NHS England

Commissioning Services that deliver High Quality VTE Prevention

Guidance for Commissioners

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Commissioning Services that deliver High Quality VTE Prevention

Guidance for Commissioners

Including a practical guide to the Root Cause Analysis
of Hospital Associated Thrombosis
(In relation to the National VTE CQUIN 2013/14)

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- NHS England
- National Institute for Health & Clinical Excellence
- National Quality Board
- The Academy of Medical Royal Colleges
- National VTE Exemplar Centres Network
- Nursing and Care Quality Forum
- VTE National Nursing and Midwifery Network
- The Royal Pharmaceutical Society

- The All Party Parliamentary Thrombosis Group Secretariat

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Contents

Key Messages

- **VTE prevention has been recognised as a clinical priority for the NHS by the National Quality Board and the NHS Leadership Team**. Venous Thromboembolism, or VTE as it is known, is a collective term for deep vein thrombosis (DVT) and pulmonary embolism (PE). VTE is a significant cause of mortality, long-term disability and chronic ill-health problems, many of which are avoidable.
- **VTE prevention is an international patient safety issue.** The incidence of Venous Thromboembolism is 1-2 per 1,000 of the population and the risk increases with age. 1 in 20 people will have a VTE at some time in their life and approximately half of the cases are associated with prior hospitalisation for medical illness or surgery.
- **It has been estimated that the management of hospital associated VTE costs the NHS £millions per year.** This includes the costs of diagnostic testing, treatment, prolonged length of stay in hospital and long term care. Long term complications that reduce the quality of life add to the human cost and overall burden of VTE.
- **VTE Prevention is well served by national standards that facilitate high quality care and NICE guidelines for reducing risk in patients admitted to hospital.** Commissioners will need to continue to work with providers to monitor compliance with mandatory VTE risk assessment data collection and undertake root cause analysis of all cases of hospital-associated VTE in line with the National CQUIN goal 2013-14.
- **VTE prevention is firmly embedded in the Quality Framework** via its inclusion in Domain 5 of the NHS Outcomes Framework 2013-14 and through the quality measures defined in the NICE Quality Standard (QS3) published in 2010. Services across the care pathway should be commissioned from and coordinated across all relevant agencies
- **Commissioning high quality care for patients requires attention to be paid not only to the quality of VTE Prevention services but to the experience of patients and the quality of information they receive.**

Introduction

Venous Thromboembolism, or VTE as it is known, is a collective term for deep vein thrombosis (DVT) and pulmonary embolism. VTE is a significant cause of mortality, long-term disability and chronic ill-health problems, many of which are avoidable and its prevention has been recognised as a clinical priority for the NHS.

Background

VTE affects 1-2 per 1000 of the population and is responsible for thousands of deaths each year in England. The morbidity due to VTE includes not only the acute presentation with DVT or PE, but also long-term sequelae such as post-thrombotic syndrome and pulmonary hypertension affecting a considerable proportion of patients and compromising quality of life. More than half the cases of VTE are attributable to hospitalisation and crucially, at least two thirds of these events are potentially preventable.

Prevention of VTE has been identified as the number one patient safety measure in hospitals with regard to effectiveness and cost-effectiveness [1.] It is of vital importance that comprehensive strategies for VTE prevention are embedded in patient safety quality improvement programmes and that commissioners are fully versed in the measures and standards against which they can evaluate existing services or commission new ones.

The National VTE Prevention Programme in England

The prevention of VTE has been identified as the most important safety practice in our hospitals and is recognised as a significant international patient safety issue. The National VTE Prevention Programme in England, described by some as the most comprehensive of any healthcare system in the world, has developed progressively over the last seven years through the collaboration of clinical experts, politicians, NHS leaders and dedicated healthcare professionals with the aim of ensuring that VTE prevention is fully integrated into NHS systems and processes for the future.

The trigger for the VTE prevention pathway is the assessment of risk so that appropriate preventative treatment can be given in line with national clinical guidance and outcomes can be improved. This is the focal objective of the National VTE Prevention Programme and its delivery is supported by a number of measures that have been introduced over the last number of years. All of the information relevant to commissioners is brought together in this guide.

The purpose of this resource guide

This guide has been developed with commissioners for commissioners. The aim is to provide a framework for commissioning services that deliver a systematic, high quality approach to VTE prevention across the patient pathway in order to drive up standards and improve health outcomes.

