

Preventing hospital-associated thrombosis

Prof Beverley Hunt OBE
Guy's & St Thomas' NHS Foundation Trust
Kings College, London
Founder & trustee of Thrombosis UK
Twitter @bhwords

I have no conflicts of interest, I take no monies from big pharma

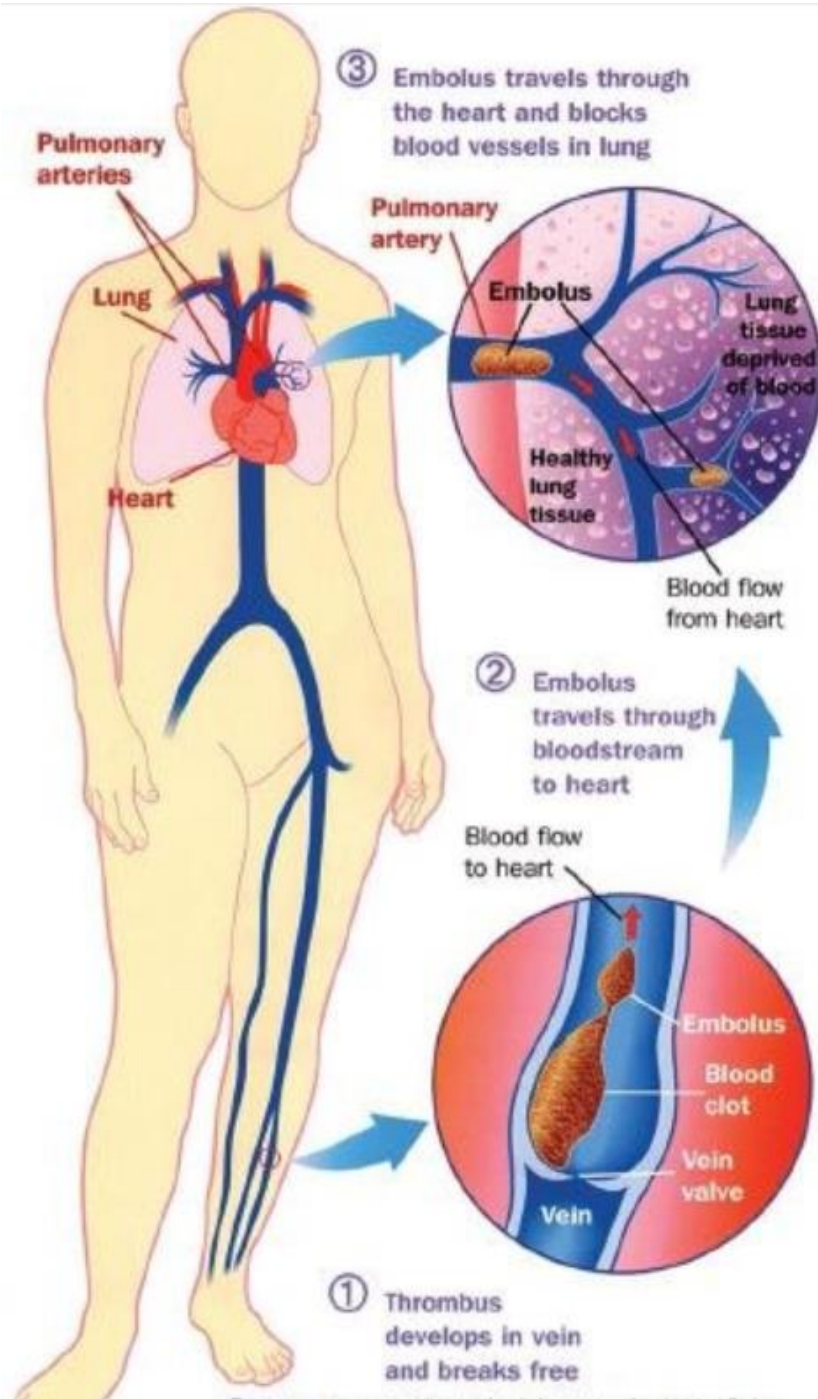
Terms

Deep vein thrombosis

Pulmonary embolism

Together they are known as
venous thromboembolism

Hospital-associated VTE also
known as hospital-associated
Thrombosis = VTE during
admission & for 90 days afterwards

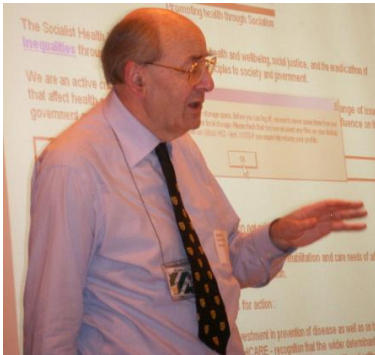


Health Select Committee 2004/5



December 2004

Why are so many dying from
a preventable and treatable
disease?



