SMALLER HAEMOPHILIA CENTRES PRESENTATION
ROYAL MANCHESTER CHILDREN'S HOSPITAL

Directors

1. Dr Evans was the director of Royal Manchester Children's Hospital ("RMCH" or "the Centre") in the 1970s and 1980s. He was also consultant haematologist at Booth Hall Hospital and Monsall Hospital during that time [DHSC0020833_139]. He retired from the NHS in 1992 [HCDO0000278_081].

Status, relationship with other haemophilia centres and regional network

2. RMCH was officially designated as a haemophilia centre in 1972 [HSOC0029691_146 and HSOC0022717].

3. As described in the presentation on Manchester Royal Infirmary, the Centre was part of the North West regional haemophilia service (see also [NHBT0094580]). In the 1980s, commercial concentrates were purchased by the North West Blood Transfusion Service following consultation with clinicians such as Dr Evans, with a budget set by the Regional Health Authority [see, for example, NHBT0020196_001]. Other blood products were supplied by Manchester RTC. At a North Western supra regional haemophilia meeting, which appears to have been held in May 1985 (the date has been crossed out), Dr Richard Stevens asked that RMCH be informed of any children who were newly diagnosed [NHBT0096599_043].

4. In addition to its own, RMCH sometimes filed other hospitals' returns. For example, a cover letter enclosing the Centre's 1986 return referred to returns from centre 068 (Booth Hall), centre 069 (Leighton Hospital) and centre 070 (Maelor Hospital) [HCDO0000310_011. See further HCDO0001349 and HCDO0001646]. RMCH also corresponded with other centres about annual

returns when treatment of particular patients was shared between them: see, for example, a January 1991 letter to the Lancaster Centre [UHMB0000006_076].

Facilities and staffing in the 1970s and 1980s

5. Other than Dr Evans, important staff members at RMCH included Dr Stevens, a consultant haematologist, and Sister Alex Shaw (sometimes referred to as Sister Susman-Shaw).[1]

6. In 1981 RMCH gained a new treatment room and money was raised by parents of patients to help furnish it [HSOC0022908].

7. In a Haemophilia Society survey of treatment during 1985, RMCH came within the following categories: nurses played a major role in treatment; more than 25% of its severely affected patients had seen a social worker or counsellor; more than 20% of severely affected patients had seen a physiotherapist; more than 25% of severely affected patients had seen an orthopaedic surgeon or rheumatologist; and more than 75% of its severely affected patients were on home therapy [HCDO0000276_032].

Numbers of patients registered and numbers of patients treated

8. The number of patients treated by RMCH in 1976-1979 was as follows:

   a. 1976: 43 haemophilia A patients (including one with factor VIII antibodies), 8 Christmas disease patients, one carrier of haemophilia A and 7 von Willebrand's patients [HCDO0001098].
   b. 1977: 41 haemophilia A patients, 7 Christmas disease patients, one carrier of haemophilia A and 6 von Willebrand's patients [HCDO0001183].[2]

[1] See documents referred to below.

[2] Note that the numbers in the annual return are only faintly legible. The figures given are what they appear to say.

c. 1978: 49 patients with haemophilia A, 6 Christmas disease patients, one haemophilia A carrier patient and 8 patients with von Willebrand's [HCDO0001280].

d. 1979: 44 patients with haemophilia A, 6 patients with Christmas disease and 5 patients with von Willebrand's [HCDO0001349]. Based on the amount of material used, RMCH would appear to have treated one haemophilia A carrier patient (the number is not given in the annual return).

9. In 1980-1986 the numbers of patients treated and registered at RMCH were as follows:

a. 1980: RMCH treated 39 patients with haemophilia A, one haemophilia A carrier patient, 4 patients with haemophilia B and 6 with von Willebrand's [HCDO0001446]. The number of registered patients appears to have been: 93 with haemophilia A, 15 with haemophilia B, one haemophilia A carrier and 11 with von Willebrand's.

b. The number of patients treated by RMCH in 1981 is not entirely clear. The figures recorded in the Centre's annual returns are "*37 [45]*" haemophilia A patients, one haemophilia A carrier patient, "*6 [7]*" haemophilia B patients and "*8 [9]*" patients with von Willebrand's [HCDO0001547]. The number of registered patients appears to have been: 94 patients with haemophilia A, 16 with haemophilia A, one haemophilia A carrier and 13 with von Willebrand's.

c. 1982: RMCH treated 50 patients with haemophilia A, one haemophilia A carrier patient, 6 haemophilia B patients and 11 patients with von Willebrand's [HCDO0001646]. The number of registered patients appears to have been: 96 patients with haemophilia A (including a visitor), 17 with haemophilia B, one haemophilia A carrier and 30 patients with von Willebrand's.

d. The relevant forms in RMCH's 1983 return omit the number of patients treated [HCDO0001744]. Based on a list of patients, it would seem that 45 haemophilia A patients, 11 haemophilia B and 9 von Willebrand's patients were treated. The number of registered patients appears to have been: 85

with haemophilia A, 19 with haemophilia B and 17 patients with von Willebrand's.

