR.

End-of-life care – thematic review overview results

There were 22 themes that emerged from the end-of-life care phase, some of which were closely related and are hence presented under one theme for the purposes of this analysis. Again, only those themes with 10 or more judgment comments are included here in Table 5.

Table 5 Six most common themes, with judgement weightings

Theme	Poor care judgements	Good care judgements
Recognition of end of life	4	12
Discussion with patient/relatives	4	21
End-of-life care overall	7	17
Use of palliative care plan/path	6	9
Resuscitation	7	4
Documentation	8	3

The value of such qualified judgments on the quality of care received by patients is better demonstrated by the comments themselves. The statements below are of the type made in reference to the end of life care received.

Examples of positive comments:
- Excellent communication with the patient and relatives – followed the patient's wishes around end of life care as much as possible.
- Early and appropriate involvement of the palliative care team.
- Regular and thorough conversations with patient's relatives in the context of sudden deterioration and death.

Examples of negative comments:
- Lack of communication leading to cardiac arrest team being called in spite of a patient and family request for no resuscitation.
- Limited recognition that patient was dying in context of steady deterioration.
- Poor documentation of end-of-life discussions.

Such judgment comments when combined with further specific and local knowledge such as timings, locations and resources can provide targets for the type of quality improvement initiatives and service developments that the review process seeks to stimulate.

These reviews were, on the whole, focused and explicit in their judgments on the quality of care received by dying patients. The potential for learning is clear with the onus resting on the hospitals and local support networks to deliver systematic improvement on the basis of this valuable resource. The NMCRR programme can continue to support these efforts by, where possible, demonstrating the relatively uncomplicated nature of thematic analysis and the continued roll-out and online support for the data collection and analytics package.

The NMCRR programme – delivery

Programme implementation

The NMCRR programme has been implemented in specific phases:

Programme implementation
The NMCRR programme has been implemented in specific phases

A core programme team coordinating and developing the programme

Launch in late 2016

A pilot phase

Training for the web-based platform, running from June 2017

Training for SJR, running throughout the programme

Official programme launch: November 2016

The programme was officially launched at three sites in November 2016: Harrogate on
21 November, London on 22 November and 23 November, and Edinburgh on 29 November.

A substantial multi-media communications effort accompanied the launches, led by the RCP and the Improvement Academy, aimed at alerting clinicians to the upcoming NMCRR programme. The communications ensured maximum reach to relevant parties in England and Scotland. The programme team and colleagues from the pilot sites delivered presentations and workshop sessions at the launch events and hosted Q&A sessions. In addition, Datix demonstrated early versions of the web-based platform to clinicians, who gave their input to inform further iterations.

The pilot phase

The purpose of the pilot phase was to assess the feasibility of performing retrospective reviews of case records across a wide range of hospitals. Organisations were selected on the basis of their varied structures, which included the size and complexity of the organisation as well as the type of medical record in use (paper and/or electronic). The pilot phase ran from July 2016 to January 2017 inclusive and involved the following sites: NHS Highland (Scotland); York Teaching Hospital NHS Foundation Trust; Harrogate and District NHS Foundation Trust; University Hospital of South Manchester NHS Foundation Trust; St George's University Hospitals NHS Foundation Trust; and West of England AHSN (Bristol, Bath and Swindon). The pilot reports are available online: www.rcplondon.ac.uk/projects/outputs/national-mortality-case-record-review-nmcrr-programme-resources.

SJR training

Previous experience of training over 700 health professionals in Yorkshire and the Humber in the use of the SJR method demonstrated that professionally led face-to-face training should be integral to the NMCRR programme.

The training framework

The training programme consists of either:

1   A 4-hour interactive session for local hospital reviewers comprising a presentation and discussion of the review method, together with two practical case note review sessions based on small group work involving review and discussion of constructed case notes *or*

2   A 7-hour intensive session delivered by paired senior trainers expanding on the core training programme by providing more national context, discussion on a variety of training approaches and an expanded discussion about the use and value of the information provided by the hospital review programme. This is usually provided for 'Tier One' review trainers who are then able to cascade training to colleagues.

SJR training has mainly been delivered by the NMCRR programme team, four of whom had prior experience of the training methods derived from the Yorkshire and the Humber AHSN mortality review programme. The core team trainers were also supported by six additional colleagues who were recruited from early adopter hospitals. These additional national-level trainers have continued to offer valuable support in 2018.

