

Supplementary Appendix 1. Further rationale for inclusion and exclusion of codes

We selected codes for consideration with reference to the NHS Outcomes Framework 2013-2014 [16], OECD indicators [10] and Australian hospital-acquired complication specifications [12]. Codes used in international literature from the United Kingdom [3,7], Sweden [14], Australia [13] and AHRQ indicators [11] were also referred to.

We included codes I26.0 (Pulmonary embolism with mention of acute cor pulmonale), I26.9 (Pulmonary embolism without mention of acute cor pulmonale), I80.1 (Phlebitis and thrombophlebitis of femoral vein), I80.2 (Phlebitis and thrombophlebitis of other deep vessels of lower extremities), I80.8 (Phlebitis and thrombophlebitis of other sites) in line with NHS Outcomes Framework [16], OECD [10] and Australian [12] indicators. The HSE included the codes I80.3 (Phlebitis and thrombophlebitis of lower extremities, unspecified) and I80.9 (Phlebitis and thrombophlebitis of unspecified site). These are included in NHS and OECD indicators, but not Australian indicators. The HSE team felt these were core codes used to classify deep venous thrombosis.

We elected to exclude the codes I80.0 (phlebitis/thrombophlebitis superficial vessels lower extremities) and I82.1 (thrombophlebitis migrans), which are included in the UK NHS Outcomes Framework but are not included in OECD and Australian indicators. HIPE stakeholders estimated that the inclusion of these terms would reduce the PPV of the HA-VTE term without improving sensitivity. We felt that miscoding of DVT as either of these terms would be unlikely, while the numerator would be likely to be inflated by the inclusion of superficial vein thrombosis, which is not a true HA-VTE event.

I82.2 (Embolism and thrombosis of vena cava) and I82.9 (Embolism and thrombosis of unspecified vein) were included, in line with NHS but not OECD or Australian indicators. I82.8 (Embolism and thrombosis of other specified veins) was included, in line with the NHS and OECD but not Australian indicators. All were considered to represent HA-VTE.

I82.3 (Embolism and thrombosis of renal vein) was excluded because the working group did not agree that a renal vein thrombosis represented a HA-VTE (in that it is not *both* provoked by hospitalization and theoretically preventable by appropriate administration of thromboprophylaxis).

O08.2 (Embolism following abortion and ectopic and molar pregnancy) was included as the team argued that these events *are* procedural/hospitalization-related (the numerator of the HSE KPI would require only those procedures resulting in a hospitalization of at least two days to be included).

O22.3 (Deep phlebothrombosis in pregnancy) was excluded as the overwhelming majority of these cases are not hospital-acquired thrombosis events but rather pregnancy-associated.

O22.9 (Venous complication in pregnancy) was excluded as it was felt to lack specificity and have the potential to reduce the PPV of the HA-VTE KPI.

O87.0 (Superficial thrombophlebitis in the puerperium), O87.1 (Deep phlebothrombosis in the puerperium), and O87.9 (Venous complications in the puerperium, unspecified) were excluded given the far greater likelihood that a woman admitted in the puerperium is admitted solely because of her postpartum state[36]. A VTE occurring in this scenario would be pregnancy/postpartum-provoked rather than a HA-VTE, which is in the scope of a separate project.

O88.2 (Obstetric blood clot embolism) was included as its exclusion was predicted to reduce the sensitivity of the HSE KPI (due to the high predicted likelihood of sole coding of a HA-VTE event occurring in a women who is admitted with a medical condition but is pregnant as this code).