The content of the guide includes a summary of the relevant national requirements and signposts commissioners to information that can be used to review local arrangements as well as highlighting potential priorities for service improvement.

The resource guide has been constructed to support the commissioning of services that deliver high quality VTE prevention in line with the National Institute for Health & Clinical Excellence (NICE) VTE Prevention Quality Standard[2] and in the context of the NHS Outcomes Framework.[3]

National Context and Requirements

In 2005, the House of Commons Select Committee published their Report on the Prevention of Venous Thromboembolism in Hospitalised Patients[4] which highlighted that VTE is responsible for thousands of deaths every year, many of which are avoidable. Since then, a significant number of measures have been introduced to support the prevention of VTE as a priority for the NHS.

VTE in the Quality Framework

The implementation phase of the National VTE Prevention Programme, which aims to ensure that all adult patients admitted to hospital are risk assessed for VTE and given preventative treatment where appropriate, began with the inclusion of VTE prevention in the NHS Operating Framework for 2010-11. The unique partnership which was formed at that time between NHS management and the Academy of Medical Royal Colleges with the aim of improving patient safety through the provision of professional leadership for VTE prevention, has since led to the publication of:

- National Institute of Health and Clinical Excellence (NICE) clinical guideline 92 on “Venous Thromboembolism – Reducing the Risk” [5]
- a national tool for VTE risk assessment [6]
- the NICE VTE Prevention Quality Standard (QS3)
- he mandatory collection of data on VTE risk assessment [7] to support a national Commissioning for Quality and Innovation (CQUIN) goal[8].

Commissioning arrangements were also strengthened in 2010/11 through the national contracting process – with stipulations for acute providers made in the NHS Standard Contract and the inclusion of VTE as a criterion in the NHS Litigation Authority Risk Management Standards.

All of these measures and their relevance to the commissioning of a systematic approach to VTE prevention are outlined in the sections that follow.

VTE in the NHS Outcomes Framework

The Operating Framework for the NHS in England 2012/13 reminded us that the NHS is moving to a system where quality and outcomes drive everything we do. This has now been reinforced in the planning guidance published by the NHS England entitled everyone counts which outlines the incentives and levers that will be used to improve services from April 2013, the first year of the new NHS where improvement is driven by clinical commissioners

The NHS Outcomes Framework 2013/14 sets out the outcomes and corresponding indicators that will be used to hold the NHS England to account for improvements in health outcomes, as part of the government's mandate to the NHS Commissioning Board. (now NHS England)

Indicators in the NHS Outcomes Framework are grouped around five domains, which set out the high-level national outcomes that the NHS should be aiming to improve. For each domain, there are a small number of overarching indicators followed by a number of improvement areas. They focus on improving health and reducing health inequalities.

Whilst VTE prevention cuts across a number of the themed domains around which the NHS Outcomes Framework is structured, the VTE indicator itself (**5.1 incidence of hospital-related venous thromboembolism**) falls into the specific improvement area of reducing the incidence of avoidable harm in Domain 5 "patient safety".

Click here to download the NHS Outcomes Framework 2013/14

VTE in the CCG Outcomes Indicator Set

The Commissioning Outcomes Framework was first proposed in the consultation document "Liberating the NHS: commissioning for patients." To avoid confusion with the NHS Outcomes Framework, it has been re-named the CCG Outcomes Indicator Set and provides clear, comparative information for CCGs, Health and Wellbeing Boards and local authorities about the quality of health services and associated health outcomes. All of the CCG outcomes indicators have been chosen on the basis that they contribute to the overarching aims of the five domains in the NHS Outcomes Framework.

An 'at a glance' table setting out the CCG Outcome Indicator Set was published alongside the 2013/14 NHS planning guidance. Click here for more information.

Data availability

In relation to VTE, the objective of the NHS Outcomes Framework is *reduced harm from failure to prevent venous thromboembolism in a healthcare setting*. A local process should be developed to ensure that all cases of VTE that could be potentially regarded as hospital associated are identified. This will be essential for delivery of the new National VTE CQUIN goal. For more details, see page 10 of this guide.

Note: the availability of data at CCG level relating to the incidence of VTE will be confirmed during 2013/14.

NICE Clinical Guideline CG92: Venous Thromboembolism – reducing the risk

In January 2010, the National Institute for Health and Clinical Excellence (NICE) published guidance on reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital.

This guidance updated NICE clinical guideline CG46 and replaced it.