e. 1984: RMCH treated 56 patients with haemophilia A and 10 with von Willebrand's [HCDO0001837]. The relevant form in the Centre's annual return omits the number of haemophilia B patients treated, though based on a list of registered patients it would seem that the figure was 10. The number of registered patients appears to have been: 110 with haemophilia A, 23 with haemophilia B, one haemophilia A carrier and 34 with von Willebrand's.

f. The relevant forms in RMCH's 1985 annual return omit the number of patients treated, though a list of patients suggests that 57 haemophilia A patients, 12 with haemophilia B and 8 von Willebrand's patients were treated during the year [HCDO0001930]. The number of registered patients appears to have been: 126 with haemophilia A, 23 with haemophilia B, one haemophilia A carriers and 47 with von Willebrand's.

g. The same approach applies to the Centre's 1986 return [HCDO0002027]. The list of patients suggests that 53 haemophilia A, 10 haemophilia B and 16 von Willebrand's patients were treated during the year. The number of registered patients appears to have been: 110 with haemophilia A, 21 with haemophilia B, 2 haemophilia A carriers and 51 with von Willebrand's.

Treatment policies and blood product usage

Annual returns 1976-1986

10. In 1976 RMCH mainly treated its haemophilia A patients with cryo (270,970 units), as well as a small amount of NHS factor VIII (3,535 units) and some commercial product (7,105 units of Hemofil and 25,868 units of Kryobulin) [HCDO0001098]. Its Christmas disease patients were treated exclusively with NHS factor IX and a haemophilia A carrier patient was treated with cryo. The Centre's von Willebrand's patients were treated primarily with cryo (18,840 units) with a very small amount of Immuno factor VIII (921 units). Seven

haemophilia A patients and two Christmas disease patients were on regular home treatment.

11. In 1977 RMCH continued to treat its haemophilia A patients mainly with cryo, though its use of commercial factor VIII increased significantly [HCDO0001183]. It used 251,370 units of cryo and 145,862 units of commercial concentrate (made up of 137,540 units of Hemofil and 8,322 units of Kryobulin). The Centre's Christmas disease patients were treated with NHS factor IX (85,860 units) and haemophilia A carrier patient was treated with 1,260 units of factor VIII. Patients with von Willebrand's were treated with 19,670 units of cryo and 3,680 units of Hyland factor VIII. The Centre appears to have had 15 haemophilia A and two Christmas disease patients on home therapy, and the 1977 return includes the amount of product used for home treatment.[3] The haemophilia A home treatment patients were supplied with 30,240 units of cryo and 113,390 of commercial factor VIII (109,480 units of Hemofil and 3,910 units of Kryobulin). Christmas disease home treatment patients were supplied exclusively with NHS factor IX (16,200 units).

12. In 1978 RMCH treated its haemophilia A patients with similar amounts of cryo and concentrate [HCDO0001280]. As well as a nominal amount of plasma, it used 205,360 units of cryo, 22,115 units of NHS factor VIII and 199,626 units of commercial factor VIII (made of 6,666 units of Profilate and 192,960 units of Hemofil). Christmas disease patients were treated exclusively with NHS factor IX (105,470 units). The Centre's two haemophilia A patients with antibodies were treated with 2,560 units of cryo, 225 units of NHS factor VIII and 480 units of Hemofil. Its haemophilia A carrier patient was treated with a small amount of cryo. Its von Willebrand's patients were treated mainly with cryo (14,640 units) as well as some commercial factor VIII (2,160 units of Hyland and 446 units of Immuno product). The Centre appears to have had 22 haemophilia A and two Christmas disease patients on home treatment.

[3] It is not quite clear whether these amounts are in addition to or part of the total amounts of product used during the year.

13. In 1979 RMCH used more concentrate than cryo on its haemophilia A patients for the first time [HCDO0001349]. It used 139,800 units of cryo, 96,808 units of NHS factor VIII and 280,744 units of commercial factor VIII (made up of 909 units of Profilate, 239,665 units of Hemofil and 40,170 units of Kryobulin). The Centre's Christmas disease patients were treated only with NHS factor IX (94,900 units). Three factor VIII patients with antibodies were treated with 2,150 units of cryo, 2,740 units of NHS factor VIII and 3,610 units of commercial concentrate (made up 2,160 units of Hemofil and 1,450 units of Kryobulin). The Centre used 450 units of cryo for what appears to have been one haemophilia A carrier patient. Its von Willebrand's patients were treated with 6,300 units of cryo and 1,225 units of NHS factor VIII. There appear to have been 21 haemophilia A and 3 haemophilia B patients on home treatment.

