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Developing Practice to Improve Thrombosis Prevention

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Summary of programme
In light of the evidence that venous thromboembolism (VTE) is a major cause or mortality and morbidity in the UK, the Foundation of Nursing Studies (FoNS) worked in collaboration with Sanofi Aventis to facilitate a healthcare practice development programme to improve thrombosis prevention. FoNS collaborated with six project teams, with a primary aim of introducing risk assessment and appropriate thromboprophylaxis in acute trusts in England. Although the project teams experienced many common challenges particularly in relation to working in complex organisations, strategies for supporting successful implementation were identified.

Background
Venous thromboembolism (VTE) is a major public health problem. Each year, over 25,000 people in England die from VTE contracted in hospital. This is more people than the number of people that die from breast cancer, road accidents and AIDS combined (House of Commons Health Committee, 2005). Whilst it is estimated that 20% of patients having major surgery will develop a deep vein thrombosis (DVT) (40% of patients having major orthopaedic surgery) (NICE, 2006), the majority of patients suffering from VTE in hospital are medical patients (HCHC, 2005). This condition can also lead to sudden death due to pulmonary embolism (PE) or long term morbidity. In addition, although the figures are much lower, pulmonary thromboembolism (PTE) is the most common cause of direct maternal death in the UK (Drife and Lewis, 2001).

Many of these deaths are preventable through the administration of safe and cost-effective prophylaxis (HCHC, 2005). Despite the presence of evidence-based guidance (Geerts et al., 2004; RCOG, 2004), prophylaxis is currently not being administered as widely as it should be (HCHC, 2005), leading to uneccesary premature death.

Aim of the programme
The Developing Practice for Thrombosis Prevention Programme (DPTPP) aimed to support the development of healthcare practice to optimise in-hospital patient care through the introduction of effective VTE risk assessment strategies, and administration of appropriate thromboprophylaxis in line with international and national guidelines. FoNS offered a programme of support to six project teams (originally there were seven but one project team had to withdraw for reasons not associated with the programme) from acute trusts in England. The programme included:

- Professional support from the FoNS practice development facilitators via telephone, email and site visits
- Four workshop days which provided opportunities for the project leaders/team members to share their project plans and to explore new ways of working to enable implementation and changes in practice. This included:
  - Identifying and working with stakeholders
  - Understanding the impact of and working with values and beliefs
  - Enabling facilitation and leadership of development and change
  - Exploring workplace culture
  - Developing evaluation strategies
- Funding to support the development work
- A website through which the project work could be disseminated (see www.fons.org/Thrombosis/about.asp)

Projects involved in the programme
A summary of each of the six projects is outlined below.

Project title: Developing practice for thrombosis prevention in medical patients
Project leader: Jo Wardle, Haemostasis and Thrombosis Clinical Nurse Specialist
Location: Nottingham University Hospitals NHS Trust
Summary: This project adopted a multi-disciplinary approach to improving the use of appropriate thromboprophylaxis in medical patients. This involved undertaking audits, staff education, raising awareness amongst staff and the public and the development of a thrombosis committee. Prescribing rates have improved but there is still much to be done to ensure that all patients trust-wide are risk assessed for VTE on admission and are prescribed and receive the appropriate prophylaxis.

Project title: Implementing change in practice for thrombosis prevention in obstetrics
Project leader: Jasmin Daley, Midwife/Clinical Effectiveness Facilitator
Location: Sandwell and West Birmingham Hospitals NHS Trust
Summary: This project aimed to develop and implement a guideline to identify those women who are at high risk of VTE during pregnancy, labour and following childbirth to ensure that women are made aware of the symptoms of VTE and that appropriate prophylaxis is administered. Despite the challenge of working across two sites, significant progress has been made towards achieving this aim by facilitating close working between haematologists, obstetricians and midwifery managers and a proactive guidelines and policies group.

Project title: Introducing a trust-wide guideline for thromboprophylaxis in an acute trust – one size doesn't fit all
Project leader: Stephanie McCarthy, Practice Development Nurse
Location: Derby Hospitals NHS Foundation Trust
Summary: Evidence-based guidelines and education programmes to reduce the number of unnecessary deaths from VTE had already been developed and implemented within the medical directorate of an acute hospital trust. This project now aimed to adapt this work for use across the whole trust whilst acknowledging the unique nature of the differing patient groups. To date, this has involved engaging with stakeholders from all the directorates by developing a thrombosis working party; auditing

current practice; collecting local data on the number of patients who have developed DVTs or PEs whilst in hospital and the introduction of staff education programmes. Work to develop the trust-wide guideline is progressing.