NICE CG92 makes recommendations on assessing and reducing the risk of VTE in patients admitted to hospital and offers guidance on the most clinically and cost-effective measures for VTE prophylaxis (preventative treatment) in these patients.

Click here to download NICE CG92

NICE Evidence Update

In February 2012, NICE published a summary of selected new evidence relevant to NICE CG92 reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital.

The aim of the update is to reduce the need for commissioners, managers and individuals to spend time searching for new evidence. Although no new key evidence was found in relation to *reducing the risk of VTE*, the update does contain information about the use of mechanical and pharmacological VTE prophylaxis including the more recently introduced oral anticoagulants.

Click here to download NICE Evidence Update 6

Note: Evidence Updates do not replace current accredited guidance and do not provide formal practice recommendations.

The National Tool for VTE Risk Assessment

One of the main recommendations following the report of the Chief Medical Officer's Expert Working Group in 2007[9] was that every patient admitted to hospital should be assessed for the risk of VTE on admission.

The national VTE risk assessment tool was first published by the Department of Health in September 2008 and was revised in March 2010 in accordance with NICE guidance. It states that all patients should be risk assessed on admission to hospital. They should be re-assessed within 24 hours of admission and whenever the clinical situation changes.

More information about VTE risk assessment and use of the national tool is available on the National VTE Prevention Programme website.

National mandatory collection of VTE Risk Assessment data

All providers of NHS-funded acute care have been required since 1 June 2010 to submit a monthly census return through Unify[2] detailing the number of patients admitted to hospital and the number of those receiving a VTE risk assessment on admission using the criteria described in the national VTE risk assessment tool. This data is published quarterly on the Department of Health website and is being used to assess the impact of the National VTE Prevention Programme in terms of how successfully VTE risk assessment is being embedded in NHS systems and processes.

Information about VTE risk assessment statistics can be found here.

National VTE CQUIN Goal 2013/14

In 2013/14, there are two indicators that must be met in order to qualify for a single payment and they are:

1. **Proportion of all adult inpatients that have been assessed for risk of VTE on admission to hospital** using the criteria set out in the National VTE Risk Assessment tool (achievement must be at least 95%)

   Commissioners can access data collected on the number and proportion of VTE risk assessments carried out by providers of NHS funded acute care as described above. Figures are published quarterly and can be accessed here.

2. **Root Cause Analysis is carried out on all cases of Hospital Associated VTE** (number to be determined locally in conjunction with providers and reported to the commissioner on a quarterly basis)

   Hospital Associated Thrombosis (HAT) is defined as any new episode of VTE diagnosed during hospitalisation or within 90 days of discharge following an inpatient stay of at least twenty four hours, or following a surgical procedure under general or regional anaesthesia.

   Undertaking root cause analysis (RCA) of every case of hospital associated thrombosis (HAT) is a major challenge which requires data capture, engaging with stakeholders to undertake a structured analysis of why the thromboembolic event happened and then feeding lessons learned back into the Trust quality management framework.

   Members of the National VTE Prevention Programme Board are leading the development of an electronic database to facilitate a structured and standardised approach to the collection and interpretation of data to provide a better understanding of VTE metrics nationally, regionally and locally.

The database is currently in the pilot phase of development, but will be available via the National VTE Prevention Programme website to those organisations who wish to collect and collate RCA data electronically, rather than creating their own in-house system.

A practical guide to the root cause analysis of Hospital Associated Thrombosis, together with a paper-based tool for reporting RCA has also been developed. They are included in this document in Appendices 1 & 2 respectively and can also be found on the National VTE Prevention Programme website.

VTE in the NHS Litigation Authority Standards

The NHSLA Risk Management Standards first included VTE as a full criterion (4.8) in the 2011/12 Standards. In the 2012/13 document, VTE comes under standard 5, criterion 5.9

The standard requires that acute, community and independent sector organisations have an approved documented process for managing the risk associated with the prevention and management of VTE that is implemented and monitored.

The NHSLA is currently reviewing its approach to standards to ensure they are focused on outcomes. More information can be found on the NHSLA website

VTE Prevention NICE Quality Standard (QS3)

The NICE Quality Standard for the prevention of VTE provides a set of clear statements describing high quality care across the care pathway. The scope of the Quality Standard covers the reduction in risk of VTE in adults admitted to hospital as inpatients or formally admitted to a hospital bed for day-case procedures. Pregnant women and women up to 6 weeks post-partum are also covered.