14. In 1980 RMCH treated its haemophilia A patients with significantly more concentrate than cryo [HCDO0001446]. It used:

    a. 115,750 units of cryo, all of which was in hospital.
    b. 48,430 units of NHS factor VIII (of which 5,200 units were in hospital and 43,230 units were at home).
    c. 312,686 units of commercial factor VIII, split across Factorate (1,644 units in hospital and 12,240 units at home), Hemofil (26,336 units in hospital and 244,117 units at home) and Immuno (21,142 units in hospital and 7,207 units at home).

15. The Centre's haemophilia A carrier patient was treated with a nominal amount of cryo in 1980. Its von Willebrand's patients were treated exclusively with cryo (12,850 units in hospital and 2,050 units at home). Haemophilia B patients were treated only with NHS factor IX (17,900 units in hospital and 97,940 units at home).

16. In 1981 RMCH treated its haemophilia A patients primarily with concentrate, all of which was commercial [HCDO0001547]. It used:

    a. 63,900 units of cryo.

b. 527,142 units of commercial concentrate, divided across Factorate (40,847 units of in hospital and 294,250 units at home), Koate (15,400 units in hospital and 11,000 units at home), Hemofil (37,784 units in hospital and 118,687 units at home) and Kryobulin (3,493 units in hospital and 5,681 units at home).

c. 6,720 units of porcine factor VIII.

17. The Centre treated its haemophilia A carrier patient with 550 units of cryo in 1981. Its von Willebrand's disease patients were treated exclusively with cryo (10,200 unit at hospital and 2,000 units at home). Its two haemophilia A patients with antibodies were treated in hospital with Factorate (18,237 units), Koate (13,200 units), Hemofil (15,461 units) and Kryobulin (3,493 units), as well as porcine factor VIII (6,720 units) and Oxford factor IX. Haemophilia B patients were treated exclusively with NHS factor IX (36,155 units in hospital and 114,940 units at home).

18. In 1982 RMCH treated its haemophilia A patients primarily with concentrate, all of which was commercial [HCDO0001646]. It used:

a. 53,450 units of cryo, all of which was in hospital.

b. 522,369 units of commercial concentrate, split across Profilate (9,050 units in hospital and 69,540 units at home), Factorate (10,020 in hospital and 188,510 units at home), Koate (33,005 units in hospital and 197,740 units at home) and Kryobulin (14,504 units at home).

19. The Centre used 550 units of cryo in hospital on its haemophilia A carrier patient. It treated its von Willebrand's patients primarily with cryo (37,850 units in hospital and 6,550 units at home), as well as some Koate (1,840 units at home). Three haemophilia A patients with antibodies were treated in hospital with a small amount of cryo (300 units), Factorate (1,995 units) and NHS factor IX (13,300 units), as well as some Hyland Autoplex as part of a trial. The Centre's haemophilia B patients were treated exclusively with NHS factor IX (24,055 units in hospital and 92,465 units at home).

20. In 1983 RMCH treated its haemophilia A patients with significantly more concentrate than cryo [HCDO0001744]. It used:

    a. 76,500 units of cryo, all of which was at hospital rather than for home treatment.
    b. 87,380 units of NHS factor VIII (with 16,490 units at hospital and 70,890 for home treatment).
    c. 470,301 units of commercial factor VIII divided across two brands with a nominal amount of a third: 136,818 units of Profilate (12,652 units in hospital and 124,166 at home) and 273,123 units of Hemofil (14,093 units in hospital and 259,030 at home), as well as 360 units of Koate used in hospital.

21. RMCH's von Willebrand's patients were treated exclusively with cryo in 1983, with 23,300 units in hospital and 9,250 for home treatment. Its haemophilia B patients received only NHS factor IX (94,970 units in hospital and 49,279 at home). One haemophilia A patient with antibodies was noted to be on an Autoplex trial.

22. In 1984 RMCH again treated its haemophilia A patients primarily with concentrate, most of which was commercial [HCDO0001837]. It used:

    a. 84,950 units of cryo (all of which was in hospital).
    b. 133,350 units of NHS factor VIII (7,155 units in hospital and 126,195 units at home).
    c. 510,958 units of commercial factor VIII, divided across Profilate (68,640 units in hospital and 401,101 units at home), Armour (2,300 units in hospital and 37,517 units at home) and Hemofil (1,400 units in hospital).

23. RMCH's haemophilia A patients with antibodies were treated with 2,565 units of porcine factor VIII and 1,935 units of NHS factor IX in 1984. Its von Willebrand's patients were treated with cryo (43,450 units in hospital and 21,100 units at home). The Centre's haemophilia B patients received only NHS factor IX (50,542 units in hospital and 68,873 units at home).

24. In 1985 RMCH continued to treat its haemophilia A patients primarily with concentrate, alongside some cryo (including a small amount for home treatment) [HCDO0001930]. It used:

a. 110,530 units of cryo (108,430 units in hospital and 2,100 units at home).
b. 185,420 units of NHS factor VIII (4,875 units in hospital and 180,545 units at home).
c. 586,144 units of commercial factor VIII, split between Profilate (77,610 units in hospital and 196,054 units at home) and Koate (25,620 units in hospital and 286,860 units at home).