Project title: Stopping clots: saving lives
Project leader: Marie Digner, Matron/Clinical Lead Outpatients Services
Location: Bolton Hospitals NHS Trust
Summary: This project set out to increase the use of risk assessment and appropriate prescribing of low molecular weight heparin (LMWH) within a designated surgical division. However, a re-audit of current practice identified little improvement in practice against trust thromboprophylaxis guidelines despite initial education sessions and awareness raising and a revised assessment tool becoming part of the pre-assessment process. The project team therefore decided to explore the reasons behind the inconsistency in the prescribing and administration of thromboprophylaxis. Focus groups and one-to-one discussions were held with approximately 45 multi-disciplinary staff. The key issues associated with the use of thromboprophylaxis in practice centred around education, ownership and the systems in which people work. These findings are now being used to inform ongoing development work.

Project title: Preventing deep vein thrombosis in surgical patients: implementing risk assessment and thromboprophylaxis
Project leader: Julie Jones, Practice Development Sister
Location: County Durham and Darlington Acute Hospitals NHS Trust
Summary: This project aimed to implement risk assessment and appropriate pharmacological and mechanical prophylaxis across the surgical wards of an acute hospital. An audit of current practice confirmed that patients were not being formally risk assessed on any of the surgical wards and often received prophylaxis that was inappropriate. A successful pilot of the Autar (1996) risk assessment tool has been completed on the plastic surgery ward and discussions with stakeholders across the division are ongoing to explore the ways in which the use of the assessment tool can be rolled out.

Project title: Thrombosis prevention during pregnancy, labour and following birth
Project leader: Christine O'Loughlin, Senior Midwife- Clinical Governance
Location: Pennine Acute Hospitals NHS Trust
Summary: The aim of this project was to develop a guideline for thromboprophylaxis in obstetrics and a strategy to implement the guideline with particular emphasis on the assessment of risk factors in pregnancy, at booking, each admission and following birth. Alongside this, work was undertaken to facilitate the changeover to new antiembolic stockings and to liaise with the wider trust thromboprophylaxis group. The process of developing and ratifying the guidelines has taken longer than anticipated due to challenging contextual factors. A launch is planned and the implementation into practice will be facilitated by champions in all four of the trust sites.

Implementing evidence-based practice

The need to base practice on evidence is not a new concept, indeed it has emerged as one of the major policy themes for modernising the NHS over recent years (Gerrish and Clayton, 2004). Those who have been involved in implementing evidence into practice acknowledge that it is a complicated process. Increasingly, there is recognition of how complex implementation is (Royle and Blythe, 1998; Rycroft-Malone et al., 2002). It is clear from the literature that the assumption that once research is made available, it will be accessed by practitioners, appraised and then applied into practice is naïve (Effective Health Care Bulletin, 1999;) and often proves to be ineffective (Rycroft-Malone et al., 2002). The HCHC (2005) also acknowledge the recurring problems related to the implementation of NICE guidelines, the largest investment made in modern healthcare practice to promote evidence based care.

The experiences of the six project teams in this programme would concur with this. Despite compelling evidence that identifies the benefits of implementing risk assessment and appropriate thromboprophylaxis to prevent VTE, the teams faced many challenges when trying to promote practice change. These are outlined in more detail below.

Making sense of the evidence

The national evidence supporting the case for implementation of risk assessment and thromboprophylaxisis is compelling, however, many of the project teams found that data about the incidence of hospital-acquired VTE locally was much more difficult to obtain. In some cases this was a stumbling block as staff asked to see this before they would consider adopting a new approach to thromboprophylaxis.

In addition, the experience of the project teams suggests that the evidence base supporting the most effective approaches to prophylaxis is not always clear. This presented some difficulties, particularly when trying to gain consensus amongst groups of consultants, each of who might have their own preferences for the prescribing of thromboprophylaxis.

The NICE guidelines, due to be published in April 2007, may go some way to clarifying best practice in relation to the prevention of VTE in patients undergoing orthopaedic surgery and other high-risk surgical procedures, forming part of the developmental standards for the NHS. Regardless of how compelling the evidence is, changing clinician attitudes and behaviour will remain the key to success.

Guideline development

The teams involved in the programme were at different stages of developing guidelines for the assessment of VTE and use of thromboprophylaxis. Some were developing trust guidelines, others were reviewing current guidelines having identified that they were not being used effectively and some were trying to adapt existing guidelines for wider implementation across other practice areas. Despite these differences in approach, the teams shared many common issues and challenges. The main challenge being to make the guidelines context specific.