March 2005

Health Select Committee Report



House of Commons
Health Committee

The Prevention of Venous Thromboembolism in Hospitalised Patients

Second Report of Session 2004–05

Report, together with formal minutes, oral and
written evidence

Ordered by The House of Commons
to be printed 23 February 2005



HC 99
Published on 8 March 2005
by authority of the House of Commons
London: The Stationery Office Limited
£15.50

Venous thromboembolism (VTE)

Hospital-associated VTE (HAT)
accounts for 60% of all VTE

Definition: VTE occurring in hospital &
for up to 90 days post discharge

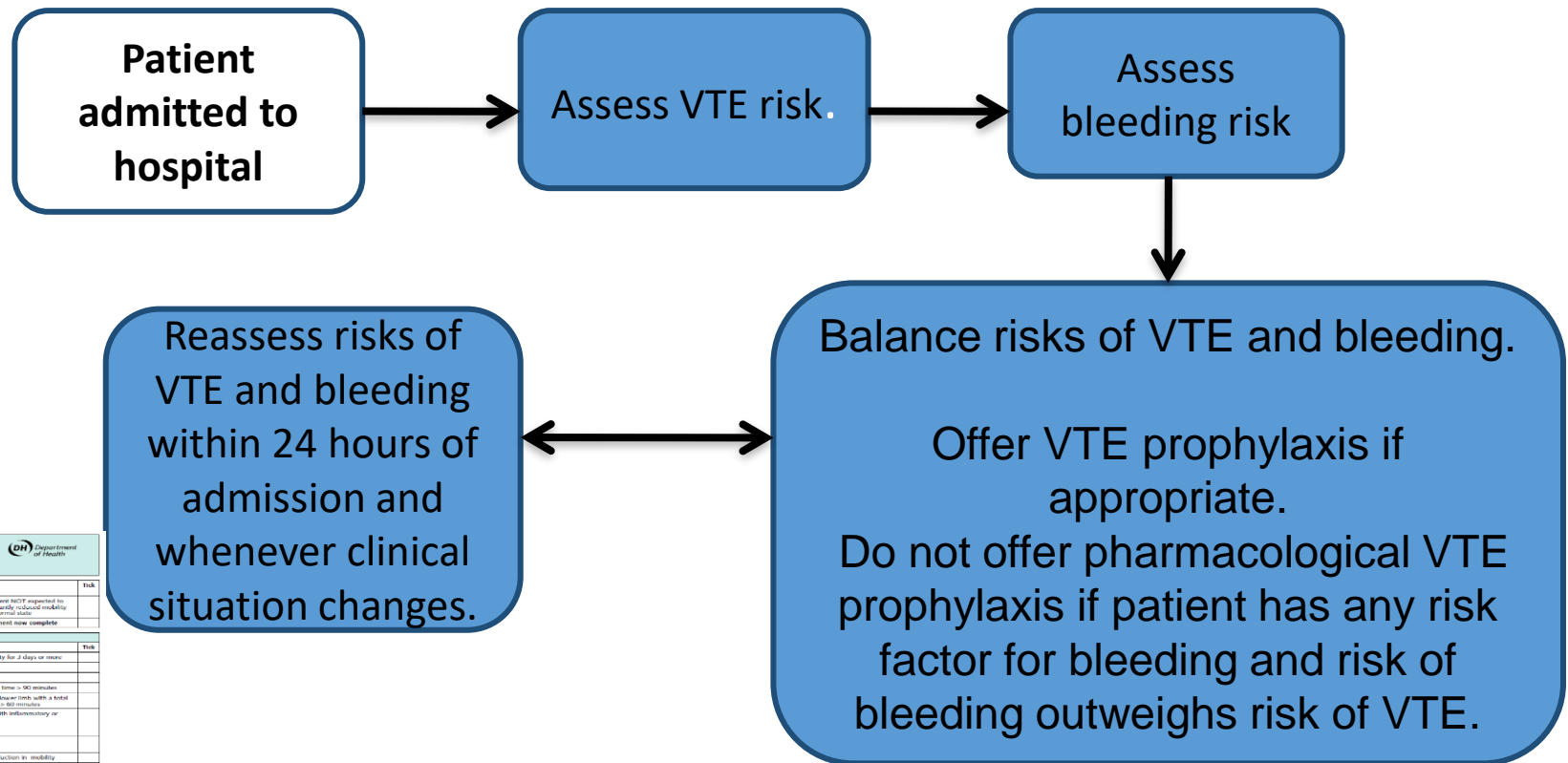
Estimated 10 million cases a year
(WHO)

The number one cause of preventable
death due to hospital admission

“All patients, both
medical and surgical,
who are admitted to
hospital should
undergo a risk
assessment for
venous thrombosis”

(House of Commons Health Committee
The Prevention of Venous
Thromboembolism in Hospitalised Patients
Second Report of Session 2004–05)