25. The Centre's von Willebrand's patients were treated with cryo (26,670 units in hospital and 24,920 units at home) in 1985. Its haemophilia A patients with antibodies were treated in hospital with both NHS factor IX (11,700 units) and Cutter Konyne (21,330 units). Haemophilia B patients were treated with NHS factor IX (53,879 units in hospital and 77,705 units at home) and commercial factor IX (35,620 units in hospital and 15,720 units at home).

26. In 1986 RMCH treated its haemophilia A patients primarily with concentrates, in addition to some cryo [HCDO0002027]. It used:

a. Approximately 77,250 units of cryo, all of which was in hospital.
b. 615,610 units of NHS factor VIII (with 99,895 units in hospital and 515,715 units at home).
c. 150,646 units of commercial factor VIII across two brands: 109,520 units of Koate (4,640 units in hospital and 104,880 at home) and 41,126 units of Hemofil (3,380 in hospital and 37,746 at home).

27. RMCH's von Willebrand's patients were treated only with cryo (with 41,300 units in hospital and 17,800 units at home) in 1986. Two haemophilia A patients with antibodies were treated with NHS factor IX (108,742 units) and with a small amount of FEIBA (4,000 units). The Centre's haemophilia B patients were treated

exclusively with NHS factor IX (76,625 units in hospital and 95,790 units at home).

Other documents

28. RMCH used Bidwell factor IX in the early 1970s [BPLL0008014_002].

29. A witness has described using cryo supplied by the Centre for the home treatment of her son from September 1973 [WITN0553001]. She recalls moving to concentrate around 1978-79 when he was six or seven years old. Another witness has described learning how to administer factor VIII injections to her son at RMCH around 1974 [WITN1364001].

30. In November 1978 Alex Shaw, an RMCH nursing sister, gave a talk on home treatment at a seminar held in Manchester: "*Haemophilia Today*" [PRSE0000421]. She explained that RMCH had begun a home treatment programme about five years earlier with children up to the age of 16 or 17. Of 104 haemophiliacs registered at the Centre, 22 were on home therapy and another 6 were in training. Ten of the 22 patients were very severely affected haemophiliacs. Sister Shaw described how home treatment worked in practice, including how parents were selected for the programme, and explained that older children could be trained to inject themselves. Severely affected patients were given priority to join the programme.

31. Dr Evans prepared written guidelines, dated 15 November 1978, for patients on home treatment and their parents [HSOC0022606]. These noted that "*[u]sed syringes and needles should not be put in the dustbin – they could infect anyone emptying the bins.*"

32. In a May 1979 "*Introduction to Haemophilia*" booklet, Dr Evans and Sister Susman (i.e. Alex Shaw) wrote that RMCH hoped in time to have all of its severe haemophilia patients on home treatment [HSOC0022546]. Prophylaxis was described as follows: "*Some children may be able to have an injection to provide cover for a day or so for an important examination, or to tide them over for a period when bleeds are particularly troublesome.*"

33. RMCH does not appear to have adopted a policy of restricting patients to single manufacturers or batches of commercial concentrate, at least in the early 1980s. In a 12 May 1981 letter to Dr Aronstam at Treloar's, Dr Evans wrote that the Centre used to use Hemofil and was at present using Factorate and Hemofil for its home treatment programme, commenting: "*I do not think it matters very much which product you use so long as the boys realise that they may need to change their concentrate from time to time.*" [TREL0000108_022]. In a letter of the same date concerning another patient, he wrote: "*I think it is sensible for the boys to realise that the product may need to be changed from time to time and not to become too dependent on one manufacturer's concentrates.*" [TREL0000299_010].

34. RMCH seems to have implemented a form of prophylaxis treatment for some patients. The record of a patient's July 1981 visit to the Centre's haemophilia review clinic commented: "*Prophylaxis is beneficial.*" [TREL0000108_027].

35. In September 1981 Sister Susman-Shaw wrote a detailed article on home treatment for children with haemophilia for the Nursing Times [HSOC0002894]. The article also outlined the structure of haemophilia care. Sister Susman-Shaw explained that RMCH had begun its home treatment programme about six years earlier and had 106 patients with haemophilia, Christmas disease and von Willebrand's registered at the Centre. 26 patients were on home treatment, of whom ten were severely affected haemophiliacs and one was a severely affected Christmas disease patient. The remainder were severely to moderately affected, with factor VIII levels of 1%-5%. Patients for home treatment were selected "*on the capability of parents or the child himself, co-operation of the child, the severity of the disease, the number of bleeds and the availability of factor concentrate*". RMCH tried to have severely affected patients on home treatment.

