Statement by: International Society on Thrombosis and Haemostasis (ISTH)

We have low-cost and easily implementable methods to reduce mortality from thrombosis - now is the time for action.

1 in 4 people worldwide are dying from conditions caused by thrombosis. Thrombosis is the underlying pathology of heart attack, thromboembolic stroke, and venous thromboembolism (VTE), the top three cardiovascular killers and importantly is often preventable. Prioritising VTE prevention is essential to the global NCD aim of reducing death due to NCD.

Thrombosis is the formation of a thrombus (blood clot) in a blood vessel. The vessel may be any vein or artery as for example, in a deep vein thrombosis (venous) or a coronary artery (arterial). Once formed, a clot can slow or block normal blood flow, and may break loose and travel to block another blood vessel. A clot that travels to the circulation is called an embolism.

What is VTE?

VTE is a condition in which a blood clot forms most often in the deep veins of the leg and pelvis (known as deep vein thrombosis, DVT) and can break off, travelling through the circulation, to lodge in the arteries of the lungs (known as pulmonary embolism, PE). Together, DVT and PE are known as VTE - a dangerous, potentially deadly medical condition, and those who survive can have long term health problems with shortness of breath, permanently swollen legs and leg ulcers.

VTE is the leading cause of adverse events due to hospital admission globally and its prevention could be essential in countries achieving their goals of reducing incidence and mortality of NCDs. The UN and WHO could act as a facilitators and disseminators of best practice evidence-based prevention, with the International Society for Thrombosis and Haemostasis (ISTH), an official non-state actor, standing ready to lend its expertise, resources and global network towards this goal. Prevention of hospital-associated VTE also leads to real healthcare cost-savings, with the failure of giving VTE prevention leading to very high direct and indirect costs in comparison to costs of VTE prevention and prophylaxis.

Importance of hospital-associated VTE prevention to the NCD response

- The WHO have shown that globally there are almost 10 million hospital-associated VTE annually.¹
- It is the leading cause of adverse events directly due to hospital admission in low, middle and high income countries.
• It is the biggest cause of lost DALY (disability adjusted life years)\(^1\) due to hospital admission in low and middle income countries.
• VTE causes more hospital-associated adverse events than catheter-related sepsis, hospital-acquired pneumonia and falls.
• VTE is associated with a high potential of morbidity and mortality in cancer patients\(^{iii}\) and is the second leading cause of death in cancer patients.\(^{iv}\)
• Overall VTE is the third leading cardiovascular diagnosis after heart attack and stroke.\(^v\)

All countries can reduce mortality from VTE

National health systems can reduce mortality from VTE by mandating VTE risk assessment for all hospital admissions and providing prophylaxis when required. Prevention of hospital-associated VTE requires very little additional time burden to hospital staff. Diagnostic and preventative methods are available at minimal cost and the most used prophylaxis medications are included on the WHO essential medicines list.

VTE risk assessment of hospital admissions is key to successful prevention.

Hospital-acquired VTE is one of the most preventable causes of mortality related to hospital attendance. There are validated risk assessment tools to help identify those patients at risk — consisting of a short patient questionnaire which takes only minutes to complete. When systematic mandated risk assessment has been used (and prophylaxis administered when needed), it has resulted in a national reduction of death due to pulmonary embolism (PE), e.g. NHS England mandated risk assessments reduced deaths due to PE by 9%\(^{vi}\). We therefore recommend using the NHS England risk assessment tool in view of its success.

Although hospital-associated VTE can occur in surgical patients, the majority of cases occur in medical admissions for non-surgical problems such as pneumonia and stroke and also in pregnant women, so it’s important all hospital admissions are assessed.

VTE Prevention is cost-effective

In addition to disease burden, VTE causes significant global economic burden. VTE and related complications often lead to the need for multiple additional diagnostic tests and treatments, prolonged hospital stay and follow-up care, which can be extremely costly. This does not even consider lost work productivity due to post- or re-occurring thrombotic complications. By focusing on VTE prevention, healthcare systems can save money, improve outcomes and ultimately save lives. Some countries have already begun implementing VTE policies and protocols that standardise - and even incentivise – VTE prevention in hospitals.

As shown by National Institute for Health and Care Excellence in the UK, prevention of hospital-acquired VTE leads to real healthcare cost-savings. Estimates of the overall annual cost of VTE and its complications range from up to $1 billion in western-European countries\(^{vi}\) to US$3 billion in the USA\(^{vii}\).

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\(^1\) "One DALY can be thought of as one lost year of "healthy" life. The sum of these DALYs across the population, or the burden of disease, can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability.”
http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/
How the UN and WHO can make an impact

Considering the clear and unequivocal evidence, and WHO’s own recognition of the scale and seriousness of the problem, here are some very specific actions which can make a huge impact:

- **Prioritise** VTE prevention as a global NCD prevention and patient safety priority;
- **Disseminate** a VTE risk assessment tool, modelled for use by health systems globally;
- **Produce** accessible digital case studies and guidance to spread best practice and systems-approach solutions.
- **Update** the WHO’s Surgical Safety Checklist to include VTE prophylaxis measures and consider developing a medical and obstetric checklist;
- **Encourage** health systems to introduce mandatory contractual VTE prevention metrics and indicators as a marker of high quality healthcare

**Committed partners**

As a non-state actor in official relations with the WHO, the ISTH and its members, which include 5,000 medical professionals as well as over 1500 medical and scientific partners in 98 countries, stand ready to be committed partners in implementing these life-changing improvements to healthcare systems around the world.

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5. [http://www.heart.org/HEARTORG/Conditions/VascularHealth/VenousThromboembolism/What-is-Venous-Thromboembolism-VTE_UCM_479052_Article.jsp#W06y1v8_X4](http://www.heart.org/HEARTORG/Conditions/VascularHealth/VenousThromboembolism/What-is-Venous-Thromboembolism-VTE_UCM_479052_Article.jsp#W06y1v8_X4)