Thromboprophylaxis English style



RISK ASSESSMENT FOR VENOUS THROMBOEMBOLISM (VTE)			
Tick	Tick	Tick	Tick
Assess for thrombotic and bleeding risk below Mobility – all patients (tick one box) Surgical patient Medical patient expected to have ongoing reduced mobility relative to normal state Medical patient NOT expected to have significantly reduced mobility relative to normal state Risk assessment now complete			
Thrombotic risk			
Patient related	Admission related	Admission related	Admission related
Active cancer or cancer treatment	Significantly reduced mobility for 2 days or more	Significantly reduced mobility for 2 days or more	Significantly reduced mobility for 2 days or more
Age > 60	Use of hormone replacement	Use of hormone replacement	Use of hormone replacement
Dehydration	Use of hormone replacement	Use of hormone replacement	Use of hormone replacement
Known thrombophilia	Total anaesthesia > surgical time > 90 minutes	Total anaesthesia > surgical time > 90 minutes	Total anaesthesia > surgical time > 90 minutes
Obesity (BMI > 30 kg/m²)	Surgery involving incision or incision with a total anaesthesia > surgical time > 90 minutes	Surgery involving incision or incision with a total anaesthesia > surgical time > 90 minutes	Surgery involving incision or incision with a total anaesthesia > surgical time > 90 minutes
One or more significant medical comorbidities (eg heart, chronic renal, chronic liver, chronic respiratory, chronic neurological, chronic infectious disease, inflammatory conditions)	Acute surgical admission with inflammatory or intra-abdominal condition	Acute surgical admission with inflammatory or intra-abdominal condition	Acute surgical admission with inflammatory or intra-abdominal condition
Personal history or first-degree relative with a history of VTE	Critical care admission	Critical care admission	Critical care admission
Use of hormone replacement therapy	Surgery with significant reduction in mobility	Surgery with significant reduction in mobility	Surgery with significant reduction in mobility
Use of oestrogen containing contraceptive therapy			
Multiple visits with phlebitis			
Progression or a newly onset pattern (see NHS guidance for specific risk factors)			
Bleeding risk			
Patient related	Admission related	Admission related	Admission related
Active bleeding	Neurosurgery, spinal surgery or eye surgery	Neurosurgery, spinal surgery or eye surgery	Neurosurgery, spinal surgery or eye surgery
Acquired bleeding disorders (such as acute liver failure)	Other procedure with high bleeding risk	Other procedure with high bleeding risk	Other procedure with high bleeding risk
Concurrent use of antiplatelets (aspirin or clopidogrel) or anticoagulants (warfarin or direct oral anticoagulants) expected within the next 12 hours	Lumbar puncture/cerebral anasthesia expected within the next 12 hours	Lumbar puncture/cerebral anasthesia expected within the next 12 hours	Lumbar puncture/cerebral anasthesia expected within the next 12 hours
Acute stroke	Lumbar puncture/cerebral anasthesia within the previous 4 hours	Lumbar puncture/cerebral anasthesia within the previous 4 hours	Lumbar puncture/cerebral anasthesia within the previous 4 hours
Thrombocytopenia (platelets < 75x10 ⁹ /L)			
Uncontrolled systolic hypertension (>200/120 mmHg or higher)			
Uncontrolled inherited bleeding disorders (such as haemophilia and von Willebrand's disease)			

Hospital infrastructure - thromboprophylaxis committee & team
 National infrastructure - Exemplar Centres, National Lead
 All Trusts asked to return their risk assessment rates

1.14.10 Consider adding pharmacological VTE prophylaxis for people undergoing thoracic surgery for a minimum of 7 days to people whose risk of VTE outweighs their risk of bleeding:

- Use LMWH as first-line treatment.
- If LMWH is contraindicated, use fondaparinux sodium. **[2018]**

All surgery

1.3.13 Advise people to consider stopping oestrogen-containing oral contraceptives or hormone replacement therapy 4 weeks before elective surgery. If stopped, provide advice on alternative contraceptive methods. **[2010]**

Nursing care: early mobilisation and hydration

1.3.14 Encourage people to mobilise as soon as possible. **[2010]**

1.3.15 Do not allow people to become dehydrated unless clinically indicated. **[2010]**

Taken from NHS England website

Table 2: Percentage of hospital admissions (aged 16 and over at the time of admission) risk assessed for VTE by region (Q1 2019/20, England)

NHS region	All providers	NHS acute care providers	Independent sector providers
North East and Yorkshire	95.5%	95.5%	98.7%
North West	95.2%	95.1%	98.5%
Midlands	96.1%	96.0%	96.9%
East of England	96.5%	96.5%	95.8%
London	95.4%	95.4%	97.7%
South East	95.9%	95.8%	99.0%
South West	94.7%	94.6%	96.8%

Taken from NHS England website

Table 2: Percentage of hospital admissions (aged 16 and over at the time of admission) risk assessed for VTE by region (Q1 2019/20, England)

NHS region	All providers	NHS acute care providers	Independent sector providers
North East and Yorkshire	95.5%	95.5%	98.7%
Midlands	96.1%	96.0%	96.9%
East of England	96.5%	96.5%	95.8%
London	95.4%	95.4%	97.7%
South East	95.9%	95.8%	99.0%
South West	94.7%	94.6%	96.8%