36. The article added that the ability to store factor VIII in a cool room meant there was "*not the problem of immediate fridge or freezer storage*", which could "*cut the cost to the social services and other bodies in providing moneys, particularly for a freezer in order to store cryoprecipitate, which was the product used before the introduction of the freeze-dried factor concentrates now used more widely for*

home treatment." Sister Susman-Shaw also described six-month or more regular review clinics at which patients were seen by a multidisciplinary team.

37. In the early 1980s, RMCH had a policy of generally treating patients with cryo rather than concentrates, unless they were on home treatment. Dr Evans described this policy in a September 1982 letter [NHBT0059262_006]:

> "*We normally give the young patients with haemophilia treatment with Cryoprecipitate rather than Factor VIII concentrates. In the past we found several developed jaundice when they were given Factor VIII concentrates and I think the incidence of hepatitis is much lower when we use the North Western Cryoprecipitate than when we use the imported concentrates. We tend to keep the concentrates for use with patients who are on home treatment, and use Cryoprecipitate in hospital.*"

38. It appears that RMCH used frequent treatment with concentrates in attempts to desensitise inhibitor patients. In an October 1982 letter to Dr Aronstam, Dr Evans described Manchester Royal Infirmary's approach – which likely related to inhibitors – of using "*500 IU of several brands of commercial concentrate intravenously, daily, to desensitise their patients.*"[TREL0000248_104]. Dr Evans doubted that RMCH's ethical committee would "*agree to intravenous injections daily over several months for a paediatric patient*" but suggested the matter be discussed further.

39. It seems that a form of desensitisation was subsequently adopted. In a December 1982 letter, Dr Evans explained that RMCH had continued an inhibitor patient's desensitisation regime [TREL0000308_068]. In a 7 July 1983 letter, Dr Aronstam expressed doubts as to whether it was appropriate to continue the patient's regime: "*His tolerance inducing protocol appears to have run out of steam. While we have supplied* [the patient] *with enough material to see him through the summer holidays, I have my own reservations as to whether it is ethically right in the current climate.*" [TREL0000248_095]. Dr Evans replied to say that he had discussed "*the AIDS implications*" of continuing the desensitisation regime with

the patient's family and would probably stop it [TREL0000248_094]. The decision was confirmed in August 1983 [TREL0000248_093].

40. In a 21 July 1983 letter regarding a patient with 2% factor VIII levels, Dr Evans recorded that RMCH usually treated his acute bleeds with cryoprecipitate (followed by an illegible word) [NHBT0059262_026].

41. The point at which RMCH introduced heat-treated concentrates, whether NHS or commercial, is unclear from the documents. In response to a 12 February 1985 letter from Norman Pettet regarding the supply of heat-treated BPL material, Dr Gunson explained that the North West BTS supplied BPL factor VIII to Manchester Royal Infirmary, RMCH and Lancaster BTS (which distributed material in North Lancashire), and that it occasionally supplied factor VIII to the associate haemophilia centre at Leighton Hospital, Crewe [CBLA0002036 and NHBT0089555_001]. In May 1985 Norman Pettet of BPL recorded that RMCH had not provided a list of named patients to receive heated factor VIII [NHBT0089564].

42. An internal Cutter report for February 1985 reported that regular (i.e. unheated) NHS factor VIII was still being used in the Manchester area and that heat-treated commercial factor IX might start to be used in April/May [BAYP0000024_149]. A July 1985 letter from a Cutter representative suggests that RMCH was by that time using Koate HT [BAYP0000007_052].

43. In a 29 October 1985 letter to BPL, Dr Evans stated that he did not presently have any suitable patients for a clinical trial to evaluate the safety of 8Y and 9A but sought both products on a named patient basis [BPLL0002377_002]. He noted that he had arranged for some of RMCH's "*old untreated factor IX*" to be returned to BPL, and asked that the 8Y be supplied through the North West BTS but that the 9A be supplied directly to him.

44. In 1986 Dr Evans corresponded with Dr Jones of the Newcastle Centre regarding the safety of heat-treated concentrates [HCDO0000271_075].

45. Arrangements for the purchase and distribution of factor concentrates in the North West region were addressed in the presentation on Manchester Royal Infirmary. One additional point to note is that, during a discussion on supplies and the role of a supplies officer at an 8 April 1986 North West Supra Regional Haemophilia meeting, Dr Evans "*felt that a non-medical person should not be ordering as he knows nothing of clinical indications*." [NHBT0094580].

46. RMCH used cryo rather than factor VIII concentrate for certain patients until around August 1988. Dr Evans explained this changing policy in a May 1988 letter to Dr Gunson [NHBT0096599_004]:

> "*As a result of recent discussions we have agreed to change over from using Cryoprecipitate for small children with bleeding diseases to factor VIII concentrate (8Y). We propose to make the change from August 1st this year and hope this will give you sufficient notice to change your own production programme at the Blood Bank.*
> *Hitherto, we have used Cryoprecipitate for small children until they are 6 – 8 years old and transfer to home treatment with concentrates. In future, we will be treating them in hospital, both as emergencies at night and routinely by day, with concentrate. We will still have a need for some cryoprecipitate for von Willebrand's disease and acquired disorders.*"

47. The presentation on Manchester Royal Infirmary addressed issues around a lack of supplies and under-treatment in the North West region. A May 1990 letter suggests that the shortfall in product had only affected MRI, and that supplies were not rationed at RMCH (or at the Blackburn or Lancaster Centres) [NHBT0017636].

