ALL-PARTY PARLIAMENTARY GROUP ON
VASCULAR AND VENOUS DISEASE

TACKLING VENOUS THROMBOEMBOLISM:

PREVENTING THE PREVENTABLE

Report by the All-Party Parliamentary Group on Vascular and Venous Disease

March 2024

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Foreword

The biggest tragedy in healthcare is the missed opportunity to treat something which is preventable, and has a permanent impact on patients and their families. The challenges of preventing Venous Thromboembolism (VTE) are significant, but they can be overcome.

Around 1 in 20 people will have VTE at some point in their life. The impact of this condition is widespread, affecting millions nationwide.

There has been a wide range of guidance published to support healthcare professionals to diagnose, prevent and treat VTE. This report of the All-Party Parliamentary Group on Vascular and Venous Disease (VVAPPG) highlights possible gaps in awareness and makes recommendations on how the whole system can work together to drive better outcomes for patients, and help to prevent unnecessary illness, disability, and death.

VTE impacts many of my constituents, as well as patients right across the UK. It is imperative that the Government, the NHS, and Integrated Care Systems (ICSs) work to drive better access to prevention and treatment right across the patient pathway.

This VVAPPG report will be the first step in our efforts to raise awareness about the challenges for patients and the NHS in managing this condition. The findings will be shared with Government, NHS England and ICSs directly, so that the voice of the sector is heard within Westminster and Whitehall, and we can work together to prevent the preventable.

Jim Shannon MP

Chair, VVAPPG

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Tackling Venous Thromboembolism: Preventing the Preventable

In 2021, to mark World Thrombosis Day, the All-Party Parliamentary Group on Vascular and Venous Disease published a spotlight infographic entitled 'Understanding Venous Thromboembolism'.[1] It set out the scale and impact of VTE on patients and the NHS across the country.

The prevalence and impact of VTE cannot be ignored. As the VVAPPG highlighted, "VTE is the leading cause of death and disability in the UK... it is the number one cause of preventable deaths in hospitals, causing more than 25,000 hospital deaths annually."

It is estimated that 1 in 20 people will have VTE during their lifetime. At least two thirds of cases of hospital-associated thrombosis are preventable through VTE risk assessment and administration of thromboprophylaxis.[2] Moreover, around 30% of people who have experienced VTE develop further complications and comorbidities within the next ten years.[3]

VTE prevention has been identified as the most important patient safety practice in UK hospitals. It is recognised as a clinical priority for the NHS by the National Quality Board and the NHS Leadership Team.[4] However, maintaining rates of VTE risk assessment, diagnosis, and treatment, has been challenging over the COVID-19 pandemic, with competing quality improvement priorities within the NHS.

As the NHS emerges from the pandemic, and faces the significant challenges associated with the elective care backlog, strikes, patient co-morbidities and an ageing population, it has never been more important to examine the impact of VTE, the challenges with preventing it, and the methods for treating it effectively. It is vital to reduce hospital-associated thrombosis, improve patient safety, and reduce avoidable costs to the NHS.

ALL-PARTY PARLIAMENTARY GROUP ON **VASCULAR AND VENOUS DISEASE**

This report analyses the range of policies in place at a national level, measures the impact of VTE prevention and examines the challenges in prevention, diagnosis and management of VTE. The roadmap to effectively tackling VTE demands collaborative efforts between policymakers, healthcare providers and healthcare professionals. This report makes recommendations to enhance patient safety and optimise healthcare resources to ensure the NHS is acting to prevent the preventable.

Pathway to Progress: Recommendations for Enhanced VTE Care

1. NHS England should reinstate the mandatory national VTE risk assessment data collection.
2. ICSs and NHS England must once again prioritise VTE prevention, embedding oversight, audits, and compliance mechanisms within existing clinical governance systems.
3. Acute care providers should ensure that there is a dedicated VTE prevention role to ensure compliance with guidelines, promote best practice and implement and update education and training tools.
4. NHS England and ICSs should enhance training and education for healthcare professionals in VTE prevention protocols and practices.
5. NHS England and ICSs should address regional variation and investigate underlying causes of unwarranted regional differences in VTE prevention and management.

Venous Thromboembolism, Deep Vein Thrombosis and Pulmonary Embolism

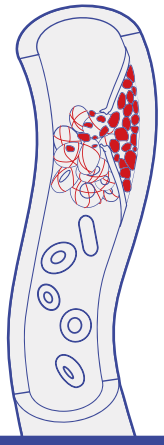
Venous Thromboembolism (VTE) is a condition in which a blood clot forms in the veins. VTE is an umbrella disorder that includes Deep Vein Thrombosis (DVT), when a blood clot occurs in a deep vein, usually in the leg, and Pulmonary Embolism (PE), when part of that clot breaks off and blocks a lung artery.[5]

Deep Vein Thrombosis (DVT)

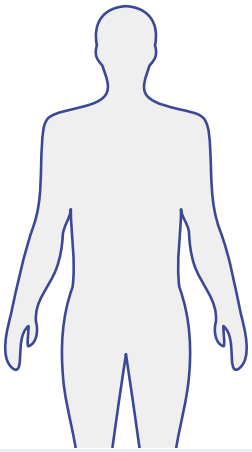
DVT occurs when a blood clot forms in a deep vein, typically in the legs, causing swelling, pain, and redness in the affected area.

Symptoms may include swelling in one or both legs; pain or tenderness of legs, ankles or the foot, which can feel like a cramp; warmth on the skin of your leg; and tender or swollen veins.[5] **However, 80% of all deep vein thromboses have no symptoms.[7]**

Deep Vein Thrombosis (DVT)



Deep Vein Thrombosis (DVT) is when a blood clot develops deep inside the vein. It usually occurs inside a vein that is situated deep inside the body.



VTE affects approximately

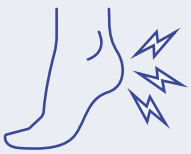
2 in 1000

people annually

If left untreated 1 in 10 cases of DVT will result in Pulmonary Embolism (PE).