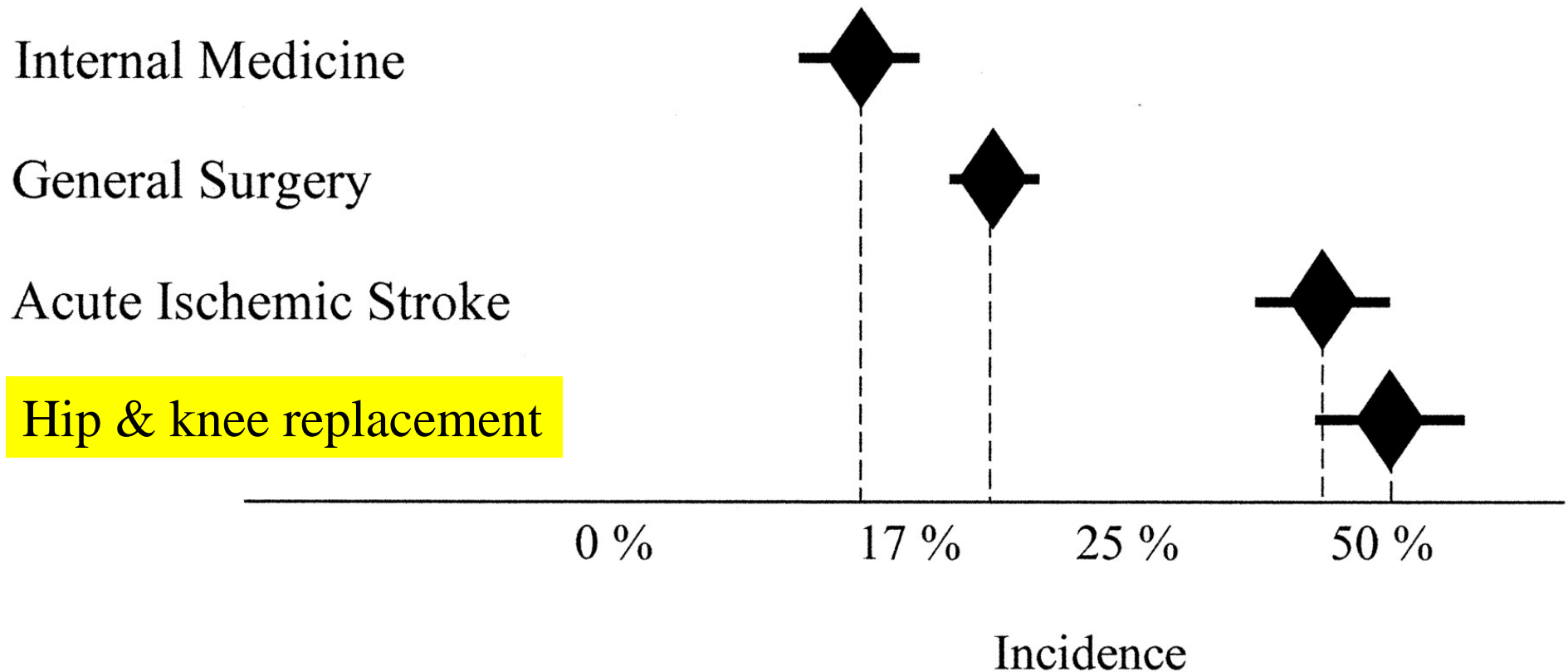
However stopped for the pandemic and not restarted