Knowledge of risk of hepatitis and response to risk

48. Dr Evans was a regular attender at UKHCDO annual meetings of haemophilia centre directors in the 1970s and 1980s (he was not present at the 17 October 1983 meeting but was represented by Dr Stevens) [PRSE0004440]. He can

therefore be taken to have been aware of the information on hepatitis risks (both hepatitis B and NANB) discussed and shared during those meetings.

49. In a December 1974 report of post-transfusion hepatitis for a patient transfused with whole blood and cryo, Dr Evans commented that it appeared to be a clear-cut case of serum hepatitis and that, given that the patient was hepatitis B negative, "*the hepatitis may be due to another virus.*" [DHSC0100018_099].

50. During a 30 September 1980 UKHCDO meeting, Dr Evans questioned whether it was sensible to encourage manufacture of a new Hyland low potency factor VIII concentrate, "*which was cheaper but not so "clean" as the other products. There was some discussion regarding the factor VIII content and the hepatitis risk with all concentrates and it was agreed that the new Hyland product was just as good as any other product for everyday use, even though the volume of the made-up dose was greater than with some other products.*" [PRSE0003946].

51. In her September 1981 article in the Nursing Times, Sister Susman-Shaw described a home treatment case study, in which a patient was infected with hepatitis B by his factor VIII home treatment [HSOC0002894]. She wrote that the "*problem of hepatitis B transmission owing to the use of large donor pools from a high risk-population*" had "*now been virtually eliminated*" by testing donations and batches "*and by using a lower risk population*".

52. In 1984, an RMCH patient was infected with hepatitis B and passed the virus to his mother [NHBT0059256_008 and NHBT0059256_009].

53. In 1986, two RMCH patients, who had been treated with both NHS and commercial factor VIII since 1984, were reported to have been infected with hepatitis B [BPLL0002444]. In January 1987 RMCH sent Cutter details of the patients' treatment [BAYP0000010_015].

54. An Inquiry witness with von Willebrand's, who was infected with hepatitis C, has described attending RMCH throughout her childhood [WITN1168001]. She began being treated with cryo in 1975, at the age of eight months, and believes she received that product "*a lot longer than an average child with a similar*

condition", potentially to protect her from being infected with HIV and other viruses. The patient's mother, who is also an Inquiry witness, recalls that "*[i]n the early years the treatment was Cryoprecipitate, and Dr Evans was keen to keep her on this treatment as long as he could. I am not sure why, looking back maybe because there was a higher chance of it being pure. I do not recall ever being told the reasons*" [WITN0343001]. As for how the cryo was administered, it was "*frozen solid, defrosted and thawed out in the sink. It was difficult to administer, and only ever done at 'Pendlebury'*".

Knowledge of risk of AIDS and response to risk

55. In light of Dr Evans' regular attendance at UKHCDO annual meetings in the first half of the 1980s (and that he was represented by Dr Stevens at the 17 October 1983 meeting), he can be taken to have been aware of the information on AIDS risks that was presented at those meetings. Dr Evans was also present at the 24 January 1983 meeting with representatives of Immuno at London Airport [PRSE0002647].

56. In February 1986, Dr Evans wrote to Dr Jones of Newcastle Haemophilia Centre regarding a paper Dr Jones had presented on seroconversion following the use of heat-treated factor concentrate [PJON0000015_225]. As well as asking a number of questions about the paper, he wrote: "*Fortunately we have not had an enormous outcry here, although there clearly were some anxieties. We are holding a meeting to discuss the latest news about AIDS with the families concerned.*"

57. In 1987 RMCH produced a leaflet containing information on HIV for patients and their families [HSOC0012997]. A section addressing the cause of patients' infection suggested that clinicians did not and could not have known it was caused by blood products. The section, which was headed "*DO YOU MEAN I AM HIV+ve BECAUSE OF MY TREATMENT*", began as follows:

> "*Yes.*

Some years ago some of the freeze-dried concentrate, imported from America, were infected by the virus. At this time no-one was aware that this was so. It took time before it was known that AIDS was carried by a virus, and longer before it was known that it was present in blood and blood products.

…

The hospital staff had no idea at the time that their treatment carried this risk.

…

There remains a very slight risk of infection with the Cryoprecipitate."

58. It appears that at least one RMCH patient was infected with HIV after being treated only with cryo and not with factor VIII [NHBT0098601].