Symptoms of DVT :

Swelling in one or both legs



Pain or tenderness of legs, ankle or foot, which can feel like a cramp

Warmth on the skin of your leg

Tender or swollen veins

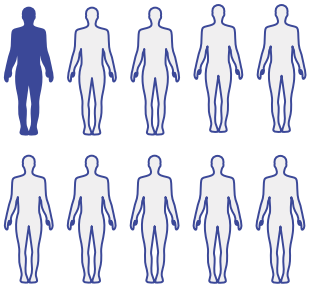
Pulmonary Embolism (PE)

PE occurs when a piece of the clot breaks loose, travels through the bloodstream, and lodges in the pulmonary arteries of the lungs. This can be life-threatening and requires immediate medical attention.

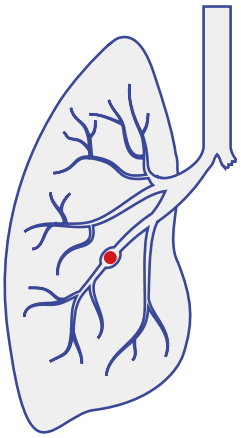
Symptoms may include shortness of breath, pain in the chest, breathing difficulties, and feeling faint or fainting.

Pulmonary Embolism (PE)

1 in 10
cases of untreated DVT result in PE



Pulmonary Embolism (PE) is a blocked blood vessel in the lung. It usually occurs when a blood clot develops in a deep vein and travels to the lungs. PE affects approximately 7-8 in 10,000 people annually.



For every diagnosed case of PE
2.5 cases
of fatal PE were undiagnosed

PE can potentially be life threatening as the blockage limits blood flow to the lung. For every diagnosed case of PE, it is estimated that another 2.5 cases of fatal PE were undiagnosed.

Symptoms of PE :

Shortness of breath

Pain in the chest

Breathing difficulties

Fainting or feeling Faint

Exploring Risk Factors

Blood clots occur because of three factors:[8]

REDUCED FLOW IN THE VEIN

DAMAGE TO THE VEIN WALLS

STICKY BLOOD

Risk factors of VTE include:[9]

A recent stay in hospital, especially for orthopaedic surgery

Old age is a predicting factor

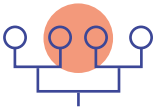
Lack of mobility causes the flow of blood in the veins to slow, leading to an increased likelihood of clotting

Cancer and its treatment make the blood clot easier, and patients become less mobile

Pregnancy

Long-distance travel with a bent knee

Using the **combined oral contraceptive pill or hormone replacement therapy**, especially in combination with smoking



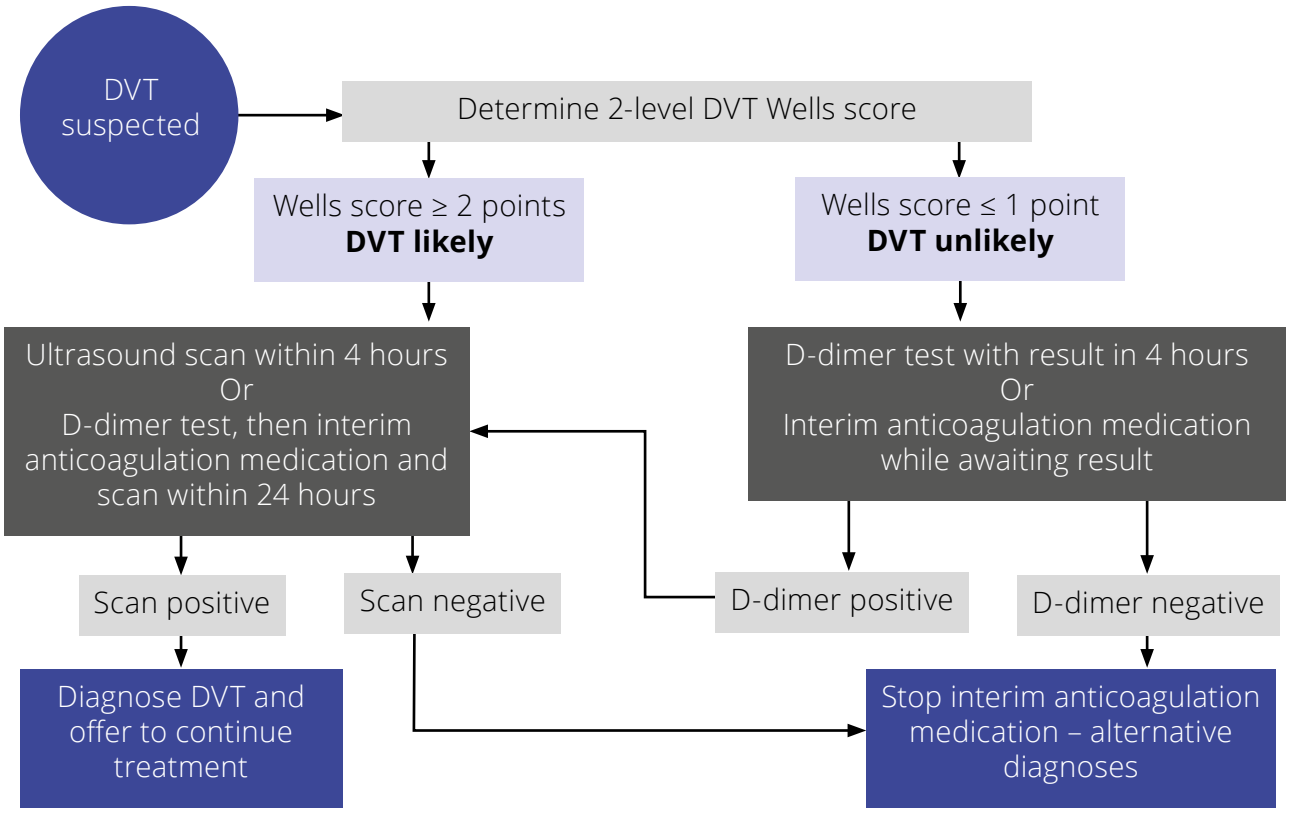
Family history of thrombosis or previous diagnosis

Decoding Diagnosis and Treatment

It is challenging for healthcare professionals to diagnose VTE from symptoms alone as the most common symptoms, pain and swelling, can be caused by other reasons. Around 80% of all DVTs have no symptoms at all and 57.3% of patients with PE were reported asymptomatic with associated DVT.[10] If DVT is suspected, healthcare professionals will use the 2-level DVT Wells score to estimate the clinical probability of DVT. If a patient scores 2 or more points, they are offered two tests to confirm the diagnosis.