The Quality Standard for VTE Prevention includes seven quality statements and associated measures in connection with VTE risk assessment, patient information on admission, anti-embolism stockings, re-assessment, VTE prophylaxis, patient information on discharge and extended VTE prophylaxis.

Click here for more information and to download the Quality Standard

Support for commissioners

NICE offers support for commissioners in the form of an assessment of the potential cost impact and commissioning implications associated with the Quality Standard for VTE Prevention. It is suggested that commissioners use the quality standards to improve the quality of services commissioned from NHS providers through the inclusion of quality statements and measures in the service specification element of the standard contract. Performance can then be measured against them.

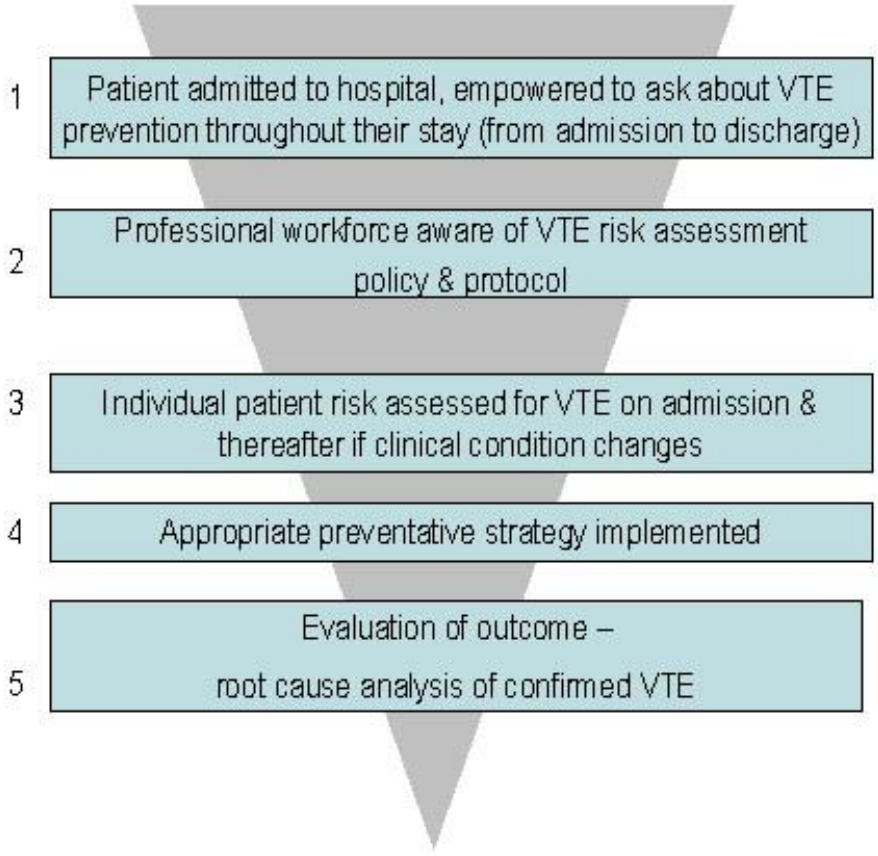
Click here to access the commissioning assessment

The VTE Prevention Care Pathway

NICE defines a number of VTE care pathways for reducing risk in hospitalised patients; diagnosing VTE in primary, secondary and tertiary care; treating VTE; investigations and tests for patients diagnosed with VTE.

Click here for more information

In terms of determining how good your local service is in relation to VTE Prevention, it is essential to ensure that Providers have developed a systems-based step-wise approach as illustrated below:



Seeking Assurance

The following assurances can be sought by commissioners from providers in relation to delivery of this systems-based step-wise approach:

Requirements for Step 1:

- Adherence to quality measures 2 & 6 in the VTE Prevention Quality Standard (QS3)

Requirements for Step 2:

- Trust-wide VTE prevention policy is in place, supported by a multidisciplinary thrombosis (VTE) committee
- Compliance with criterion 5.9 of the NHSLA Risk Management Standards
- Adequate programmes of training and continuing professional development are in place

Requirements for Step 3:

- Employment of the risk assessment criteria set out in the National VTE Risk Assessment Tool
- Adherence to quality measures 1 & 4 in the VTE Prevention Quality Standard (QS3)

Requirements for Step 4:

- Adherence to NICE guidance CG92
- Adherence to quality measures 3, 5 & 7 in the VTE Prevention Quality Standard (QS3)

Requirements for Step 5:

- Delivery of the National VTE CQUIN goal

Defining high quality care – how good is your local service?