The content and delivery of the training was identical on all occasions and differed only as a result of the differing styles of the multiple trainers.

A day programme is available in [Appendix 1](#).

Training and recruitment of reviewers

The training of reviewers at the hospital level commenced during the pilot phase in mid-2016. Communications sent from the programme team to NHS organisations throughout England and Scotland promoted the NMCRR programme asking hospitals to identify key individuals with an interest in learning from mortality reviews to attend training sessions. Hospitals selected reviewers, with guidance from the programme which suggested that participation should be multidisciplinary and include both medical and nursing staff and other healthcare professionals. Following amendments to the training programme undertaken as a result of the pilot phase, national hospital-level training commenced in November 2016. The plan was for this training to continue throughout the life of the programme.

### Acceleration of the training programme

Following the publication of the *National Guidance on Learning from Deaths* by the National Quality Board in March 2017,[2] the programme team were asked by HQIP to amend the approach to training

in England. This would enable trusts to start to review deaths using SJR more rapidly than originally planned. To facilitate this, the team decided not to visit trusts and health boards to provide reviewer training but rather to train Tier One trainers; that is, clinicians with the ability to conduct SJRs and to cascade the training in SJR reviewing to others.

The programme team agreed to hold a minimum of 15 sessions from May 2017 to February 2018, to ensure that hospitals wishing to adopt SJR had opportunities to engage with training. The team delivered 24 sessions and continue to respond to training needs where they arise. Where possible, training was delivered in collaboration with either an AHSN in England or a health board in Scotland. Where this was not possible, the programme team selected specific cities to host the training days, which were attended by clinicians from a wide geographical area. Tier One trainers now total around 480 and sit throughout England and Scotland as a resource to sustain the training aspect of the programme. Details of the Tier One trainers can be found online: www.rcplondon.ac.uk/mortality.