In talking about context, we are referring to 'the setting in which practice takes place' (McCormack et al., 2002, 94). The challenge for the project teams was therefore to develop or adapt guidelines so that they would be relevant to the needs of the patients being cared for within different divisions, directorates and/or specialities and in some cases across whole organisations. Rycroft-Malone et al. (2002) suggests that 'culture' is part of the context, and this needs to be considered if implementation is to be successful. Manley (2004) adopts Drennan's (1992) definition of culture as 'the way things are done around here.' The reality for all of the project teams was that they were often working with different cultures at individual, team and organisational levels. Each of these cultures may have held different beliefs about the value of thrombosis prevention and these might have impacted on the commitment of staff to the implementation of risk assessment and thromboprophylaxis. For most teams, there was little opportunity to explore the impact of this and indeed, it may not be seen as a legitimate activity by organisations.

Despite the fact that some evidence-based guidelines are available, for example, the RCOG Guideline No. 37, *Thromboprophylaxis during pregnancy, labour and after vaginal delivery,* the experience of the project teams supported the notion that 'one size does not fit all'. In reality, this meant that such guidelines could only act as a starting point as practitioners and

organisations wanted to develop guidelines that were seen to be specific to their context. This required the involvement of all key stakeholders and the use of processes that enabled discussion to ensure that the perspectives of all stakeholders were considered and consensus could be gained. It could be argued that the most successful project teams were those who were able to work effectively as leaders in collaboration with key leaders at ward, directorate and organisational level. To be successful, these leaders need to have a common vision and be able to inspire and work with their staff to share this vision (Rycroft-Malone et al., 2002). In practice, this proved to be very time consuming and often difficult to achieve. Reasons for this included:

- Very complex contexts, including cross site working
- Hospital mergers making it difficult to identify who should be involved
- Engaging with all directorates, particularly those who may not see this area of development as a priority, or where consultants follow their own practices in relation to thromboprophylaxis
- Heavy workloads impacting on attendance at meetings

Implementation

Although none of the project teams were able to achieve effective implementation of guidelines within the timescale of this programme, in truth, this would be an unrealistic expectation. However, in all cases, valuable learning and progress was made.

Several approaches were commonly used to support the implementation of guidelines. These included audit, increasing awareness of staff and patients and staff education. These activities fall into the 'linear and logical' approaches to implementing change, identified earlier in this report as being largely ineffective. These, however, were not used in isolation and project teams talked about 'spirals of activity' suggesting that in fact several activities were running alongside and interlinking and informing others.

The strengths, weaknesses and outcomes of the approaches that were used are now discussed.

Audit

Audits of practice in relation to risk assessment and the prescription and administration of thromboprophylaxis formed a key part of many of the projects. It is clear that for many teams, audit provided an invaluable baseline upon which to justify the need for this development work i.e. audits highlighted sub optimal care. In some cases it also provided evidence of progress made towards effective implementation. However, audits can be very labour intensive and may not always provide the kind of evidence that will help teams to move forward with a development.

In general, audits provide answers to 'what?' or 'how?' questions, for example:

'How many patients are being risk assessed?'
'What types of prophylaxis are being used?'

In most cases, they do not provide answers to 'why?' questions, for example:

'Why are patients not receiving appropriate thromboprophylaxis?'

This was demonstrated by one project team who were working in an area where guidelines had already been developed and staff education provided. Whilst successive audits showed that the guidelines were not being implemented, they did not provide any information that would help to explain why this might be. This team therefore used an alternative approach to explore the reasons why many patients were not receiving appropriate thromboprophylaxis.

The project team undertook several focus groups and one-to-one discussions with multi-disciplinary staff working in the surgical division. They used a topic guide to inform these discussions and in this way were able to ask the stakeholders about the reasons for the inconsistency in the prescribing and administration of thromboprophylaxis. Three key issues were identified:

- Systems of work – staff identified that the systems within which they work often cause frustration and hamper attempts to do their job. For example, ward rounds are often 'hurried affairs' with little time for doctors to prescribe and surgeons no longer have dedicated wards meaning that teams are often moving between wards to see patients
- Ownership – there was a lack of clarity and consensus in identifying who is responsible for prescribing thromboprophylaxis, promoting uncertainty in each professional group i.e. nurses, surgeons, anaesthetists thinking that it was someone else's responsibility
- Education – comments generated by focus group discussion suggested that there is a need for education across both the nursing and medical profession at all levels relating to correct prescribing and administration of thromboprophylaxis. The need for patient education was also acknowledged

This information laid a foundation for the project to move forward starting with the development of an action and implementation group, involving key stakeholders and promoting clinical champions/lead clinicians to support communication, engagement and implementation activity amongst colleagues. This issue of responsibility needs to be debated and agreed and strategies for effective education need to be developed and evaluated.

