King's Mill Hospital
Mansfield Road
Sutton in Ashfield
Nottinghamshire
NG17 4JL

Tel: [redacted]
Join today: www.sfh-tr.nhs.uk

PRIVATE AND CONFIDENTIAL

Dr Elizabeth Didcock, Assistant Coroner
The Council House
Old Market Square
Nottingham
NG1 2DT

By email only – c/o [redacted]

Dear Madam,

I am responding to your Regulation 28 Report to Prevent Future Deaths, issued following the inquest touching the death of Mrs Marian Day. You raised concern about prescription errors that led to Mrs Day receiving two doses of warfarin on consecutive days despite there being a medical plan that it should be withheld. You were concerned that a similar error may occur again in part due to the number of charts involved in the prescribing and dosing of warfarin. In order to address your concerns we have undertaken a multidisciplinary (MDT) review of our warfarin process, prescription and supporting documentation to address these concerns.

Members of the MDT are the Clinical Director of Patient Safety, Assistant Chief Pharmacist and Medication Safety Officer, the Trust venous thromboembolism lead, *Specialty Registrar Geriatric and General Internal Medicine,* Chief Registrar/Emergency Medicine Trainee, Head of Sherwood Forest Hospitals Governance and the Coagulation Clinical Nurse Specialist team. Prior to this MDT meeting, further investigation was undertaken into the specific circumstances that led to each of the two doses of warfarin being prescribed. This is further explained below.

Current warfarin prescribing and dosing practice at SFH NHS FT

The current practice at Sherwood Forest Hospitals NHS Foundation Trust (SFHFT) is that warfarin dosing is recorded on a yellow warfarin dosing chart, separate from the paper 'Medication Prescription and Administration Record' which also known as the 'main chart'. The warfarin chart is separate from the main chart due to the complexity of dosing for warfarin which changes depending on the most recent blood

anticoagulation test result; previous experience demonstrates doses are missed without this separate chart; and the fact that small numbers of patients are on warfarin, so this large section would be irrelevant for the vast majority of patients. SFHT's warfarin prescription chart is yellow in colour and allows co-located documentation of the latest blood anticoagulation results (Prothrombin Time International Normalised Ratio - INR) which guides future prescription and dosing. The chart also acts as an administration recorded and additional key patient related information e.g. such as dose prior to admission, dosing responsibility on discharge, target INR etc. This method of prescribing warfarin is in accordance with widespread national practice when utilising conventional paper-based prescribing systems.

The Medicine Policy at SFHFT states that the existence of the separate warfarin chart, along with any other additional charts, must be documented on the front of the main chart as an aide memoire and quick reference for those involved in the care of the patient to highlight that additional charts are in existence and must be referred to. The prescriber is also expected to cross reference the warfarin prescription in the anticoagulation section of the main chart as the warfarin is written up on the main chart and the variable daily dose is prescribed each day on the yellow warfarin dosing chart. If warfarin were to be omitted then it is expected that the warfarin would be crossed off on the yellow warfarin chart and a coded omission reason documented on the main chart, this is cross referenced to the "Record of actions taken after medicine non administration" form at the back of the main chart. This is evident for the omitted dose on the 16/11/2019 for this case.

In addition warfarin administration traditionally occurs at 6pm across the health service for both inpatients and for those patients taking it at home. For inpatients within hospitals, dosing decisions are often made or chased around this time of the day.

Further investigation into the circumstances of Mrs Day's warfarin dosing

To obtain further understanding of the prescribing process and decision making specific to this incident, Dr [redacted], consultant physician, met with the two doctors who dosed and prescribed the warfarin for Mrs Day. The doctor who prescribed Mrs Day's warfarin on the 14th November 2019 was an on call doctor and not part of the team looking after her care and treatment. Unfortunately she was unable to recall any aspect of Mrs Day's care, nor why the warfarin was dosed despite the plan being to withhold it.

The doctor who prescribed Mrs Day's second dose of warfarin on 15th November 2019 was able to remember Mrs Day and the rationale behind her prescribing. She recalled that she was aware that Mrs Day was being managed and investigated for a possible gastrointestinal bleed but on a risk benefit analysis felt that the patient's on-going risk of developing a deep vein thrombosis and potential for a ischaemic stroke or transient ischaemic attack, outweighed the risk of omitting anticoagulation. As

part of this clinical risk assessment the doctor was clear that she had considered at that time she made the decision that Mrs Day had been stable since admission. There was also no evidence of on-going melaena (passing altered blood) and her haemoglobin level and vital signs were stable. Based on her assessment of the clinical picture at the time, the doctor made a conscious decision to prescribe the warfarin but in an attempt to mitigate the risk of haemorrhage, deliberately prescribing a lower warfarin dose. Disappointingly this decision making was not documented within the medical records.