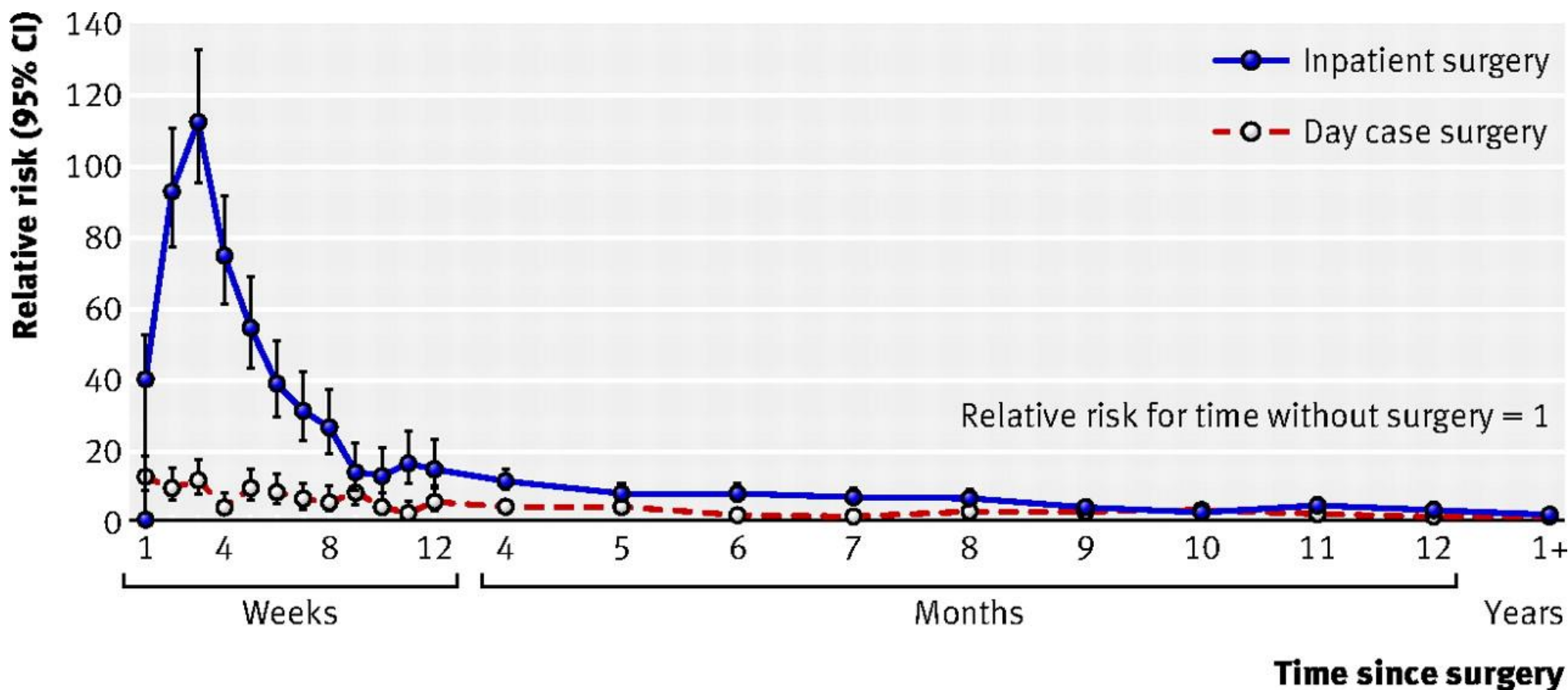
Costs and savings of thromboprophylaxis per 100,000 population

Recommendations with significant costs	Costs per year (£)
Offer pharmacological VTE prophylaxis to general medical admissions assessed to be at risk of VTE	14,000
Offer VTE prophylaxis to admissions undergoing surgery	2,000
Estimated cost of implementation	16,000
Recommendations with significant savings	Savings per year (£)
Offer pharmacological VTE prophylaxis to general admissions patients assessed to be at risk of VTE – VTE events avoided	9,000
Offer VTE prophylaxis to admissions undergoing surgery –VTE events avoided	3,000
Estimated saving of implementation	12,000

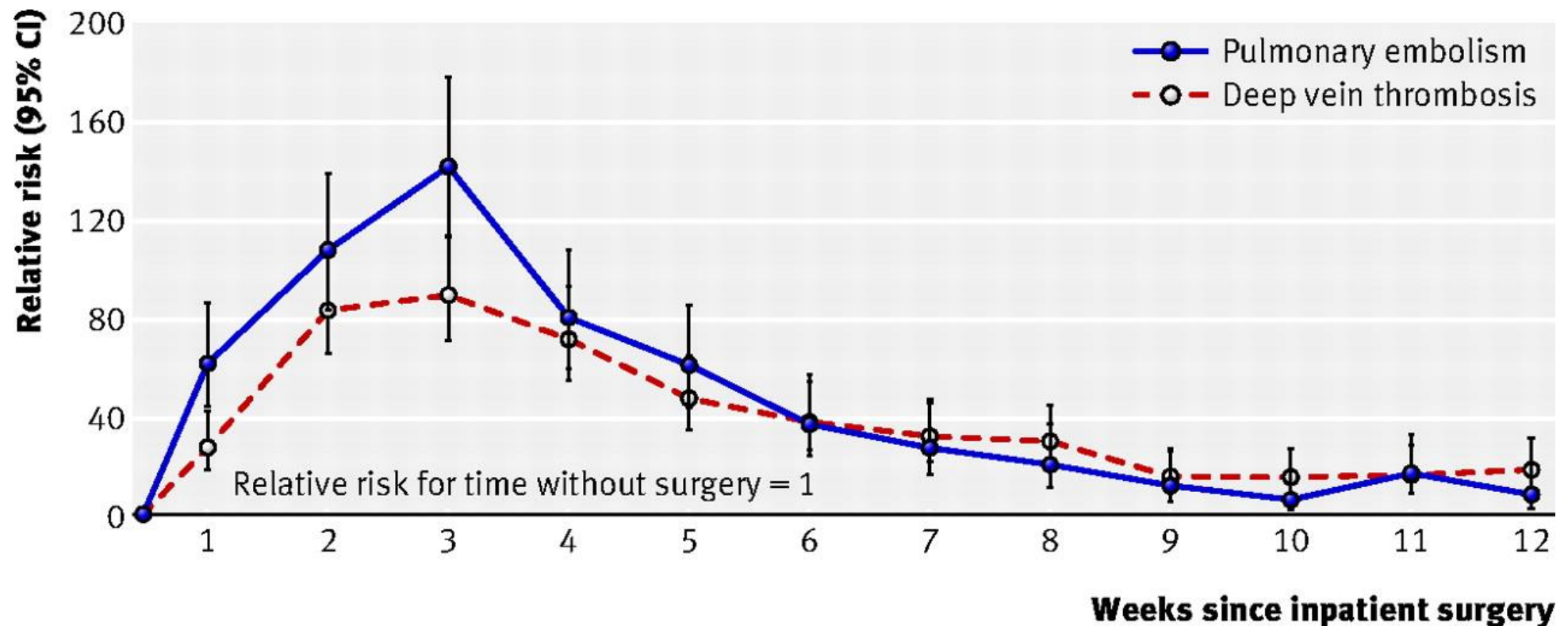
Risk of DVT as inpatient without prophylaxis