In certain cases, especially if a person has recurrent VTE or if they develop VTE at a young age, the NHS may perform additional tests to look for underlying genetic or acquired conditions that increase the risk of blood clots.

Figure 1: Diagnosis and initial management process of suspected DVT based on NICE guidelines.[11]



The primary treatment for VTE prevention and management is anticoagulant therapy, which acts to slow down the blood clotting process, by preventing the clot from growing any larger, and prevent or stop an embolism. The choice of anticoagulant and duration of treatment depends on various factors including the type and location of the clot, the patient's overall health, and any underlying conditions. There are three main forms of anticoagulant drugs: direct oral anticoagulants, warfarin and heparin.

Other treatments include thrombolysis that dissolves an existing blood clot and is used to treat life-threatening clots, like those causing PE. For patients with DVT, wearing compression stockings and making lifestyle changes can help alleviate symptoms like pain and swelling and may reduce the risk of long-term complications.

For those most at risk of DVT, such as those having hip and knee surgery, small doses of anticoagulants are administered to prevent DVT. This is called thromboprophylaxis.[12]

The length of treatment depends on factors like the type of clot, the presence of risk factors, and any underlying medical conditions. Some individuals may need only a short course of treatment, while others may require lifelong anticoagulation, and recurrent stays in hospitals. With both thrombolysis and thromboprophylaxis there is an increased risk of bleeding and patients will have regular follow-up appointments to monitor their progress, adjust treatment if necessary, and address any concerns.[13]

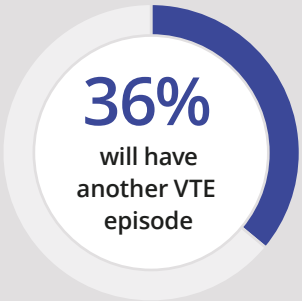
VTE has a long-term risk of recurrence, particularly with specific types of risk factors. Certain provoking risks, such as major surgery or trauma, typically have a lower risk of recurrence after a period of anticoagulation. Those with no identifiable risk factor such as cancer - labelled unprovoked VTE - have a higher risk of recurrence after completing treatment.[14]

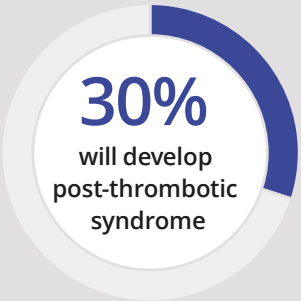
Understanding the Impact and Ripple Effect of VTE

With an estimated incidence rate of 1-2 per 1,000 of the population, VTE is a significant cause of mortality and disability in England.[15] Around 30% of people who have experienced VTE develop further complications and comorbidities within the next ten years.[16] One of the most common long-term complications of DVT is post-thrombotic syndrome (PTS) which can cause chronic leg pain and ulceration, limiting physical functioning and the ability to work. Further many with VTE suffer from impaired mobility, increased risk of infection, anxiety, sleep disturbance, and social isolation, often resulting in a loss of independence as they increasingly depend on family and carers.[17] **Return to work following VTE is often slow and similar to the rate following other major illnesses such as stroke**.[18]

At least two thirds of cases of hospital-associated thrombosis are preventable through VTE risk assessment and administration of thromboprophylaxis.[19] In 2022, NHS Resolution examined the high value and fatality related claims in emergency departments (ED) and General Practice.[20] VTE featured amongst the most common causes of mortality related to a missed diagnosis in ED, and the reports established that VTE is a common cause of fatality related claims in General Practice.

Impact of VTE





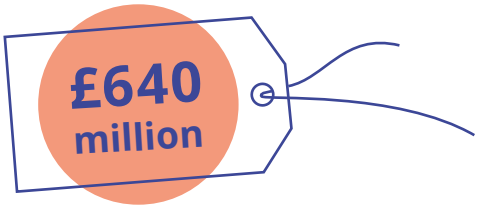
VTE is a leading cause of death and disability in the United Kingdom. Some estimates suggest that VTE is the number one cause of preventable deaths in hospital, causing more than 25,000 hospital deaths annually .

VTE can also cause long-term disability. In addition to the mortality impact of VTE, approximately 36% of VTE patients will go on to have another VTE episode in the ten years following their initial diagnosis, and an estimated 30% will develop post-thrombotic syndrome [xv], which can cause chronic pain and swelling.

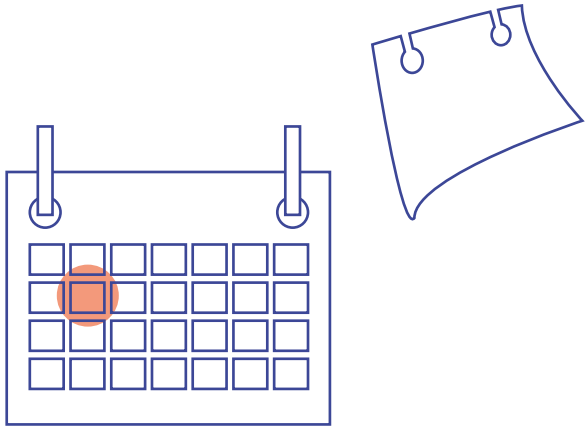
In its 2016/17 report, the All-Party Parliamentary Group for Thrombosis found that the average annual cost of VTE per CCG was £938,357 with costs ranging from £7 million in Cambridge and Peterborough, to £63,358 in South Lincolnshire.[21] In January 2024, the VVAPPG's Chair, Jim Shannon MP, asked the Department of Health and Social Care if they had made an updated estimate of the cost to NHS Trusts of the management of VTE. The Department responded that data on the costs of VTE treatment was not available.[22]

VTE represents a considerable cost to patients, the NHS and the economy, and early intervention and prevention could lead to long-term savings. This includes the costs of diagnostic testing, treatment, prolonged length of stay in hospital and long-term care.