Raising staff awareness

Whilst dissemination activities alone are unlikely to lead to practice change, raising awareness remains an important part of the change process (Effective Health Care Bulletin, 1999). The project teams used a variety of approaches to raise the awareness of staff about guidelines, risk assessment and thromboprophylaxis. These included:

- Presentations
- Attendance at meetings
- Posters
- Stickers on treatment sheets
- Information on the intranet

The project teams were unable to provide evidence to support the effectiveness of any one approach in terms of its impact on practice; however, there was a sense that to be effective, these approaches needed to actively engage staff. In particular, one team identified that successful implementation within their organisation through raising awareness was being enabled by:

- Active support from managers and consultants
- Active support from groups e.g. guidelines and policies group, divisional governance group
- A robust establishment of local meetings

These support systems enabled the project team to engage staff in discussions about the guidelines, identifying barriers to change and exploring how change can be achieved. This developed a greater sense of responsibility amongst the stakeholders as the discussions enabled them to become aware of the impact that the guidelines would have on their practice and to negotiate and facilitate the necessary changes.

The project teams acknowledged that working with staff to raise their awareness was easier to achieve when there was a person or team of people with dedicated time set aside to focus on the project. This view is supported by Rycroft-Malone et al. (2002) who recognises the value of facilitators who can have an impact on the context in which change is taking place and can work with staff to help them to understand what needs to be changed and to explore how this may be achieved. The challenge for

practitioners in these roles is to determine which approach or combination of approaches which will be most effective in enabling change.

Raising patient awareness
During the programme, several project teams started to consider the ways in which patients could be made more aware of the risks of VTE. Some sourced resources from Lifeblood (a charity supporting thrombosis prevention, www.thrombosis-charity.org.uk). These included patient information leaflets and support to set up a stand in a main hospital entrance to promote 'Healthy Legs Week' amongst patients, visitors and staff. One project nurse gave local television and radio broadcasts to highlight the importance of risk assessment, risk factors and mobility to the local population. As yet, there is no evidence available to evaluate the impact of these approaches.

Staff education
Staff education featured in a few of the initial project plans, however, during the programme, most of the project teams did not get involved with formal education of staff. For some, this was probably due to the fact that guideline development took longer than anticipated. For others, greater emphasis was placed on actively engaging with stakeholders. One team have been able to do some teaching during induction programmes. Two project teams, who through coming together at the FoNS workshops, realised that they shared the rotation of junior medical staff, have created a regional forum to facilitate collaborative working across the trusts and multidisciplinary teams. Some informal teaching has also been undertaken with nursing and medical staff on ward rounds.

In light of the previously mentioned focus group discussions, it is possible that the impact of any education is likely to be influenced by the views that staff hold about their responsibility towards the prescribing and administration of thromboprophylaxis.

Impact of the Developing Practice for Thrombosis Prevention Programme

Small group activities were used to collect qualitative data regarding the impact of the programme on enabling the project teams to develop new ways of working and their personal effectiveness in leading and facilitating change.
The project teams reported that:

- Being involved in the programme had encouraged them to keep the projects moving despite the complex contexts that many of them were working in
- They learnt about different approaches and tools that can be used to develop practice and tried to incorporate some of these into their work
- They benefited from the opportunities to share their experiences and learn from others

FoNS' ongoing commitment to improve patient care by enabling the development of nurses, midwives and healthcare teams has generated a large experience base in this area, and in working with the project teams this has affirmed the ongoing challenges within healthcare in relation to the:

- Prevailing commitment to guideline development to facilitate practice change with the greatest focus being placed on measuring outcomes and little attention being given to exploring the processes that are being used to achieve practice change
- Limited appreciation of the impact of context on successful implementation of evidence and change
- Need for skilled facilitation in the workplace

Implications for future practice development work

Several key messages for supporting the development of practice and implementation of change came out of the work of these projects. These are:

- Securing support for dedicated time to facilitate changes in practice
- Being committed to involving and giving time to people to work together to understand their practice situation and enable them to facilitate change
- Identifying clinical leaders/local champions to engage in creating a vision for change and inspiring others to share it
- Having robust clinical governance frameworks and access to local meetings where stakeholders can be actively engaged and change can be discussed
- Developing creative ways of collecting local data so that it is judged as relevant
- Starting small and learning from committed teams – learn from and build on your successes

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Further reading

Copies of final project reports for each project can be downloaded from the FoNS website: www.fons.org/Thrombosis/projects.asp

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