59. In 1997 the journal *Haemophilia* published a lengthy article by Dr Evans, entitled "*Twenty-one years of haemophilia*", on the condition's recent history and treatment [STHB0000259]. Having referred to the appearance of AIDS in the USA in the early 1980s, Dr Evans wrote as follows with respect to haemophilia A and AIDS: "*It was apparent by 1983 that the risk of infection was greater with concentrates derived from large donor pools, and advice was given to change from large pool products to cryoprecipitate [43][4]; but because AIDS was still rare, the cause was unknown, the benefits of home treatment with concentrate were substantial, and a change back to cryoprecipitate would have disrupted the arrangements for making-freeze-dried concentrate in the UK, this advice was not followed. For mildly affected patients, the Haemophilia Centre Directors recommended DDAVP.*" Dr Evans also noted the Council of Europe's 1983 recommendation to avoid imported blood products from countries with paid donors wherever possible. In the article's acknowledgments, Dr Evans thanked Professor Bloom's wife "*for permission to refer to the notes on the development of HIV infection and AIDS made by her late husband*".

[4] This is a footnote reference to the 1983 Desforges article in the New England Journal of Medicine: *"Desforges JF. AIDS and preventive treatment in haemophilia. New Engl J Med, 1983; 308: 94-95."*

Arrangements for testing patients for HTLV III and informing them of their diagnosis

60. In 1983-1984 updates on pupils registered at RMCH, Treloar's sent Dr Evans reports of AIDS-related investigations, explaining whether the pupils exhibited any of the "*stigmata of AIDS*" and enclosing *"AIDS related tests*" [for example, TREL0000308_065 and TREL0000108_012].

61. In 1985 RMCH sent parents pro-forma letters to inform them that their children had tested positive for HTLV III. The Inquiry has examples available from May and August 1985 [WITN1736002 and WITN0553002]. The introduction to the letters suggests that parents and patients may not have been aware that they were being tested for HTLV III and that stored samples were used. The body of the letter merits being set out in full:

> "*We have been sending blood samples away from the children with haemophilia and similar diseases to see if they are at risk of AIDS. None of our patients have developed AIDS or has shown any signs of doing so, but all of us, both parents and staff, are anxious about the problem. The results are now coming through.*
>
> *The blood tests on your child ..... show that he is positive for antibodies to HTLVIII – i.e. it means that he has been exposed to the AIDS virus some time in the past. It does not mean that he has AIDS, but there is a small chance that he may get it. We will have to wait quite a long time before we can tell if anything will develop. It is only a small number of patients who show this blood change who actually go on to develop AIDS. Of the first 16 patients we have tested, over 60% have given a positive result. Nearly all of them have been treated with the old factor VIII concentrates made in the USA.*
>
> *I know that this is worrying news for you. If you would like to come to see us for a further chat about it, please let Sister Shaw know, and we will set some time aside to discuss things with you. But don't forget that the positive blood test only indicates past exposure to the virus: it does not mean that the disease is bound to appear.*"

62. The witness who has exhibited one of these examples (from August 1985) recalls that the letter was provided alongside an NHS pamphlet relating to HTLV III infection [WITN0553001, WITN0553003 and WITN0553010]. Her evidence is that neither she nor her husband had been advised that blood had been taken from their late son for HIV testing, and that they had not consented to the investigation and storage of samples.

63. Negative results were also communicated by letter. An August 1985 example recorded that RMCH hoped "*to be able to repeat the test every year or so to see if there is any change.*" [WITN1244003].

64. An Inquiry witness, whose daughter was infected with hepatitis C, recalls that "*[i]n the summer of 1985 there were two meetings at Pendlebury that called for the attendance of parents children with bleeding disorders. We attended the two meetings ... The meetings were about AIDS and the HIV virus. HIV was coming in and I suppose we were being warned. However, we have no memory of being advised or provided with information about Hepatitis C*" [WITN0343001].

65. Another witness has described requesting an HIV test for her son at RMCH around 1985 and, despite the doctors and nurses wearing aprons and gloves, the request being refused on the basis that "'*there was only a slight chance that* [her son] *could have contracted HIV but this was very unlikely*'" [WITN1364001].

66. Dr Evans outlined RMCH's policy with respect to informing patients or their parents of test results in a letter published in The Lancet on 5 September 1987 [RLIT0000454].[5] The letter appears to suggest that initially testing took place without consent: "*When the test was introduced in this centre early in 1985, many parents asked us to test their sons. We gave the results to the parents, not to the boys. Subsequently we have only tested boys with their parents' consent and, in the light of our experience, we would discuss whom to inform of the result as part*

[5] Dr Evans was responding to an article by a barrister on consent and HIV testing: "Medicine and the Law" [BMAL0000031_028]. Dr Aronstam subsequently wrote a letter in response to that by Dr Evans [RLIT0000130].

of the pre-test counselling." Dr Evans described the results of a questionnaire showing that a number of parents had not told their sons of positive results, as well as his uncertainty as to whether the parents' confidence should be broken and the boys told.

67. Dr Evans gave a talk on counselling child patients and their parents at a January 1988 course on haemophilia and HIV infection [BPLL0002215].