A cost-of-illness analysis based on the data from the PREFER registry (Prevention of Thromboembolic Events-European Registry in Venous Thromboembolism) found that on average each incidence of PE costs between €9,135 and €10,620 over the first twelve months.[24] Beyond the immediate costs of hospitalisation, accounting for 50% of total expenses, the burden of recurrent DVT and PE is significant, representing 20% of total costs. It is estimated that 25% of patients with DVT will later develop venous leg ulceration, a severe form of PTS, that has an associated annual cost of approximately £400 million to treat.[25]



In 2005 the Health and Social Care Select Committee found that the total cost (direct and indirect costs) to the UK for the management of VTE was approximately £640 million.[23]

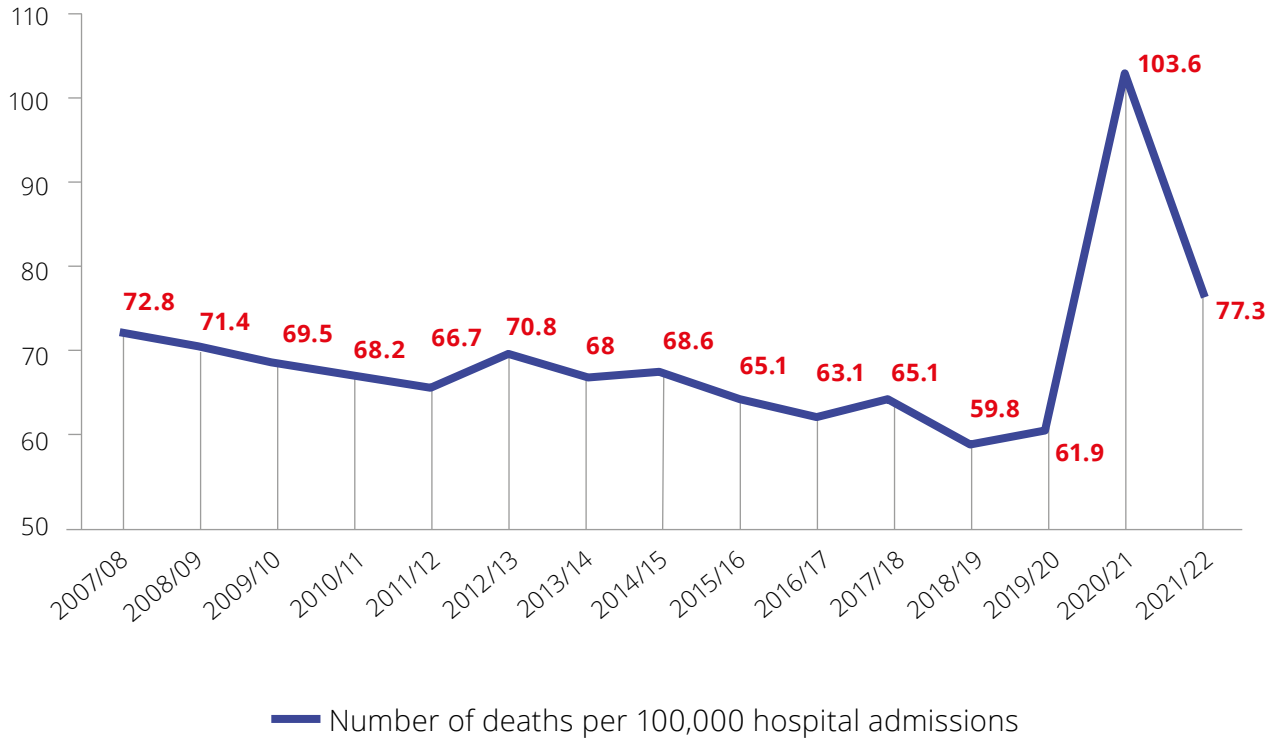


On average a person loses 1.2 healthy years of life per PE incident.[26]

Current Landscape

Since 2007/8 NHS Digital and NHS England have collected data on VTE deaths as part of the NHS Outcomes Framework (NHS OF). With over half of all diagnosed VTEs being associated with hospital admission, the indicator for VTE measures the number of patients who have been admitted to hospital with any cause and who then die within 90 days of their last discharge from a VTE related event. This indicator aims to measure the reduction in deaths from VTE related events through driving efforts to improve the prevention, detection and treatment of VTE before it causes death.[27]

Figure 2: Deaths from VTE related events within 90 days post discharge from hospital.[28]



The data on VTE deaths in England from 2007/08 to 2018/2019 shows a 17.9% reduction from 72.8 per 100,000 in 2007/08 to 59.8 per 100,000 in 2018/19.

From 2019/20 to 2020/21 there was a significant increase of 41.7 deaths per 100,000 admissions which can be attributed to the impact of COVID-19. It must be noted that the pandemic had an impact on the collection of Hospital Episode Statistics (HES) data late in the 2019/20 financial year which continued into 2020/21 as fewer patients were being admitted to hospital. Therefore, statistics from this period should be interpreted with care.[29]

Despite a long decline and consideration of the immediate impact of COVID-19 on hospital admissions, VTE deaths in the UK have alarmingly stayed above 2007/8 levels, reaching 77.3 deaths per 100,000 admissions compared to just 72.8 in 2007/08.