The NICE Quality Standard for VTE Prevention provides commissioners with ready-made definitions of high quality care across the VTE Prevention pathway. Commissioners can use the 7 statements and associated measures to assess the quality of local services as outlined below.

Quality Statement 1: All patients, on admission receive an assessment of VTE & bleeding risk using the clinical risk assessment criteria described in the national tool.

Quality Measure	Proportion of patients assessed on admission for VTE and bleeding risk using the clinical risk assessment criteria described in the national tool.
Key Information for commissioners	Local systems of data collection & auditing will be required for assurance of delivery of this measure. • National VTE Risk Assessment Tool • Compliance with mandatory VTE risk assessment data collection process • Provider level information on the number and proportion of admitted adult patients who have been risk assessed for VTE

Quality Statement 2: Patients/carers are offered verbal and written information on VTE prevention as part of the admission process

Quality Measure	Proportion of patients/carers who are offered verbal and written information on VTE prevention as part of the admission process.
Key information for commissioners	Local systems of data collection & auditing will be required for assurance of delivery of this measure. • Examples of patient information leaflets can be accessed via the National VTE Prevention Programme website

Quality Statement 3: Patients provided with anti-embolism stockings have them fitted and monitored in accordance with NICE guidance

Quality Measure	a) Proportion of patients with anti-embolism stockings fitted and monitored in accordance with NICE clinical guideline 92 'Reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital'. b) Proportion of staff responsible for fitting and monitoring anti-embolism stockings who have received training on their use.
Key information for commissioners	Local systems of data collection & auditing will be required for assurance of delivery of this measure. NICE CG92

Quality Statement 4: Patients are re-assessed within 24 hours of admission for risk of VTE and bleeding

Quality Measure	Proportion of patients with a length of stay in hospital greater than 24 hours who are re-assessed for risk of VTE and bleeding within 24 hours of admission.
Key information for commissioners	Local systems of data collection & auditing will be required for assurance of delivery of this measure. • National VTE Risk Assessment Tool

Quality Statement 5: Patients assessed to be at risk of VTE are offered prophylaxis in accordance with NICE guidance

Quality Measure	Proportion of patients assessed to be at increased risk of VTE who are offered appropriate prophylaxis in accordance with NICE clinical guideline 92 'Reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital'

Key information for commissioners	Local systems of data collection & auditing will be required for assurance of delivery of this measure. NICE CG92

Quality Statement 6: Patients/carers are offered verbal and written information on VTE prevention as part of the discharge process

Quality Measure	Proportion of patients/carers who receive verbal and written information about VTE prevention as part of the discharge process.
Key information for commissioners	Local systems of data collection & auditing will be required for assurance of delivery of this measure. Examples of patient information leaflets can be accessed via the National VTE Prevention Programme website

Quality Statement 7: Patients are offered extended (post-hospital) VTE prophylaxis in accordance with NICE guidance

Quality Measure	Proportion of patients offered extended (post hospital) VTE prophylaxis in accordance with NICE clinical guideline 92 'Reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital'.
Key information for commissioners	NICE CG92

Further Resources to Support You

The National VTE Prevention Programme website

This website acts as a focal point for the National VTE Prevention Programme in England and all of the key documents associated with its development timeline from 2005 onwards. The website provides access to the various work streams of the National VTE Prevention Programme Board including commissioning, patient experience and outcomes.

The National VTE Exemplar Centre Network

The National VTE Exemplar Centre Network was established in 2007 by the Department of Health with the aim of sharing best practice and improving patient care through more effective prevention and treatment of VTE. Led by Professor Roopen Arya, Director of the King's Thrombosis Centre at King's College Hospital NHS Foundation Trust, which was the first NHS centre to be awarded exemplar status, the network provides access to a wealth of information and best practice from all of the VTE Exemplar Centres in England. This includes examples of VTE prevention protocols, information to support the implementation of risk assessment and root cause analysis, patient information and presentations from clinical experts.