Numbers infected with HIV

68. Provisional UKHCDO data available to the Inquiry suggests that 16 patients were infected with HIV at RMCH, and that all had seroconverted or been found to be infected by 1985 [INQY0000250].

Testing for hepatitis C

69. In an October 1982 letter introducing a patient to Dr Lee, Dr Evans recorded that there was "*no clinical evidence of liver disease, but his alanine transferase has been raised at least since January 1979.*" [NHBT0059256_025]. The patient had been given a range of commercial products.

70. As noted below in relation to research, in 1990 the serum of at least one patient involved in a trial of 8Y was tested for hepatitis C at the Oxford Centre (rather than in Manchester) [OXUH0002151_012 and OXUH0002151_016]. Dr Evans noted that the patient, who tested positive, had not received any concentrate until he had been treated in June of that year and that the blood sample had been taken at the same time.

71. In a November 1990 letter to the parents of two patients regarding hepatitis, Dr Evans noted that there had been a slight elevation of the patients' serum transaminase at points in the 1980s, but that the levels had otherwise been normal and hepatitis B tests had been negative [WITN1244007]. He commented: "*These elevations of the serum transaminase are common in haemophiliacs, they are*

thought to indicate some upset of liver function but a proper diagnosis cannot be made without a liver biopsy which entails sticking a needle into the liver". Dr Evans could not say that either patient had hepatitis at that time though it was possible that they had had it in the past.

72. The Inquiry has received evidence from patients who say that they were tested for NANB and hepatitis C without their knowledge or consent [for example, WITN1409001 and WITN1168001[6]]. One witness describes his family receiving a letter informing them that he was hepatitis C positive when he was around 10 years old (which would be around 1990); he does not know if his parents consented to the test [WITN1069001].

Other issues

73. Dr Evans was involved in proposing patients for places at Treloar's [TREL0000308_043].

74. RMCH staff received hospitality from Cutter: for example, Dr Evans and Sister Shaw attended a Bayer Philharmonic Orchestra concert in 1986 [BAYP0000008_189].

75. RMCH was involved in the following studies and trials:

    a. UKHCDO hepatitis surveys, administered by the Oxford Centre: for example, in 1982 and 1983 [HCDO0000260_537 and HCDO0000263_058].
    b. A study of treating von Willebrand's disease patients with 8Y in 1987 [CBLA0006226].
    c. A trial of 8Y in previously untreated patients around 1987-1990 [OXUH0000608_002 and OXUH0002107_021]. Dr Evans appears to have obtained approval from MCH's ethical committee for the trial [OXUH0000724_035]. In 1990 this included sending serum to the Oxford

[6] Note that this witness registered at MRI in 1992 and discovered by accident that she was positive for hepatitis C in 1993 at St Thomas's in London. The date of her hepatitis C test is unclear.

Haemophilia Centre be tested for hepatitis C there rather than locally [OXUH0002107_010, OXUH0002107_004 and OXUH0002107_009]. The trial included mildly affected and infant patients [OXUH0002155_012, OXUH0002155_010 and OXUH0002155_006].

76. In 1990 the British Medical Journal published an article by Dr Evans and Sister Shaw on the safety of intramuscular injection of hepatitis B vaccine in haemophiliacs [BPLL0000689_025].

77. Dr Evans co-authored an article published in *Archives of Disease in Childhood* in 1993 – "*HIV infection in haemophilia – a European cohort*" – on the clinical course of HIV in haemophilic children who were infected between 1979 and 1986 [RLIT0000207].

78. In 1995 Dr Evans wrote to The Lancet to support the use of recombinant concentrates for people with haemophilia, on the basis that the risk of infection could not be excluded from any human plasma-based concentrate [HSOC0002550]. In November 1996 he wrote letters to the same effect to the British Medical Association and to Bury and Rochdale Health Authority on behalf of the Haemophilia Society [HCDO0000278_081 and DHSC0020815_065].

79. During the 1990s, following his retirement from clinical practice, Dr Evans became a member of the Haemophilia Society's Board of Trustees [HCDO0000278_081]. He appears to have been particularly involved in the Society's campaign for compensation for haemophiliacs infected with hepatitis C. His work included preparing notes for the Society's committees (for example, in February 1995 [HSOC0016769]), seeking information from external experts [HSOC0000270] and providing information to politicians [HSOC0000188] and patients [WITN2287011]. He was also present at meetings of the Society's Executive Committee and of its Trustees in 1995-1996, during which the compensation campaign was discussed (for example, [HSOC0029690_050], [HSOC0029689_002], [HSOC0029689_003] and [HSOC0029689_004]).

80. In addition, Dr Evans was involved in issues relating to hepatitis C treatment (see, for example, his October 1995 note of a meeting with patients and a speaker from the Queen Elizabeth Hospital, Birmingham [HSOC0005061]), as well as concentrate purity [HSOC0002487] and the Society's internal organisation [HSOC0024629].

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