Challenges in VTE Prevention, Diagnosis and Management

Navigating Data Collection

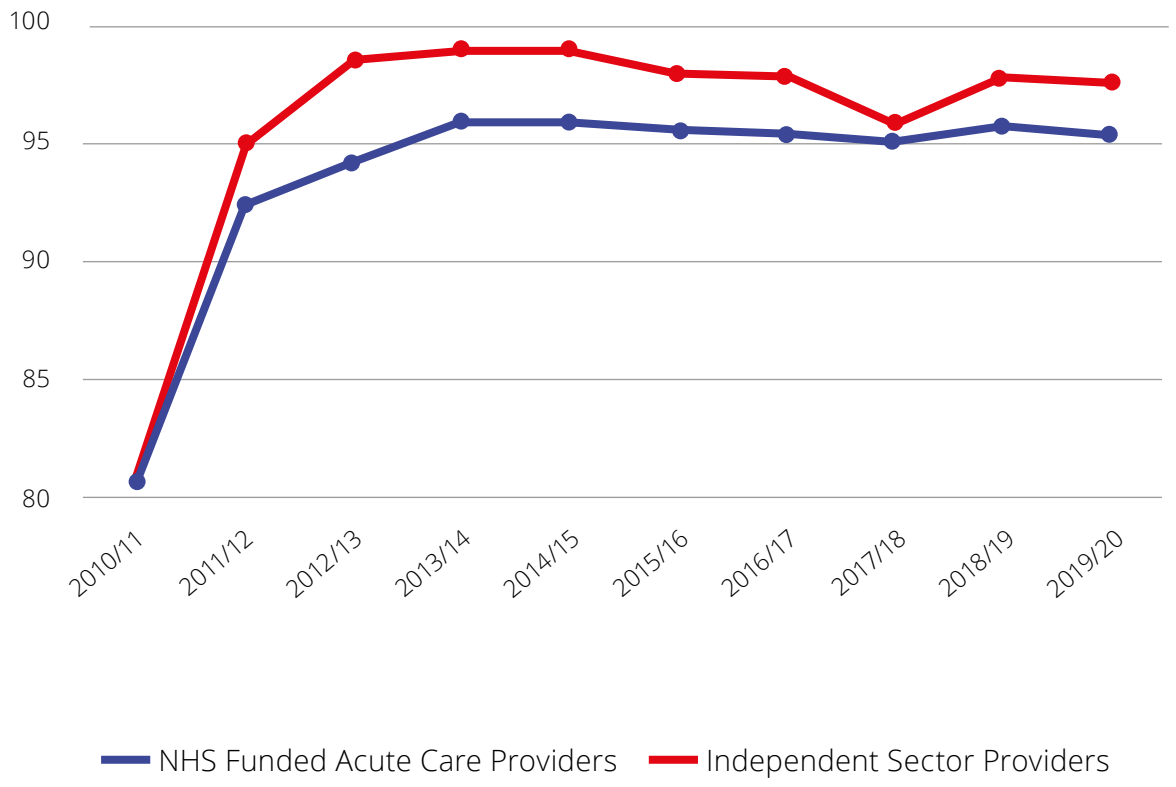
In 2009 Sir Liam Donaldson, the Chief Medical Officer (CMO) at the time, described VTE as "a significant international patient safety issue".[30]

Soon after in 2010 the National VTE Prevention Programme was introduced to drive the reduction of hospital-acquired thrombosis and ensure that VTE prevention is fully integrated into NHS systems and processes. The National VTE Prevention Programme and its delivery is supported by a number of measures including mandatory data collection of risk assessments carried out by acute care providers, the national tool for VTE risk assessment, and the requirement to undertake root cause analysis of all hospital-associated VTE cases. The national VTE risk assessment tool was first published by the Department of Health and Social Care in September 2008 and was revised in March 2010 in accordance with NICE guidance.[31] **It states that all patients should be risk assessed on admission to hospital. They should then be re-assessed within 24 hours of admission and whenever the clinical situation changes.**[32]

Up to March 2020, the VTE risk assessment was a national quality requirement in the NHS Standard Contract, requiring all providers of NHS funded care delivering relevant acute services under the NHS Standard Contract (including Foundation Trusts, NHS Trusts and independent sector providers) to submit a VTE data return.

The assessments set an operational standard of 95% of inpatients aged 16 and over being risk assessed for VTE on admission each month.

Figure 3: Q4 results from 2010/11 to 2019/20 showing the percentage of all adult inpatient admissions to NHS funded acute care under the NHS Standard Contract who have received a VTE risk assessment.[33]



With the introduction of the mandatory VTE risk assessment in 2010, Figure 3 demonstrates the immediate increase in patients being risk assessed for VTE on admission to hospital. In 2010/11 80.8% of patients in NHS funded acute care providers were being risk assessed, which increased to 92/5% in 2011/12 and again to 94.3% in 2012/13.

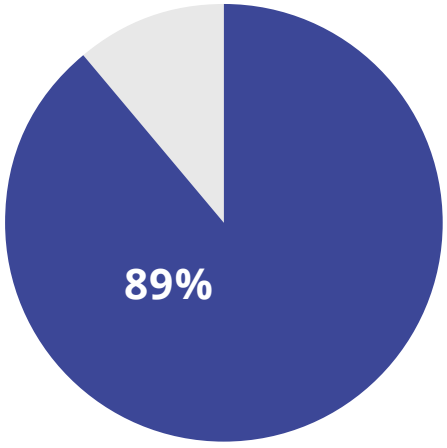
In 2013/14 the average number of patients across all NHS funded acute care providers passed the 95% threshold and has not fallen beneath this since. This is largely attributed to the introduction of the 2013/14 National VTE Commissioning for Quality and Innovation (CQUIN), a financial penalty on NHS Trusts underperforming against a standard of best practice. However, since March 2020, data collection has not been mandatory. This was suspended to release capacity in providers and commissioners to manage the COVID-19 pandemic.

The 2021 National Survey Report by Getting It Right First Time (GIRFT) and Thrombosis UK, found that of the 96 Trusts that responded to their information requests, **85 (89%) used the national VTE risk assessment tool to carry out their risk assessments on patients admitted to hospital**.[34]

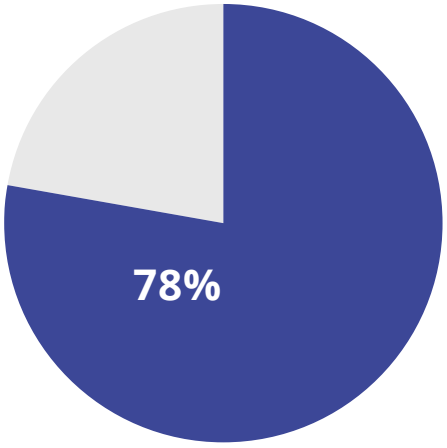
Through a Freedom of Information request sent to NHS Trusts, the VVAPPG found that of the 77 Trusts that responded, **60 (78%) still use the national VTE risk assessment tool, and 17 (22%) use their own locally adapted risk assessment tool**. Several went beyond a yes/no response to provide additional details on the risk assessments used, noting their adherence with NICE guidelines.