Relative risk of VTE by time since surgery

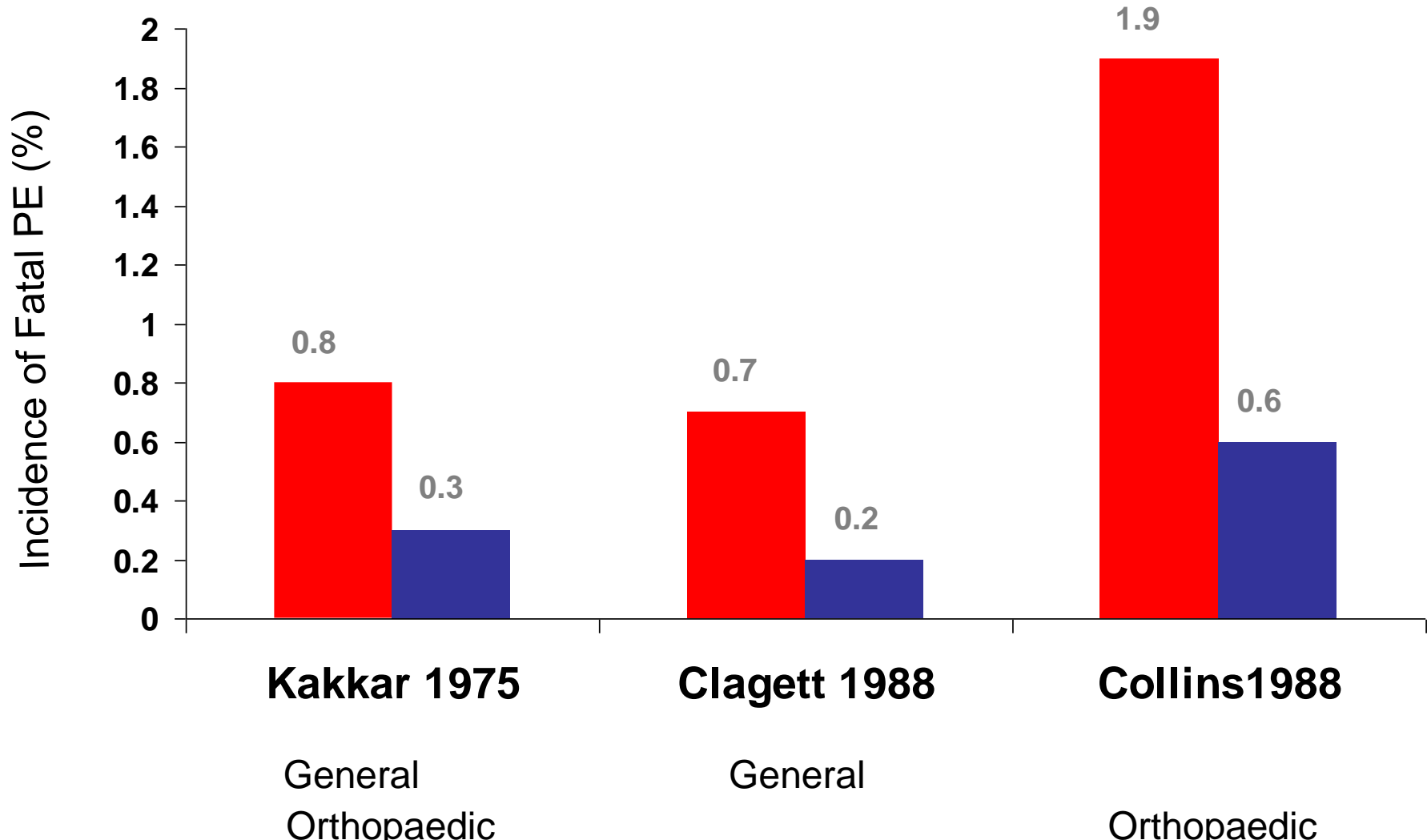


Relative risks of PE and DVT by time since inpatient surgery



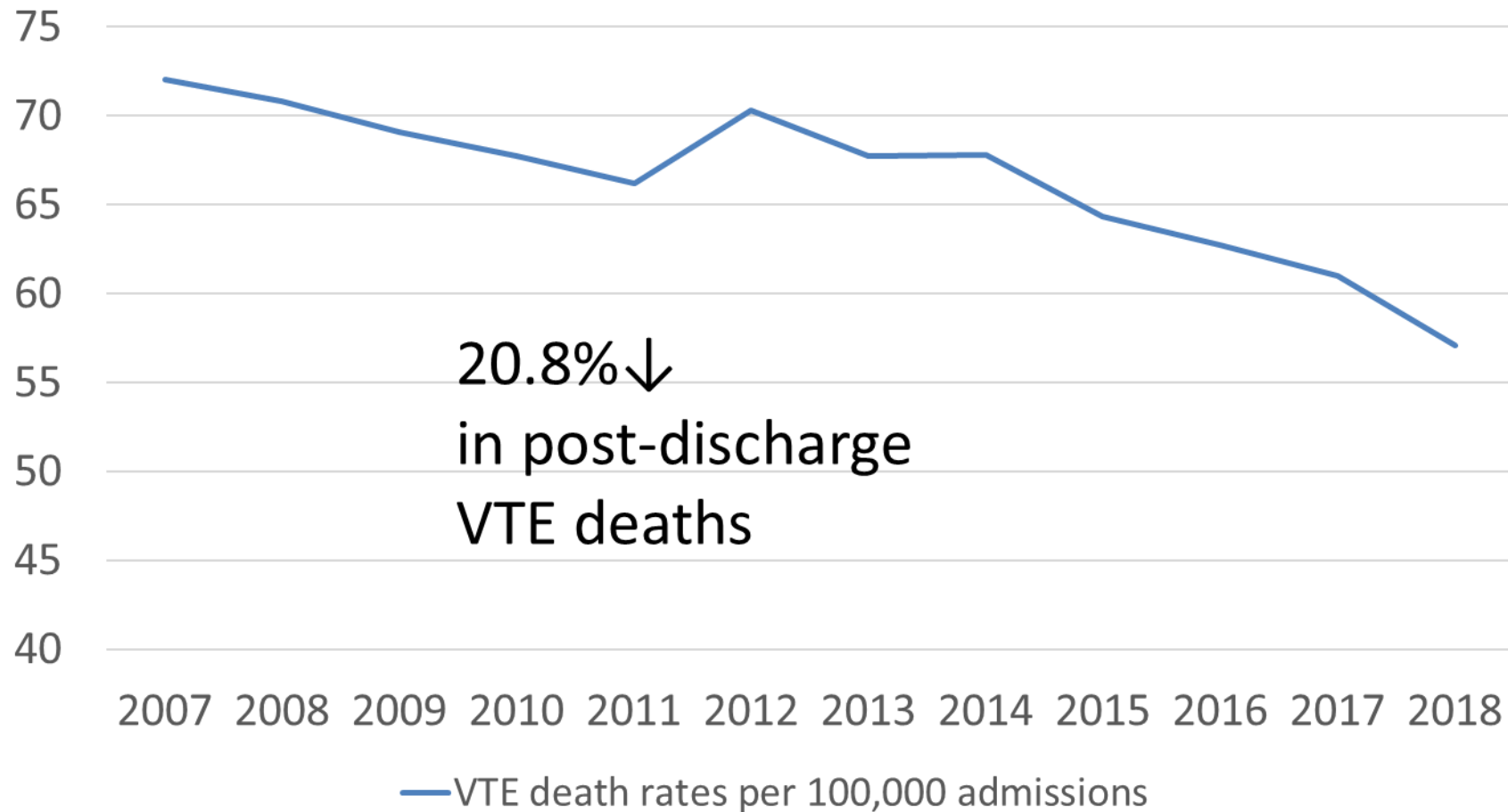
Reduced rate fatal PE post surgery with heparin thromboprophylaxis

■ Placebo ■ Heparin prophylaxis



A systematic approach from NHS England - mandated VTE risk assessment

Applying mandated VTE risk assessment in NHS England
Deaths from VTE related events within 90 days post discharge
from hospital rate per 100,000 adult admissions, 2007/08 to
2017/2018



UK leads research in HAT prevention

National Institute of Health Research (NIHR) have had a annual research call for some aspect of care over the last 7 years

Currently looking at

- Are anti embolic stockings of any value (3 trials)?
- Prevention to those with lower limb immobilisation,
- Prevention in pregnancy
- Prevention with specific operations

WHO Global Patient Safety Action Plan 2021-2030

Strategic objective 3:

Assure the safety of every clinical process

STRATEGY 3.1:

Identify all risk-prone clinical procedures and mitigate their risks, taking account of national and local priorities

Actions for governments

- ▶ Create expert groups to identify, assess, map and widely communicate the information on key areas and sources of avoidable risk and harm in each domain of clinical practice.
- ▶ Create and regularly update a database of knowledge and tools to enable organizations and health care professionals to mitigate the risks and manage harm associated with clinical processes.
- ▶ Establish a range of clinically led patient safety improvement programmes each year consistent with the national patient safety plan and strategy (see strategy 1.1) that target systemic themes (patient identification, diagnostic safety); patient groups (dementia patients, paediatric patients); health care settings (primary care, nursing homes); sources of harm (venous thromboembolism, sepsis and patient falls); clinical practice domains (surgical care, obstetric services, critical care, emergency medical services, radiotherapy); and mental health and public health programmes (immunization, reproductive health, maternal health).
- ▶ Provide guidance and leadership support to annual patient safety improvement programmes, evaluate them, and disseminate lessons learned with overall safety and quality improvement programmes in the health sector.