Throughout the programme the team have encouraged the active participation of the AHSNs. These networks have been critical to the dissemination of information and have helped regional groups and hospitals to create collaborative working and learning environments. The collective endeavours of the mortality collaboratives that have emerged across England have also contributed positively to the iterative learning from the programme.
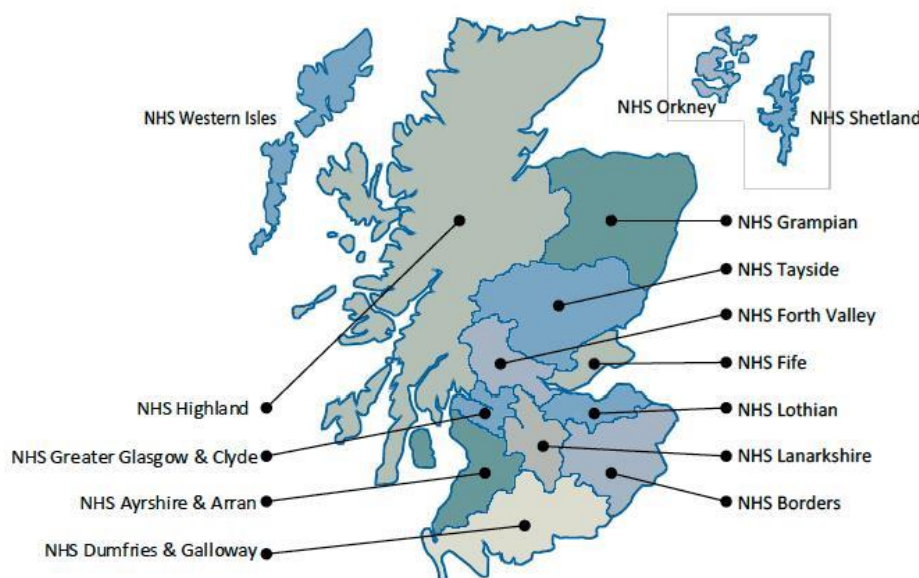
Fig 3 Scottish health boards. © Skills for Health, reproduced with permission.
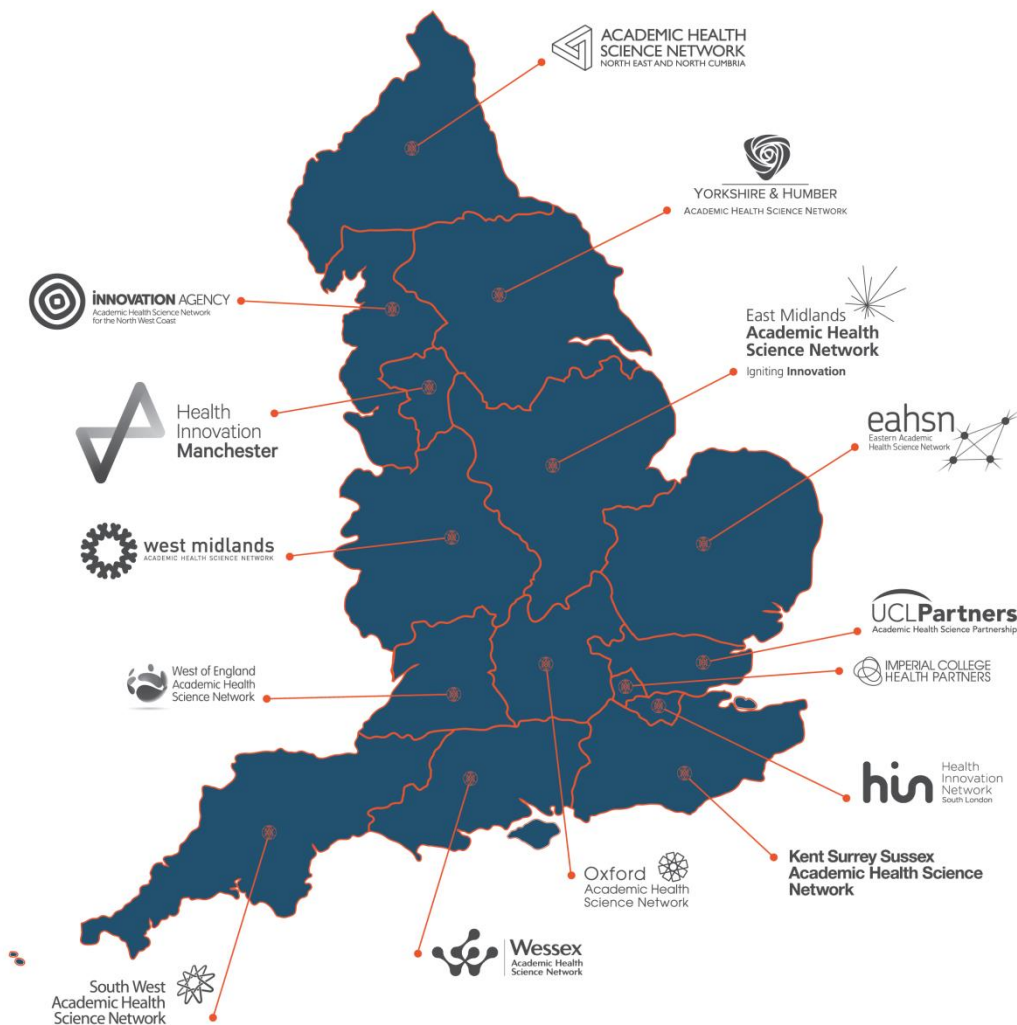
Fig 4 English academic health science networks (AHSNs). © AHSN Network, reproduced with permission.

The impact of training

To gauge the success of the cascade method of training, a request was sent to Tier One trainers in March 2018 to ask them how many colleagues they had trained in SJR. Less than 20% responded, reporting that they had trained 1,500 hospital-level trainers.

Although the programme team offers guidance to hospitals and Tier One trainers about who might be trained as reviewers, the final decision is made by each hospital. The largest group of those who are trained are consultant medical staff, some of whom hold senior management positions. Additionally, the team has welcomed a significant number of nursing staff (often specialist nurses) and some allied health professionals to the training sessions.

All attendees are asked to provide feedback about the training sessions. Around 85% of attendees do so, using a structured feedback form derived from the Yorkshire and the Humber programme. Five global statements form part of the feedback form (Appendix 2), together with choices of structured one-word comments.

Feedback that leads to changes in processes and materials has most often been verbal feedback received during training sessions. Some feedback has also resulted in small but important changes to data collection methods.