All information relating to the National VTE Exemplar Centre Network can be accessed via the National VTE Prevention Programme website

The National Nursing & Midwifery Network (NNMN)

Led by Lynda Bonner, Consultant Nurse for thrombosis and anticoagulation at the King's Thrombosis Centre, the National Nursing and Midwifery Network aims to promote innovation and learning amongst nursing and midwifery leaders. The NNMN supports the National VTE Prevention Programme by implementing work stream strategies around audit, research, education, clinical practice, communication and midwifery with the aim of improving the quality of care for those at risk of VTE.

All information relating to National Nursing & Midwifery Network can be accessed via the National VTE Prevention Programme website.

Harm Free Care

This website is the new online home for the Safety Express Programme borne out of the Patient Safety First initiative. The site also provides links to other UK Patient Safety campaigns. Click here to visit the website and access a wealth of information, including NHS Safety Thermometer.

NHS Safety Thermometer

The NHS Safety Thermometer is a local improvement tool for measuring, monitoring and analysing patient harms and 'harm free' care. The NHS Safety Thermometer includes a function for merging patient safety data across all the teams and wards in an organisation, and a built-in mechanism to submit data to the Health and Social Care Information Centre for inclusion and publication in the national database. Click here for more information.

Note: In 2013/14, the VTE element has been excluded from the National Safety Thermometer CQUIN programme, ie organisations can use the Safety Thermometer to collect data on VTE, but this element will not be required to receive CQUIN payments.

NICE Pathways

NICE Pathways is an online tool for health and social care professionals, bringing together all related NICE guidance and associated products in a set of interactive topic-based diagrams. The VTE pathway covers:

- assessing and reducing the risk of venous thromboembolism (VTE) in patients admitted to hospital
- diagnosing VTE in primary, secondary and tertiary care, including Wells score, D-dimer measurement, ultrasound and radiological imaging
- treating VTE
- investigations for cancer and testing for thrombophilia in patients diagnosed with VTE.

Map of Medicine & VTE Pathways

Map of Medicine is a collection of evidence-based, practice-informed care maps connecting all the knowledge and services around a clinical condition. Map of Medicine has published a VTE risk assessment and prophylaxis pathway and is available license free to individuals across NHS England and Wales.

Education and Training Resources

VTE Prevention e-Learning module

Written by Professor Roopen Arya and Dr Lara Roberts, this e-learning resource is designed to help nurses, pharmacists and junior doctors understand quickly the concept of hospital-associated venous thromboembolism, how to prevent it and to identify which steps of the prevention pathway are necessary to audit.

The 15-minute course is applicable to a wide cross section of those interested in VTE prevention and contains valuable information about risk assessment, prophylaxis and audit.

A newly updated version of the VTE e-Learning programme is available on the National VTE Prevention Programme website

VTE Assess Prevent

VTE Assess Prevent was originally developed by the East of England Strategic Health Authority as a regional staff communications campaign to ensure that all patients admitted to hospital receive a VTE risk assessment and appropriate preventative treatment. Campaign materials are now available for use nationally.

More information about VTE Assess Prevent, including links to materials that can be downloaded for use by individual organisations, can be found on the National VTE Prevention Programme website.

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Appendix 1 Root Cause Analysis of Hospital Associated Thrombosis: A practical guide

Aims:

1. To enable monitoring of HAT and determine proportion of potentially preventable events.

2. To facilitate learning from individual episodes of HAT within each centre.

3. To identify common themes and facilitate wider learning through reporting to the national VTE registry.

4. To identify and promote local and national solutions from this learning to consistently reduce the incidence of VTE.

Process:

A) Identification of VTE cases by Thrombosis Team/Thrombosis Committee/VTE Lead: VTE cases are identified by regular screening of results of diagnostic tests for DVT and PE. Coding is insufficiently sensitive or accurate for this purpose. VTE deaths (where VTE is primary cause of death on death certificate) are identified by liaison with the bereavement office and mortuary.

B) Episodes of VTE are cross-checked with admission records to identify cases that satisfy the definition of HAT and therefore require RCA.

C) Analysis of circumstances pertaining to the HAT is undertaken by the Thrombosis Team/committee or relevant consultant: A RCA tool is available from the National VTE Prevention Programme website for use in paper or electronic format.

D) Thrombosis Committee will determine the root cause (see list below).

E) Conclusions from the RCA process will be shared with relevant frontline clinicians and Divisions, the Trust Quality Team and Commissioners.

Root Cause Analysis Conclusions

Root Causes and common themes are to be determined by the Thrombosis Committee after review of RCAs both individually and en masse.

Some potential common themes are listed below.