MDT conclusions

First dose

On reflection, considering particularly the views of the two junior doctors who formed part of the MDT and are closely involved in warfarin dosing, it is concluded that the most likely reason that the warfarin was dosed against advice was a lack of easily accessible information about the plan to omit it. Warfarin dosing is often undertaken by ward doctors, not from the team most familiar with the patient, as it relies on the availability of recent INR blood test results. It is concluded that the key factor is to ensure that doctors dosing warfarin have the up-to-date plan easily available to them. I set out below actions to put this into effect.

Second dose

The ward doctor on this occasion was familiar with Mrs Day. Whilst she made her own assessment of the risks and benefits of dosing warfarin that day, her conclusion differed from the current plan, and does not withstand analysis given that the suspected GI bleed had not been ruled out. Any change to the plan at this stage should have been made in consultation with a senior doctor, and been fully documented.

Immediate further actions

1. Decisions on changes to existing warfarin plans to be documented on the yellow dosing chart at the time they are made, as well as in the clinical record. This will ensure that all doctors dosing warfarin are aware of the current plan even if they are not part of the treating team.

2. Changes to existing warfarin plans to be made only following discussion with senior doctors, and fully documented.

On-going work

3. Steps to facilitate the parent medical team to dose warfarin whenever possible. Warfarin has traditionally been dosed and administered around 18.00 as it required the results of INR blood tests taken earlier that day.

Advancement of laboratory technology including electronic results makes most results available earlier in the day. Dosing before the parent team finish their shift is ideal as they will know their patients' needs. To achieve this we are working towards:

a. an MDT approach and the role of the nursing staff in prompting parent team doctors to prescribe/dose, once INR results are available, before leaving the ward. This has been discussed at the November Trust Ward Leaders meeting and individuals identified to take this work forward.

b. We are exploring the use of the electronic Nervecentre clinical information system used on the wards to inform ward doctors when INR results are available, so that they can dose the warfarin as early as possible.

4. Consideration of the benefits of prompts in the warfarin documentation with regard to the risks for thrombosis versus the risks of bleeding to aide prescribing decision making. For discussion at Medicine Safety Group December 2020 [Assistant Chief Pharmacist and Medication Safety Officer to Present]

5. Further Education and Awareness:

   - Ensure all staff are aware that both charts must be amended if withholding warfarin doses: Learning Matters sent out November 2020. [i-care electronic communication issued]

   - Communication programme across the Trust to raise awareness. December 2020.

   - Add this patient story into training for juniors to highlight the potential outcome of warfarin prescribing errors: Training updated November 2020 for inclusion in August 2021 junior doctor induction and going forwards.

   - Add this patient story into training for nurses to highlight the potential outcome of warfarin administration errors.

6. Pharmacy to audit documentation compliance for the immediate further actions described above. December 2020 Assistant Chief Pharmacist and Medication Safety Officer to Conduct

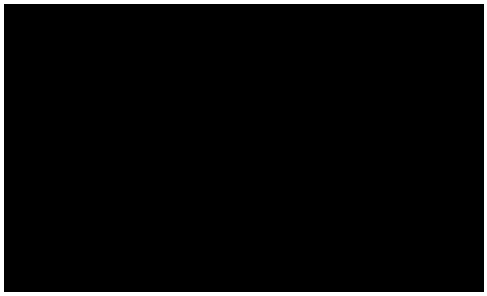
Prescribing documentation

Changes to the existing warfarin prescribing documentation have been carefully considered. The multi-disciplinary panel verbally risk assessed the possibility of

changing the entire process by altering the prescription charts. The differing expertise outlined that if this was conducted then there would be an increased likelihood in prescribing and dosing errors affecting patients. Therefore it was concluded by this expert panel that this would be highly unlikely not to help prevent future deaths. In addition the roll out of EPMA (electronic prescribing) at SFHFT, which includes warfarin prescribing, is expected to pilot in February 2021 and realistically any changes to paper documentation would be highly unlikely to complete Trust governance processes and printing before this time.

I hope I have been able to describe the seriousness that we have taken matter and demonstrated a real commitment to improving warfarin dosing safety at SFHFT. Looking at the problem again using an MDT approach has been a valuable exercise and I hope that the further actions give you the necessary reassurance.

Yours faithfully



Chief Executive