Improving compliance with prescription and administration of deep vein thrombosis prophylaxis

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<tr>
<th>Trust name</th>
<th>University Hospitals Birmingham NHS Foundation Trust</th>
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<tr>
<td>Provider type</td>
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<td>CQC rating (Overall)</td>
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**The challenge**

University Hospitals Birmingham NHS Foundation Trust is a large teaching hospital with a reputation for quality of its care, health informatics, information technology, clinical training and research. The trust provides direct clinical services to over 900,000 patients every year, serving a regional, national and international population. It has been using electronic prescribing since 2002.

Since 2008 the trust has used an integrated electronic system to assess the risk of venous thromboembolism (VTE) for all admissions. The system provides tailored advice on preventative treatment, based on the assessment of risk. Compliance with the assessments was consistently high at 96% to 98% (national average in January 2015: 96%). The VTE risk assessment is integrated into the trust’s electronic prescribing system.

During 2011/12, however, the trust started to monitor not only compliance with risk assessment, but also if patients were actually prescribed and administered VTE prophylaxis, if this was deemed necessary following assessment. The most commonly used medication in this case was enoxaparin, with or without anti-embolism stockings.

Between April 2012 and April 2013, compliance with enoxaparin prescribing for patients where it was deemed necessary was only 60% to 70%. The rate of administration, once prescribed, stood at 96.4%. Compliance with anti-embolism stockings was 87.9%.

**The solution**

The trust carried out interventions to address the issue of low enoxaparin prescribing rates and ensure ongoing good performance for administration of anti-embolism stockings.
First, it changed the electronic prescribing software to remind clinicians to follow the recommendations of VTE risk assessment. This was later developed so that when a doctor completes a risk assessment, the system automatically takes them to a blank prescription proposal. This has proved highly effective in prompting doctors to complete the prescription.

Second, the trust ensured that deep vein thrombosis (DVT) prophylaxis was well embedded in junior doctor education programmes, including compulsory teaching sessions and an e-learning module on SCRIPT (Standard Computerised Revalidation Instrument for Prescribing and Therapeutics). Similarly, it revised the e-learning tool for nursing staff to coincide with the introduction of a new type of anti-embolism stockings.

Third, the trust implemented regular ‘junior doctor dashboard clinics’, with dedicated consultant support to review prescribing practice and share learning. These clinics helped to identify necessary changes to the electronic prescribing tool to help doctors improve prescribing practice and provided extra targeted training, where necessary. Over time, the clinics increasingly focused on the timeliness of enoxaparin prescribing for patients who require it, following VTE assessment.

Fourth, it reviewed prescribing rates of enoxaparin at specialty level, so that best practice could be shared and implemented. Later on, such feedback was provided to each prescribing doctor in the trust, encouraging them to reflect on their performance and discuss with their supervisor, if necessary.

While the trust was introducing these changes, it continued to review the root cause analysis where a patient developed a VTE during their stay in hospital or within three months of discharge, so that it could implement improvements. Themed analysis was carried out and presented to the trust’s clinical quality monitoring group (the CQMG chaired by the executive medical director), so that trust-wide improvement actions could be implemented as required.

Performance for DVT prophylaxis, prescribing and administration continues to be monitored and reported to the CQMG and exceptions are reported to the board of directors. For several years ‘improving VTE prevention’ was a quality improvement priority in the trust’s annual quality report. Progress was also reported quarterly and published on the trust’s quality web pages.

Enablers and challenges

DVT risk assessment is often the focus of monitoring in trusts, but as identified here, good compliance does not always translate to good prescribing practice. Having an electronic prescribing and risk assessment solution was a key enabler, because it made data collection relatively easy.

Initially, the more experienced doctors found it especially challenging to have their prescribing practice constantly monitored by the trust. However, once they completed their
rotations, they were usually pleased with the outcomes and reluctant to move back to paper-based prescribing.

Frequent rotations of the majority of prescribers – junior doctors – have been a challenge, as often their previous specialty or clinical setting determines their prescribing patterns. The trust addressed this through targeted support to the junior doctors considered most at risk, on the basis of their previous placements.

**Impact**

By February 2014, compliance with enoxaparin prescribing improved from 60%-70% to above 90% and has remained at that level since. Compliance with administration also remains above 90%. Anti-embolism stockings, which are now prescribed automatically whenever deemed necessary, are provided to at least 90% of patients.

**Next steps and sustainability**

Compliance with DVT risk assessment and prescribing continues to be monitored and junior doctors are able to access individual reports, which they are encouraged to discuss with their supervisors. Moreover, the trust’s thrombosis group, working closely with the team leading on the electronic prescribing software, provides training and feedback on performance throughout the trust.

However, as compliance is now within acceptable range, it is no longer a priority for improvement interventions.

**Want to know more?**

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