Figure 4: Comparison of the NHS Trusts using the national VTE risk assessment tool in 2021 (left), according to the 2021 National Survey Report by GIRFT and Thrombosis UK, and 2024 (right) according to the All-Party Parliamentary Group on Vascular and Venous Disease's Freedom of Information requests.[35]

89% of NHS Trusts using the national VTE risk assessment tool in 2021.



78% of NHS Trusts using the national VTE risk assessment tool in 2024.



Without up-to-date data on the number of patients risk assessed for VTE, it is difficult to determine whether the decrease in the use of the national risk assessment tool has impacted the number of deaths related to VTE. Further, it is unclear whether locally adapted risk assessment tools are in line with the national tool and are kept up to date with changes in guidance and research.

There is a requirement within the National VTE Prevention Programme for all acute care providers within the NHS Standard Contract to undertake root cause analysis of all hospital-associated VTE cases. These are identified by linking positive imaging for DVT and PE to hospitalisation. The details of the VTE prevention care provided are then reviewed to identify omissions in thromboprophylaxis and if the case could have been prevented.[36] While root cause analysis has taken place for many years years, alongside the mandatory risk assessment data collection and use of the national VTE prevention tools, there has been no national data collection since 2020 and therefore limited system-wide learnings on clinical failures and prevention.

The initial introduction of the system-wide approach to VTE prevention in 2010 in England, was hailed as "one of the biggest quality and safety improvement initiatives" in the NHS and has demonstrated significant improvements in patient outcomes.[37]

According to the NHS Digital figures on deaths from VTE related events, since the implementation of the National VTE Prevention Programme and the introduction of mandatory VTE risk assessments for all patients admitted into hospitals, there has been a decreasing trend in deaths related to VTE.[38]

The national prevention strategy has resulted in a reduction in the number of hospital-associated thrombosis cases, hospital readmissions secondary to VTE, and PE related deaths, demonstrating the benefit of systematic VTE prevention driven by mandatory risk assessment and incentivisation of best practice.[39]

However, one of the key challenges since March 2020 has been the suspension of the VTE data collection and publication. Despite VTE prevention remaining an important patient safety practice in UK hospitals by its continuation as an indicator on the NHS Outcomes Framework, it has been challenging to maintain the rate of VTE risk assessment, diagnosis and treatment over the COVID-19 pandemic with competing quality improvement priorities within the NHS.

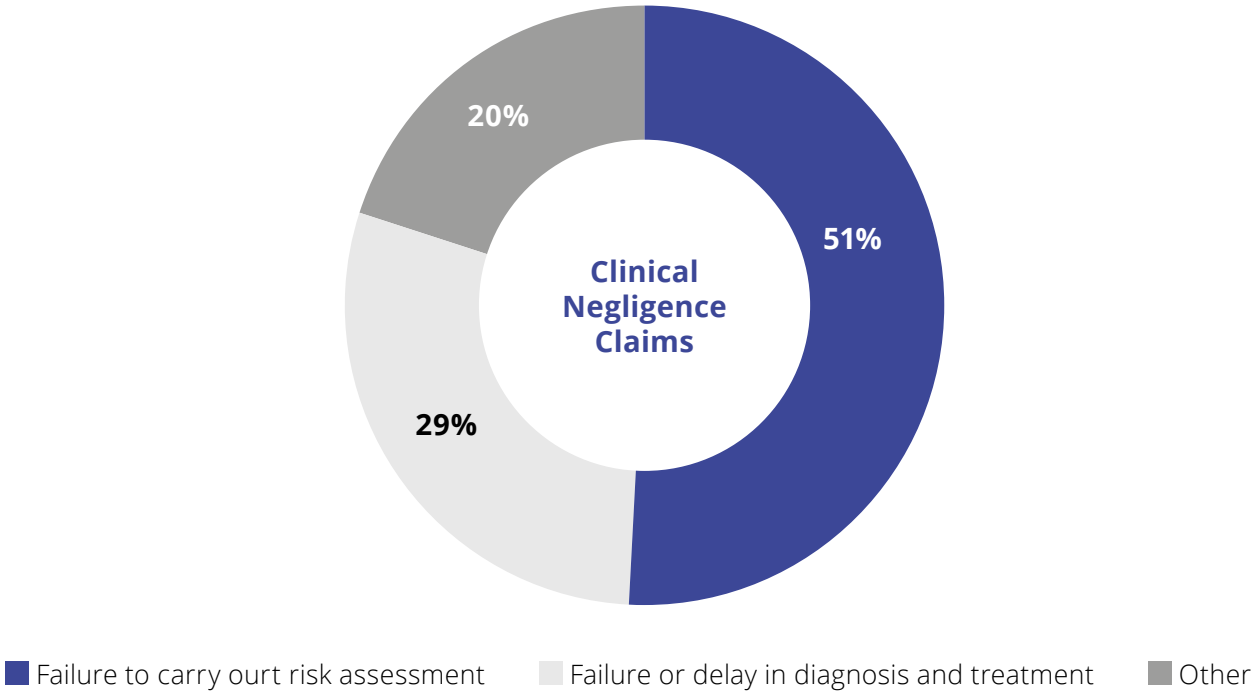
With the suspension of national data collection and the incentive to adhere to best practice, alongside competing burdens on time and resources associated with the pandemic, it is unclear to what extent Trusts have continued to carry out best practice and whether they have met the 95% threshold of patients admitted to hospitals being risk assessment for VTE. Combined with the data that demonstrates deaths from VTE related events have not decreased to levels seen before the pandemic and are higher than levels seen in 2007/8, it is vital that NHS England has up-to-date data to understand how, and to what extent Trusts are utilising VTE risk assessments.

Empowering Healthcare Training

In 2005, the Health and Social Care Select Committee found that despite the high incidence rate of VTE and the availability of thromboprophylaxis, many surgeons and physicians were not aware that their patients suffered from the condition and were therefore not administering thromboprophylaxis.[40] As such, the Committee found there was significant national variation in the administration of thromboprophylaxis, largely due to a lack of awareness and education on the extent of VTE and how readily and safely it can be prevented.