The training of hospital-level reviewers was able to begin early in the programme, due to the availability of initial versions of the training materials from the Yorkshire and Humber training programme. However the move from 'local' to national training led to the need for materials of appropriate quality, which could be adapted as the national agenda on *Learning from Deaths*[2] evolved.

This enhancement of the materials required significant effort during the first 15 months of the programme, and came in two phases. In the early phase, the focus was to provide higher-quality materials for the case note review training. In particular, the production of three 'constructed' sets of case notes on which SJR can be practised and the 'real' clinical scenarios can be debated.

As the programme moved towards training Tier One trainers, it was necessary to create documents that included presentations and FAQs with supporting materials, eg *What makes a good review?* All Tier One trainers are provided with this suite of materials to enable them to cascade their training.

The RCP National Mortality Review Tool (online platform)

The RCP National Mortality Review Tool was created by Datix and coproduced with significant input from the programme team and also clinical colleagues who joined two WebEx sessions providing input to inform development. The platform is free and includes a number of key functions: to allow the data from SJRs to be inputted and aggregated; to log the care scores generated by the review; and to analyse multiple case record reviews to generate themes. These themes are used to identify areas of potential clinical concern and opportunities for improvement. The platform is interactive and allows clinicians to look at their collated data on a hospital-by-hospital basis. Clinicians can only review the data from their own organisation through secure data protection methods.

Figure 5 depicts an output from the tool, which shows how often specific words and phrases are used within the explicit comments in the first phase of care of a case.

Fig 5 Frequently used words and phrases in comments about first phases of care.

Design and support principles

Principles were finalised at an early stage in the review programme.

- The platform must be freestanding and not aligned to any one commercial system.

- The collected data are confidential and sensitive, so additional password protection is required and no identifiable information is recorded. Confidentiality is also enhanced through the decision to protect patient identities by clustering some of the admission data.

- The technical development was undertaken by Datix, which also supports users and manages security.

- Regular checks are made to ensure that no identifiable data are inadvertently recorded by reviewers, and a system exists to rectify such an occurrence.

- The platform, training and support are provided through the NMCRR programme and are free of charge to users.

- The platform is constructed around the SJR format of phases of care, and thus it collects both quantitative and qualitative data. The functionality includes the ability for a second review to be recorded where a first review raises any concerns.

- An analysis function is integrated into the platform to enable reporting of quantitative data and provide the basis for thematic review of qualitative data. This function is enhanced through the provision of a novel, interactive, visual word-association method that allows rapid access to clusters of similar cases or clinical issues.

Testing and refining the tool

In early 2017, members of the development team undertook extensive testing of the tool, using a set of 120 dummy reviews. Not only did this lead to refinements to the platform but it also led to refinements that have proved to be successful in enhancing the available review information. The enhancements are outlined below.

1   Expanding the 'Problems in care' section

Other than in main international studies of problems and harms in care (for example, Hogan *et al*),[1] relatively little is known about problems that occur regularly at a severity level below those classed as 'significant events', in particular those that do not cause harm. The platform has been enhanced to enable the recording of both quantitative and qualitative data on such events.

2   Enabling interactive word analysis of qualitative data

Drawing themes of care processes from qualitative data is a time-consuming process when it is undertaken without specialist software support. The software development team have created an easy-to-use, screen-based system that allows for: the screening of key words (for example 'sepsis'); the association of those words with judgement comments, eg 'good care'; and fast tracking to groups of cases where these associations are recorded. This word association function, depicted in Figure 5, was used in the two case studies on thematic analysis (page 31).

Implementation

Since June 2017, the RCP National Mortality Review Tool has been implemented in 56 trusts and health boards. In July 2018 the programme team attempted to contact all English NHS trusts, of those that responded 66 said that they were either using the tool or would like to begin implementation.

During the first phase of implementation, several trusts and one Scottish health board were involved in piloting the platform, regular follow-up was undertaken by senior Datix staff to ensure that staff received sufficient training and support throughout the process. Users provided valuable feedback to the team, to help to improve the platform and training materials before the system was offered to all acute trusts and health boards wishing to implement.

Training – WebEx and e-learning

Since June 2017 online training sessions for the platform have been provided to trusts and health boards via WebEx. Each session lasts around 1 hour and is accompanied by training manuals that are available to download: www.rcplondon.ac.uk/mortality

With the aim of supporting staff that are undertaking SJRs and using the platform, an e-learning package has been designed by external company DayOne in collaboration with the programme team. Throughout the programme it has been important to develop credible partnerships to collaborate with external expertise as demonstrated through the programme team's relationship with DayOne.