Inadequate Thromboprophylaxis (TP) = Patient with high VTE risk, and any unexplained omission in chemical prophylaxis ie any missed doses of LMWH/UFH, Wrong dose, delay in starting LMWH, no LMWH prescribed, inadequate duration.

TP failure = Patient with high VTE risk who was prescribed and administered chemical prophylaxis as indicated

Contraindication to all TP = Patient with both VTE and bleeding risk factors who have contraindications to mechanical prophylaxis eg stroke patient

Contraindication to chemical TP = Patient with both VTE and bleeding risk factors (without any contraindication to mechanical TP) eg thrombocytopenia

Line associated = DVT associated with any central indwelling catheter/device (irrespective of VTE and bleeding risk factors)

Unexpected = Patient with low risk of VTE ie no VTE risk factors on retrospective risk assessment

Hospital Associated Thrombosis Yes/no

There may be some events that on RCA completion are not classed as HAT eg the patient diagnosed during admission but on review of the notes DVT/PE symptoms were present on admission

Was this event potentially preventable? Yes/no

Deemed potentially preventable if any aspect of VTE care was missing eg no Risk assessment, incorrect risk assessment, incorrect/inadequate action taken in relation to risk assessment, inadequate TP, no documentation or incorrect duration of mechanical TP (if indicated)

HAT-RCA Report for Commissioners

A possible format for the Trust HAT-RCA report for commissioners is provided here, but this will require agreement locally. Case numbers will vary between Trusts according to admission numbers and the local case mix. Population-based studies and a pilot project within the National VTE Exemplar Centres Network suggest that annual HAT numbers might approximate to around half the total number of cases of VTE identified within the Trusts.

Suggested Template for Trust HAT-RCA Report for Commissioners

Trust:

Time Period:

	Total number
Total number of VTE cases	
Total number of HAT	

Type of HAT event

	Total number
PE	
Proximal DVT	
Distal DVT	

Potentially preventable cases

	%
Potentially preventable	
Not potentially preventable with current knowledge, skills and technology	

Common Themes:

	n	%
Number of episodes investigated		
Inadequate TP		
Contraindication to chemical TP		

Contraindication to all TP		
TP failure		
Line associated		
Unexpected		

Most common Care and Service Delivery Problems: (Deviations from acceptable practice)

Most common Contributory Factors: (Causes of deviation from acceptable practice)

Most Common Root Causes: (Most significant and/or deep seated contributory factors)

Recommendations: (Solutions which could systematically reduce recurrence/ incidence of HAT associated with each specific type of error/care and service delivery problem)

Appendix 2: Root Cause Analysis Tool

Hospital Associated Thrombosis

Venous thromboembolism occurring during hospital admission or within 90 days of discharge from hospital

Background information

Patient details and VTE diagnosis	
Patient name	
Hospital number / NHS number	
DOB:	
VTE diagnosis	PE ☐ Proximal DVT ☐ Distal DVT ☐ Upper limb DVT ☐
Symptomatic?	Yes ☐ No ☐
Date of VTE diagnosis	
Patient location at diagnosis	DVT clinic ☐ Inpatient – during index admission ☐ Inpatient - readmission ☐ Other (specify): ☐

Index hospital admission details	
Division / Department	
Ward	
Consultant	
Admission date	
Discharge date	
Type of admission	Medical ☐ Surgical ☐
Date of surgery	
Reason for admission	

Thromboprophylaxis during hospital admission	
VTE risk assessment completed?	Yes ☐ No ☐
VTE risk high/low	High ☐ Low ☐
Bleeding risk	High ☐ Low ☐

Thrombotic risk factors (tick/circle all present)

Active cancer/treatment	Reduced mobility >3days
Age >60	THR TKR HFS
Known thrombophilia	Surgery + anaesthetic time >90min
Dehydration	Pelvis/LL surgery +anaesthetic >60min
Obesity (BMI>30)	Acute surgical admission with inflammatory or intra-abdo condition
Medical comorbidity:	Critical care admission
Personal/FHx VTE	Surgery with significant reduction in mobility
COCP HRT	
Varicose veins with phlebitis	
Pregnancy/<6w post partum	

Contraindications to TP? (tick/circle all present)

Active bleeding	Neurosurgery, spinal surgery or eye surgery
Acquired bleeding disorder	Other procedure with high bleeding risk
Concurrent anticoagulants	LP/epidural/spinal expected in next 12h
Acute stroke	LP/epidural/spinal in past 4h
Thrombocytopenia	
Uncontrolled systolic hypertension	
Untreated inherited bleeding disorder	

Type of mechanical TP used	AES □ IPC □ Both □
Date mechanical TP commenced and ceased	
Chemical TP prescribed?	Yes □ No □
Type and dose of chemical TP?	
Date commenced and ceased	
Chemical TP administered as prescribed?	
Patient weight	
Creatinine clearance	
Extended TP prescribed?	