From April 2012 to March 2022, NHS Resolution documented 687 closed claims relating to VTE injuries across the clinical negligence indemnity schemes. **The sum of total damages was £24,780,179.**[41] **Of the claims received, 51% were caused by a failure to carry out a VTE risk assessment.** Around 29% were due to a failure or delay in diagnosis and treatment of VTE including a failure to prescribe or administer anticoagulant or an incorrect dose of anticoagulant administered.[42]

Figure 5: Distribution of the causes of clinical negligence from 2012 to 2022 claims relating to VTE injuries.

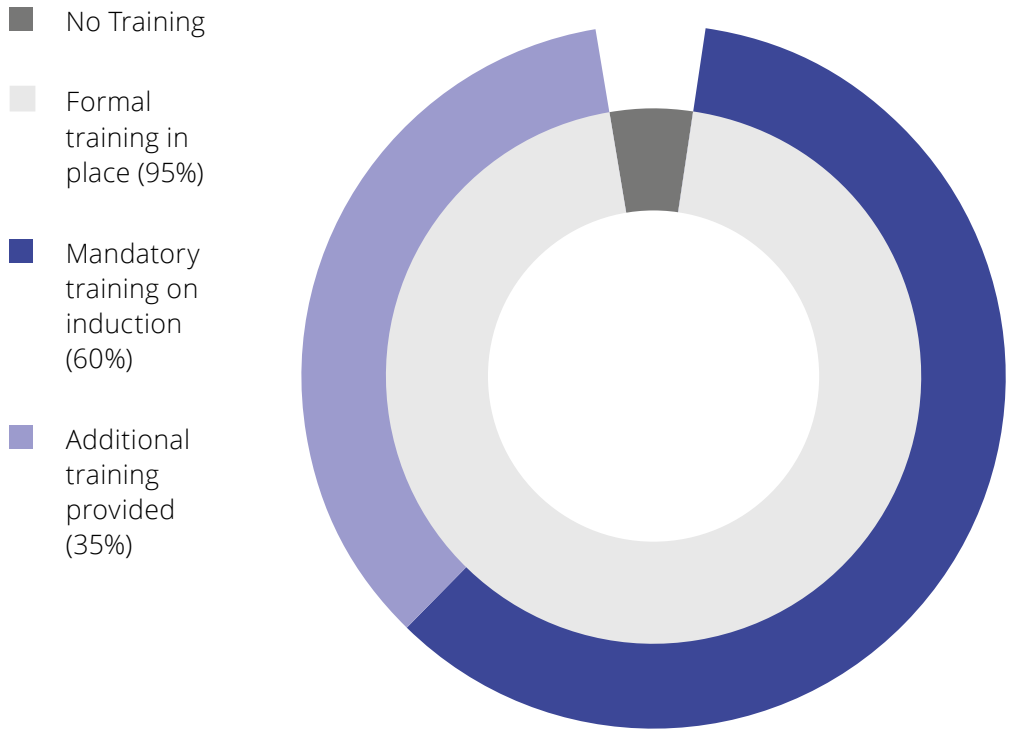


While this data is the most accurate calculation of claims, it is also an underestimation. Designed as a claims handling system, not a registry or tool for clinical education, the details from NHS Resolution are limited.

An independent report published by Patient Safety Learning in January 2023 found that there was a lack of trained healthcare professionals and buy-in for clinical guidelines relating to DVT and PE.[43] Emergency Department (ED) staff reported not being taught how to assess symptoms and signs to select investigatory tests and struggled with initial patient assessment. Further, staff reported that they did not utilise hospital procedures because they could recall the requirements from memory. Clinical guidance and education are only as valuable as their adherence. With guidance being inconsistently applied or ignored, increased awareness among healthcare professionals and an increase in hospital prioritisation of VTE prevention is needed to drive better outcomes for patients.

In a recent Freedom of Information request to NHS Trusts, the VVAPPG found that, of 77 Trusts that responded, **73 (95%) have training in place to ensure the correct usage of the VTE risk assessment tool in clinical practice. Three Trusts noted that they had no formal or specific training in place for VTE risk assessment**. Several went beyond a yes/no response to provide additional details on the training practices in place. **Of the Trusts providing VTE risk assessment training, 46 Trusts (60%) stated that this was mandatory for clinical staff and completed on induction to the hospital. Twenty seven (35%) noted that additional training is provided via e-learning or face-to-face throughout the year with several noting that training is refreshed every three years**. Others stated that they require local training and feedback based on audits and investigations at ward level.

Figure 6: Percentage of Trusts providing formal training, with a breakdown of the percentage of those Trusts providing mandatory training on induction and those providing additional, ongoing training, to ensure the correct usage of the VTE risk assessment tool in clinical practice.



Nevertheless, it is difficult to know from this top line data how comprehensive training efforts are, whether healthcare professionals are updated and whether compliance is monitored.

With a recorded lack of clinical buy-in and lack of awareness in healthcare settings around the importance of preventing VTE, it appears as though VTE prevention has slid down the list of clinical priorities. There is a need to reinvigorate the discussion and awareness raising of the risks of DVT and PE, as well as the value in prevention, both at a clinician level and at ICS leadership. It is crucial to share cost-saving data with ICSs and hospital leadership to ensure the value of prevention is also understood from a resource saving perspective.

With the development and implementation of ICSs, there is a role for leadership to ensure that VTE remains high on the clinical agenda by reinforcing training for staff and ensuring compliance with VTE risk assessment tools through regular reviews of care. There is also a necessity to keep the pathway and interventions simple to ensure effective and quick risk assessment, diagnosis and treatment, and ensure ensure compliance with national guidelines.[44]

Leadership and Implementation of VTE Care

VTE is well served by national standards and NICE guidelines that facilitate high quality care and reduce the risk in patients admitted to hospital. Nevertheless, it is the responsibility of ICS leadership to continue to work with providers to monitor compliance with VTE risk assessments, undertake root cause analysis of all cases of hospital-associated VTE cases, and routinely support the use of interventional treatment options as alternatives to thromboprophylaxis and thrombolysis for high risk patients. Attention should be paid not only to the quality of VTE prevention and treatment services but also to the availability of and access to a range of therapy options. Given the increasing postcode lottery in VTE care, renewed commitment and investment from ICS leadership and NHS England are required to eliminate disparities and ensure equitable access to prevention measures, diagnosis and treatment. ICS leadership and NHS England should once again commit resource and capacity to improving and reducing the postcode lottery of prevention and care.