This interactive package uses three clinical scenarios, and reinforces the use of explicit language when making review judgements. The package also includes an interactive module to support staff who will be involved in the analysis of the quantitative and qualitative data that are provided by the reviews, which also demonstrates how effectively the initial review material can be brought together to identify areas for improvement. The e-learning package is available at:
https://lms.dayonetech.uk/spaces/nmcrr

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Toolkit

The development of the toolkit was a collaborative piece of work between the RCP, the Improvement Academy and the West of England AHSN. It aims to support the implementation of SJR at organisational level and the translation of emergent themes into practical quality improvement initiatives for real and lasting change. The toolkit brings together the learning from the NMCRR programme's pilot phase, of which West of England AHSN was a pilot site, and from the Yorkshire & Humber mortality programme set up in 2013 which provided the foundation for the NMCRR programme.

It is for those wishing to implement the SJR process at a regional or local level, with specific reference to clinicians, managers, commissioners and trainers in secondary and tertiary care. It should also be useful as a reference for community and primary care providers.

The toolkit, entitled *Implementing Structured Judgement Reviews (SJR) for Improvement*, was launched on 7 June 2018 and demonstrates the programme team's ability to visualise opportunities beyond the contract and to respond to need.

The toolkit aims to support the implementation of the SJR process to effectively review the care that was received by patients who have died. It also provides information and links to resources on change management and QI methodologies.

Implementing Structured Judgement Reviews (SJR) for Improvement is available online: www.rcplondon.ac.uk/guidelines-policy/mortality-toolkit.

Toolkit

Conclusion

This first annual report from the NMCRR programme describes the successful, phased implementation of standardised methodology to retrospectively review acute hospital deaths. In addition the report demonstrates, through a variety of case studies, that quality improvement projects do emerge as a result of retrospective case record review and make positive contributions to improving healthcare.

The report also explains the principles of analysis of large data sets that will accrue as clinicians enter SJR reports on to the electronic platform. The themes of 'sepsis' and end-of-life care are explored in some detail.

The report also highlights the significant efforts required to implement the programme nationally as well as describing the many interdependencies that are required for such a cohesive and successful plan. In addition, and through the auspices of the RCP, the report identifies the enthusiasm encountered across the commissioned mortality reviews with a commitment from those involved to work collaboratively.

Looking ahead the programme will continue to support organisations in this process and continue to foster links with other mortality review programmes as well as describe areas of work that might naturally lead on from the initial programme. This might include establishing a 'community of support', extending relationships to general practice and secondary care, as well as to other healthcare systems both within the UK and overseas.

In addition, opportunities for supporting other mortality review programmes might be explored, for example, a team from the Royal College of Psychiatrists have created and piloted a modified version of the SJR. As of yet, bespoke training has not been undertaken by the Royal College of Psychiatrists but the Yorkshire and Humber Improvement Academy have performed four mental health specific training sessions in the North of England. The NMCRR programme team are working with the Royal College of Psychiatrists to explore opportunities for collaboration in delivering SJR training to mental health services colleagues.

