Audit of safe provision of local anaesthetic in people with inherited coagulation disorders

Background to the audit:
Haemophilia A and B are x-linked recessive genetic disorders characterized by the deficiency or complete absence of clotting factors and together affect 1 in 5,000 male live birth. This life-long disorder is characterized by bleeding into deep tissues, organs, joints and muscles, though bleeding can occur anywhere in the body.

People with more severe disease are usually diagnosed very early in life or at birth on the basis of a known family history, or bleeding symptoms following circumcision or venipuncture, or due to excessive bruising or hallmark musculoskeletal bleeding during infancy. People with moderate haemophilia are not so prone to spontaneous bleeding but tend to haemorrhage after mild to minimal trauma and are usually diagnosed in early childhood years. Bleeding associated with mild haemophilia can be variable and episodic and may not be diagnosed until later in childhood or even into older adulthood, and for those people with mild or carrier status, their initial diagnosis may follow investigation of an affected family member or after unexpected complications following trauma or surgery including dental surgery. For this reason people with haemophilia (and the teams that provide and manage care for them) fear dental treatment, sometimes catrastrophising even the smallest and least invasive interventions.

Over the last twenty years advances in diagnostic testing, together with availability of safe and efficacious therapeutic management, has significantly decreased both mortality and morbidity of haemophilia. Consequently people with haemophilia (PWH) in high and middle income countries such as Ireland can now expect a life expectancy that progressively approaches that of the general population. Designing a contemporary care pathway for PWH requires consideration of their medical, physical, emotional, vocational, social and spiritual needs. Comprehensive Haemophilia Treatment Centres (HTCs) provide the foundation for much of this care through the involvement of physicians, nurses, physiotherapists, dentists social workers and psychologists. The HTC teams develop strategies to actively evaluate their patients bleeding patterns over time, assess their comorbidities and anticipated risk of bleeding

(procedures, medication, potential for falls) and design individualized treatment regimens that are safe, practical and cost effective
A key element in the holistic multi-disciplinary care pathway of people with haemophilia in the last ten years has shifted from a hospital based professional led care to a greater emphasis on home care and self-management by PWH.
Home factor replacement treatment is now available in 32 out of the 35 European countries and is delivered directly to the patient's home in 13 of those countries. This means that young boys with severe haemophilia (who live in middle or high income countries) start prophylaxis up to three times per week from an early age to improve clinical outcomes and prevent spontaneous bleeding. They are now able to participate in sports at all levels with intensive prophylactic treatment tailored around their individualized activity thus enabling them to participate fully in any activities they choose to help enhance their social and psychological wellbeing.

But it is evident that the majority of people with haemophilia globally do not have access to well defined dental care pathways. Furthermore dental protocols where available, do not adhere to evidence informed contemporary practice and are medical teams remain uninformed about how to risk assess individual dental procedures, tending to assign the same relative risk to a scale and polish or small filling as to third molar surgery.
Current International Guidelines and Irish Protocols (Brewer et al. 2006 WFH 2006 and Freedman & Dougall 2008 JDOH) are based on concepts of best practice and individualised risk assessment, current literature and consensus opinion. In these guidelines Inferior Dental Block injections are universally contra-indicated in patients with haemophilia due to their intra-muscular nature and because internal bleeding following this injection caries a small but significant risk of causing airway obstruction. BUT they advise that it is safe to administer local anaesthetic infiltration injections to patients with coagulation disorders without the requirement for systemic haemostatic measures such as pre-operative factor replacement of the missing clotting factor or DDAVP. This allows for restorative and prosthodontic care to be provided in all teeth except lower molars without the need for special haemostatic measures in PWH

Recent guidance from the UK published by the United Kingdom Haemophilia Centre Doctors' Organisation Dental Working Party (UKHCDO) has suggested that there is insufficient evidence to recommend this unreservedly and have suggested that factor MAY be required prior to local anaesthetic infiltrations. This word MAY has caused controversy and confusion within the community of PWH who manage their own care and also the dental teams in primary and secondary care who fear any risk of bleeding in this group during or after dental treatment. Within the expert dental and patients community it is feared that this may encourage a blanket approach to advice by medical practitioners and haematologists who act particularly defensively regarding anything to do with dental treatment.

Purpose of the audit.
The purpose of the audit was to assess current clinical practice around provision of local anaesthetic, which conflicts with new guidance from a medical working party the UK.
A multi-disciplinary team meeting was held at the National Centre of Haematological Disorders which included three haematologists, 3 specialist haemophilia nurses, one physiotherapist, one research laboratory scientist and one consultant dentist. Together they considered an apparent retrospective lack of reporting of any adverse events concerning the provision of local anaesthesia in PWH using the current Irish protocol.

As a benchmark it was noted that there were International Recommendations that PWH no longer receive haemostatic measures for sub-cutaneous vaccines or routine blood tests elsewhere in the body and these both carried the same degree of risk as the delivery of dental infiltrations in the mouth.

However, due to the nature of the NCHCD being seen as a leading International Training Centre for haemophilia and having a large patient cohort despite this being a rare condition, they suggested a prospective outcome audit be conducted to collect and collate information about current recommended practice. It was suggested that this might be useful information for other centres in Ireland and abroad who did not have the benefit of an integrated dental team.