Advanced indicators:

Strategic objective 3

3.1. Avoidable deaths due to health care-associated VTE during or after hospitalization (up to 90 days post discharge)



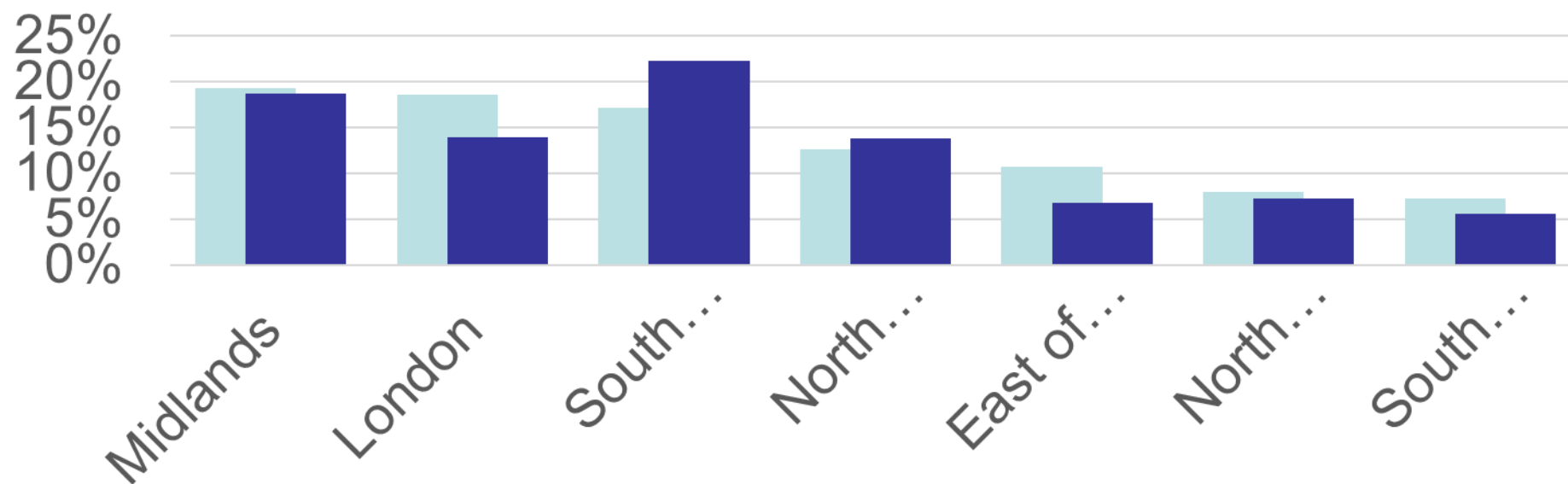
World Health
Organization

<https://www.who.int/publications/i/item/9789240032705>

Potentially preventable HAT

excl low reporting centres 2020

Proportion of potentially preventable HAT cases
by unit



Claims related to VTE in NHS England

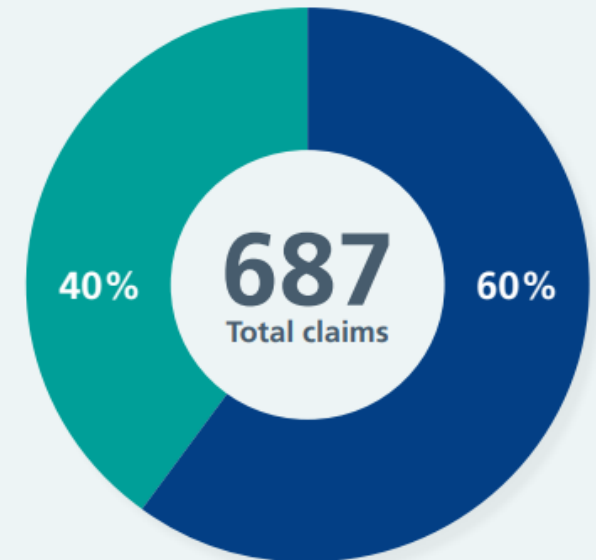
From 1 April 2012 until 31 March 2022 NHS Resolution documented 687 closed claims relating to VTE injuries across the clinical negligence indemnity schemes.
The sum of total damages was £23,780,179.

687
Claims received
between 2012-2022

■ **411**
Claims were settled
with damages paid
■ **276**
Claims were settled
with no damages paid

VTE claims outcomes

- 60% of claims were settled with damages paid
- 40% of claims were settled with no damages paid



What are Thrombosis UK asking for?

- Re-instatement of NHS England VTE risk assessment rates
- In depth reassessment of the current state of VTE prevention through a nationwide survey with Getting it Right First Time, IT NEEDS FUNDING