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Glossary

Acute cerebrovascular disease	Includes a variety of medical conditions affecting the blood vessels of the brain, including stroke
Acute hospital	Where patients receive active short-term treatment for severe injury or illness
Ambulatory care	Medical care provided on an outpatient basis
Anticoagulant	Agent used to prevent the formation of blood clots
Cabaret style	Room set-up whereby tables are used to sit 8–10 people together to encourage group work and discussion
Ceiling of care	Provides information about appropriate limitations to interventions likely to be futile, burdensome or contrary to the patient's wishes
Clinical commissioning group (CCG)	Clinically led statutory NHS bodies responsible for the planning and commissioning of healthcare services for their local area
Demographic analysis	Allows us to measure the dimensions and dynamics of populations; for example, often used in business plans to describe the population connected to the geographic location of the business
DNACPR	'Do not attempt cardiopulmonary resuscitation'
E-Learning	Learning conducted via electronic media, typically on the internet
End-of-life care	Care given to patients in their final days or hours and also to those with a terminal condition that is advanced, progressive and incurable
Escalation (of care)	A change in patient condition requiring additional review by healthcare professional(s) and possible modification to treatment plans
F2	Foundation year 2 doctor (formerly house officer) undertaking a 2-year general post-graduate medical training programme that bridges the gap between medical school and specialist or GP training
Fractured neck of femur	Occurs when the top of the femur (leg bone) is broken just below the ball and socket joint (hip)
Governance process	Systematic approach to maintaining and improving healthcare quality
Health board	NHS Scotland includes 14 regional health boards responsible for the protection and improvement of their population's health and for the delivery of frontline healthcare services
HSMR	Hospital standardised mortality ratio
Immediate discharge letter (IDL)	A single discharge document that can be used both as the immediate discharge document and the final discharge summary
Interactive module	Module in a training programme that typically includes games, simulations and drills to support learning
NEWS2	A simple aggregate scoring system in which a score is given to physiological measurements already recorded in routine hospital practice. It is an early warning system for identifying acutely ill patients.
NHS trust	An organisation within the English NHS, generally serving either a geographical area or a specialised function. In any location there may be several trusts involved in different aspects of healthcare.
Non-executive director	Member of an organisation's board, involved in policy making and planning but not in the day-to-day running of the organisation
Options appraisal	A number of delivery model options are explored and evaluated against a set of agreed criteria leading to the selection of a preferred option
Palliative care	Care for the terminally ill and their families
Patient Safety Essentials (10)	Scottish list of the 10 most successful patient safety elements

Pilot site	Hospital where structured judgement review underwent testing
Peer review	Evaluation of scientific, academic or professional work by others working in the same field
PMS	Patient Management System
Programmed activity (PA)	Relates to 4 hours of work done by a doctor; for example a doctor working a full time 40 hour week would require 10 PAs to be allocated within a job plan
Qualitative data	Any type of information recorded that is not numerical in nature
Quality improvement (QI)	A system aiming to make healthcare safe, effective, patient-centred, timely, efficient and equitable
Quantitative data	Numerical information that has been collected, usually for the purposes of analysis
RCA	Root Cause Analysis
Redacted	To censor or obscure part of a text for legal or security purposes
ReSPECT	A standardised approach to improve end-of-life care
Resuscitation	The act of bringing someone back to life
Scoping exercise	To map literature and identify where gaps and innovative approaches lie
Senior review	Review of a patient by a senior clinician
Sepsis	The body's overwhelming and life threatening response to infection that can lead to tissue damage, organ failure and death
Sepsis 6 pathway	Bundle of medical therapies designed to reduce mortality in patients with sepsis
Significant adverse event reviews (SAERs)	Carried out after following events that have resulted in unexpected harm or death
Situation background assessment recommendation (SBAR)	A technique used to facilitate prompt and appropriate communication
Standardised mortality ratio (SMR)	Quantifies the increase or decrease in mortality of a population
Stroke	A medical emergency in which the blood supply to part of the brain is interrupted or reduced, depriving brain tissue of oxygen and nutrients and causing brain cells to die
Structured judgement review (SJR)	Methodology developed by NMCRR programme
Tier One trainer	Someone trained by the NMCRR team to carry out structured judgement review and to be able to train others to do so
Traumatic subdural haematoma	Head injury causing a collection of blood between the skull and the surface of the brain
Warfarin	Drug taken to prevent blood from clotting and to treat blood clots
Web-based	A program that can only be accessed via an internet connection and does not sit on a computer's memory
WebEx	Online meeting and conference applications