Root Cause Analysis (RCA) by consultant / lead clinician

1. WHAT happened on this occasion? (Need to determine what happened, before exploring 'why')

a. **Was VTE risk assessment undertaken?**

b. **If so was increased risk of VTE appropriately recognised & acted on during index admission?**

c. **Was thromboprophylaxis prescribed and given in accordance with Trust guidelines?**
If not: From discussions with staff and from your evaluation of this particular event…

What happened that should not have happened?

-
-

What should have happened that didn't?

-
-

2. WHY did this episode of care deviate from acceptable practice?

- RCA involves avoiding assumption. To do this, **ask those involved** '**why'** things went wrong.
  ie *Ask: "On this occasion, what factors conspired to cause each of the above deviations**?"***

- To broaden identification of these, use the **'Contributory Factors'** Framework / checklist at: http://www.nrls.npsa.nhs.uk/resources/?entryid45=75605 to add detail to headings below, as applicable

Patient Factors:

-
-

Individual Staff Factors:

-
-

Task Factors:

-
-

Communication Factors:

-
-

Equipment & Resource Factors:

-
-

Work conditions / Environmental Factors:

-

○ **Organisational & Strategic Factors:** ○ ○ **Education & Training Factors:** ○ ○ **Team & Social Factors:** ○ ○
3. Could this episode of VTE been prevented? If so, How?
4. What changes could be implemented to prevent VTE in this situation in the future? If you have any specific plans, please state changes.
Completed by: Name: **Signature:** **Date:**

For Thrombosis Team Review:

Was this event a Hospital Associated Thrombosis:

Yes ☐ No ☐

Was this event potentially preventable?

Yes ☐ No ☐

If YES - What were the **Care and Service Delivery Problems**? (From RCA Q1 above)

Risk assessment:	
• Not risk assessed	
• Delay in completing risk assessment	

• Incorrect risk assessment	
• Inappropriate action taken following risk assessment	
• Incomplete action taken following risk assessment	
• No action taken as a result following risk assessment	
Thromboprophylaxis:	
• Inadequate thromboprophylaxis	
• Contraindication to all thromboprophylaxis	
• Thromboprophylaxis failure	
• Chemical TP - Not prescribed	
• Chemical TP - Delay in prescribing	
• Chemical TP - Not administered as prescribed	
• Chemical TP - Prematurely discontinued	
• Chemical TP - Wrong dose	
• Chemical TP - Contraindication	
• Mechanical TP - Not considered	
• Mechanical TP - No documentation	
Other (please detail):	
• Weight not recorded	
• Line associated…	
•	
•	
•	
•	

If Yes - what were the **Contributory Factors**? (From RCA Q2 above)

For help with detail and to identify more than the' usual suspects', use the Contributory Factors framework/checklist at:
http://www.nrls.npsa.nhs.uk/resources/?entryid45=75605

Patient Factors: eg Pt. refused treatment / Pt. didn't self-administer post-discharge ○ ○	
Individual Staff Factors: ○ ○	
Task Factors: ○ ○	
Communication Factors: eg Weight not documented/available ○ ○	
Equipment & Resource Factors: eg Documented weight not accessible ○ ○	
Work conditions / Environmental Factors: ○ ○	
Organisational & Strategic Factors: ○ ○	
Education & Training Factors: ○ ○	
Team & Social Factors: ○ ○	

Root Causes:

(Taken from most significant/deep seated CFs items in RCA Q2, plus any inferred in Q3)

- Root causes are specific enough that precise action can be taken on the basis of their identification, which will demonstrably reduce the likelihood of recurrence.
- If you can still *reasonably* ask why and/or elicit more info./detail on the cause then the root cause has not yet been reached

Solutions/Improvements: (From Q3 & Q4 above)	
	Suggested / Planned / Tried/ Implemented
	Suggested / Planned / Tried / Implemented
	Suggested / Planned / Tried / Implemented