In 2005, the Health and Social Care Select Committee recommended the establishment of systems to ensure the implementation of NICE guidelines. This included a Thrombosis Committee and Thrombosis Team to ensure clinical governance and provide local audits of thromboprophylaxis procedures in each hospital.[45] These were intended to raise the minimum standards for healthcare professionals and:[46]

- Promote best practice through local protocols based on national guidelines.
- Lead multi-professional audits of the use of thromboprophylaxis with a focus on specialisms where risk is high.
- Promote the education and training of all clinical and support staff.
- Have the authority to modify existing VTE and risk assessment protocols and to introduce appropriate changes in practice.
- Promote and provide advice and support to clinical teams on procedures and risk assessment.

The 2021 National Survey Report by GIRFT and Thrombosis UK found that of the 96 Trusts who responded to their survey, only 68 (71%) had a VTE prevention role.[47] In a recent Freedom of Information request to NHS Trusts, the VVAPPG asked who in the Trust is responsible for the implementation of the Trust's VTE risk assessment protocols.

Responses varied with 36 (46%) of the 77 Trusts who responded stating that they had a specified VTE lead or Thrombosis committee who is responsible for the implementation of the Trust's VTE risk assessment. Among the Trusts who did not specify a VTE lead or Thrombosis committee, responses ranged from the Chief Nursing Officers, Chief Medical Officers or Directors, Quality and Safety Committees and Teams, digital teams with responsibility for integrating the risk assessment tool into electronic patient records, and individual clinical staff.

Despite the successes of the National VTE Prevention Programme, there is still significant variation among ICSs around VTE clinical leadership. In the absence of mandatory VTE risk assessment data collection, and the rise in VTE related deaths, ICSs should ensure there is continued leadership in VTE prevention to ensure oversight and audits are embedded within existing clinical governance systems.[48] ICSs should ensure there are compliance systems in place that review and audit practice regularly.

In 2007, the Department of Health and Social Care established the National VTE Exemplar Centre Network that aims to reduce avoidable death and disability from hospital-associated VTE. This is a network of hospitals that have a track record of excellence in VTE prevention that offer practical support and advice to other centres and collaborate on clinical research into VTE prevention.[49]

The VTE Network allows for national benchmarking, optimising the success of national initiatives like GIRFT and promoting collaborative working across hospitals.[50] The network continue to play an important role in driving excellence in VTE care and helps provide national and local leadership for VTE prevention, providing important resources to to deliver safer care for patients.

The 2021 National Survey Report, undertaken in collaboration with the VTE Exemplar Centres, recommended that centres not yet achieving the 95% VTE risk assessment threshold buddy up with an established VTE exemplar centre to enable sharing of best practice, resources, and to provide mentorship and support.[51] Since 2021 fifteen partnerships have been established and provide a focus for VTE champions across professions to develop and disseminate best practice.[52]

Nonetheless, without mandatory data collection in place since 2010, it is difficult to understand where the gaps are in best practice across England and to reach out those hospitals struggling with their VTE prevention.

Towards Tomorrow: Embracing the Future

Since the removal of mandatory VTE risk assessment data collection in March 2020, it has become evident that while progress has been made, substantial challenges persist in the prevention and management of VTE. The impact of VTE on patients and the healthcare system is profound and necessitates a renewed commitment and strategic approach to address these issues effectively.

The future of VTE prevention and treatment demands a multifaceted approach that integrates awareness raising, data collection and education at all levels of the NHS.

The roadmap to effectively tackling VTE prevention demands collaborative efforts between policymakers, healthcare providers, and the larger healthcare community to reinforce the importance of preventing the preventable to significantly reduce the burden of VTE on the healthcare system, enhance patient safety, and optimise healthcare resources for a healthier future.

Pathway to Progress: Recommendations for Enhanced VTE Care

1. **NHS England should reinstate the mandatory national VTE risk assessment data collection.**
   - The suspension of VTE data collection during the COVID-19 pandemic has obscured understanding of current practices. Reestablishing this collection is vital to incentivise best practices, monitor compliance and drive improvements in risk assessment, diagnosis and treatment.
   - NHS England and GIRFT should continue to work with Thrombosis UK and the VTE Exemplar Centre Network to reassess the current state of VTE prevention through a national survey to review practices since 2021.
2. **ICSs and NHS England must once again prioritise VTE prevention, embedding oversight, audits, and compliance mechanisms within existing clinical governance systems.**
   - It is vital to ensure national consistency in compliance, risk management and knowledge dissemination.
   - ICSs should ensure there is a local policy for auditing and managing omissions of critical thromboprophylaxis doses and develop local quality improvement programmes to reduce missed diagnosis and preventable deaths.
3. **Acute care providers should ensure that there is a dedicated VTE prevention role to ensure compliance with guidelines, promote best practice and implement and update education and training tools.**
   - VTE championship and leadership within acute care providers is vital to ensure audits are embedded within clinical governance systems and healthcare staff are supported through up-to-date and comprehensive training and education on risk assessment protocols.
4. **NHS England and ICSs should enhance training and education for healthcare professionals in VTE prevention protocols and practices.**
   - The lack of clinical buy-in and awareness among healthcare professionals indicates a need for comprehensive and ongoing education. Prioritising training efforts, ensuring regular updates, and monitoring compliance will significantly impact the quality of care provided for VTE.
5. **NHS England and ICSs should address regional variation and investigate underlying causes of regional differences in VTE prevention and management.**
   - Understanding these disparities will aid in creating more equitable healthcare access and outcomes. NHS England must utilise the VTE Network to leverage the success of Exemplar Centres. Encouraging and incentivising struggling care providers to partner with established centres for mentorship, sharing best practices and resources can significantly elevate prevention strategies across the board.

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