Associated organisations and programmes

Academic Health Science Network (AHSN)	15 organisations in England that support improvement
Academy of Medical Royal Colleges (AoMRC)	Speaks on standards of care and medical education across the UK
Action against Medical Accidents (AvMA)	UK charity for patient safety and justice
Confidential Enquiry into Maternal Deaths	National programme investigating maternal deaths
Confidential Enquiry into Neonatal Deaths	National programme investigating neonatal deaths
Datix	Partner and sub-contractor of the NMCRR programme
Department of Health	Department of Government responsible for policy on healthcare
Faculty of Medical Leadership and Management (FMLM)	Established in 2011 by all the UK medical colleges and faculties, is the UK professional home for medical leadership
Healthcare Quality Improvement Partnership (HQIP)	Commissioner of the NMCRR programme
Healthcare Improvement Scotland	Set up in 2010 to support Scottish Government priorities and in particular the Healthcare Quality Strategy for NHS Scotland
Improvement Academy (IA)	Partner and sub-contractor of the NMCRR programme
Independent Advisory Group (IAG)	Meets twice yearly to offer advice to the NMCRR programme team
Institute for Healthcare Improvement	Independent not-for-profit based in Boston, USA, a leading innovator, convener, partner and driver of results in health and healthcare improvement worldwide
Kaizen Promotion Office KPO	A dedicated internal team driving the effort by teaching and implementing lean techniques
Learning Disability Mortality Review Programme (LeDeR)	Reviews the deaths of people with learning disabilities
NHS Improvement (NHSI)	Current funders of the NMCRR programme
NHS England	Initial funders of the NMCRR programme
National Confidential Enquiry into Patient Outcome and Death (NCEPOD)	
National Confidential Enquiry into Suicide and Safety in Mental Health	National programme investigating suicides and homicides by people with mental illness
NHS Health Technology Research Programme	Set up in 1993 to ensure quality research into the costs, effectiveness and impact of health technologies
National Quality Board (NQB)	Established to provide strategic oversight and leadership for quality across the NHS system and in joining up health and social care; membership includes NHS England, Care Quality Commission, NHS Improvement, Health Education England and Public Health England
Royal College of Physicians (RCP)	Host of the NMCRR programme and independent professional body and charity for physicians
Royal College of Surgeons (RCS)	Independent professional body and charity for surgeons
Royal College of Psychiatrists (RCPsych)	Independent professional body and charity for psychiatrists

Royal College of Nursing (RCN)	The world's largest nursing union and professional body
Scottish Patient Safety Programme (SPSP)	A unique national programme that aims to improve the safety and reliability of healthcare

Appendix 1 – Review training day programme

National Mortality Case Record Review Programme

Structured Judgement Review – Training the trainers

[Date] – 9.30am–16.00pm

[Venue location]

Objectives: 1. To provide attendees with the knowledge and skills to undertake case record review using the Structured Judgement Method

2. To provide attendees with the information needed to undertake an SJR training session

The programme will be a full day of information exchange and interactive learning.

Programme for the day:

09.00–09.30	Registration and refreshments
09.30–10.00	Introductions and outline of the national programme
10.00–11.15	Presentation and discussion on SJR methods
11.15–11.30	Refreshment break
11.30–12.45	Case note review 1 and discussion on findings and approach (reviewer training)
12.45–13.15	Lunch
13.15–13.45	What does a good review look like?
13.45–15.00	Case note review 2
15.00–15.15	Refreshment break
15.15–15.30	The role of the Tier 1 and hospital trainer
15.30–16.00	Discussion on training approach, training materials and national programme support
16.00	Conclusions including local support

Appendix 2 – Review training feedback form

Royal College of Physicians

Mortality Case Record Review Training

Please respond to each question by circling the appropriate response.

Please rate your overall satisfaction with this workshop (1 - totally dissatisfied, 5 - completely satisfied)	1	2	3	4	5	
Would you recommend this workshop to others in your organisation? (1 - definitely not, 5 - definitely)	1	2	3	4	5	
How relevant was this workshop in helping you achieve your work goals? (1 - not at all, 5 - highly relevant)	1	2	3	4	5	
I have a greater understanding of how to perform case note reviews (1 - definitely not, 5 - definitely)	1	2	3	4	5	
I feel confident that I am able to provide explicit comments on patient care (1 - definitely not, 5 - definitely)	1	2	3	4	5	

Please circle at least 3 words below that best represent your overall experience of today.

Interesting   Exciting   Challenging   Old hat   Fascinating   Entertaining

Boring   Confusing   Difficult   Basic   Rushed   Clear   Empowering

Realistic   Practical   Theoretical   Too long   Useful   New

Waste of time   Enjoyable   Valuable   Inspiring   Fun   Unfocused

Over-ambitious   Thought-provoking   Exhausting   Stimulating

Comments about the content and format of the workshop:

About you: job title:

Your feedback is anonymous. If you would prefer that we do not use any of your comments in our promotional material please tick here: ☐

In partnership with:

Improvement Academy Part of the Yorkshire & Humber AHSN

Datix Software for patient safety

Commissioned by:

HQIP

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