Witness Name: Professor Christine Lee

Statement No.: WITN0644058

Exhibits: WITN0644059-WITN0644102

Dated: 24 September 2020

INFECTED BLOOD INQUIRY

WRITTEN STATEMENT OF PROFESSOR CHRISTINE LEE

I provide this statement in response to a request under Rule 9 of the Inquiry Rules 2006 dated 6 February 2020. I attach to this statement a number of documents which I have labelled with appropriate exhibit numbers. I also make reference to a number of documents provided by the Infected Blood Inquiry using their identification numbers.

I, Professor Christine Lee, will say as follows: -

Section 1: Introduction

1. **Please set out your name, address, date of birth and professional qualifications.**

   These details are set out in my CV which is attached **[WITN0644059].**

2. **Please set out your employment history, including the various roles and responsibilities that you have held throughout your career, as well as the dates. Please include:**

   a. **a description of your role and responsibilities in relation to patients with haemophilia attending St George's Hospital when you were a Senior Registrar in the Department of Haematology at St George's;**
   b. **a description of the work that you undertook at the South London Blood Transfusion Centre during your time as a Senior Registrar at St George's;**
   c. **a description of the work that you undertook between November 1984 and November 1987 as a consultant haematologist responsible for the clinical and laboratory haematology service at Queen Mary's University**

Hospital, Roehampton insofar as relevant to the Inquiry's Terms of Reference.

My employment history is set out in my CV including dates as well as in my earlier statements to this Inquiry. As to my work, role and responsibilities insofar as they are relevant to the present Inquiry at: St Georges as Senior Registrar, South London Blood Transfusion Service, and as Consultant Haematologist at Queen Mary's University Hospital I refer the Inquiry to the answers I gave to the Lindsay Tribunal on 25th May 2001 p.1 **[LIND0000326]**.

> Q. Professor Lee, I think that did you train as a haematologist, first as a registrar under Jack Fielding in St. Mary's Hospital, London, between 1974 and 1976, is that correct?
> A. That's right. Yes.
>
> Q. And then I think were you a senior registrar between 1976 and 1982 at the department of haematology in St. George's Hospital, London?
> A. Yes, that's correct.
>
> Q. And was it while you were at St. George's Hospital in London that you became interested in haemophilia?
> A. Yes.
>
> Q. And why was that, Professor?
>
> A. Because the head of department, Professor Peter Flute, had a particular interest in haemostasis. And there were a number of patients with haemophilia who attended that department.
>
> Q. Yes. Now, I think at the beginning of 1983, did you begin to work as a research senior registrar under the direction of Dr. Peter Kernoff and Dr. Howard Thomas at the haemophilia centre in the Royal Free Hospital, London?
> A. That's correct.
>
> Q. Yes. Can you just explain to us what that post was and what the research that you were doing was?
> A. At that stage I had completed my training as a haematologist. I had got my final qualifications of MRC Path, and I applied for this post which was funded by Action Research. And it was to look into non-A non-B Hepatitis in patients with haemophilia.
>
> Q. Yes. Now, the Royal Free Hospital in London, I think, had a major haemophilia treatment centre, is that correct?
> A. That's right. It began in 1964 with Dr. Katherine Dormandy.
>
> Q. Yes.
> A. And it's now the largest in the UK. And it serves a population approximately the same size as the Irish Republic.

Q. Yes. And in 1983, was there a significant haemophilia treatment centre at the Royal Free Hospital in London?

3. **Please set out your membership, past or present, of any committees, associations, parties societies or groups relevant to the Inquiry's Terms of Reference, including dates of your membership and the nature of your involvement.**

These are all comprehensively listed in my CV **[WITN0644059]** and I have also highlighted my previous role as Founding Editor (in 1995) and Chief Editor until 2013 of the journal Haemophilia, published by Wiley Blackwell in a previous statement to this Inquiry.[1]

4. **Please confirm whether you have provided evidence to, or have been involved in, any other inquiries, investigations, criminal or civil litigation in relation to the human immunodeficiency virus ("HIV") and/or hepatitis B virus ("HBV") and/or hepatitis C virus ("HCV") infections and/o4r variant Creutzfeldt-Jakob disease ("vCJD") in blood and/or blood products. Please provide details of your involvement and copies of any statements or reports that you provided (including, as requested above, your statement to the Lindsay Tribunal and the documents you provided to the Lindsay Tribunal).**

I refer to my evidence given to the Lindsay tribunal **[LIND0000326]** which summarises my involvement. The Inquiry team should have access to documents provided on my behalf to the Lindsay Tribunal. Due to the significant passage of time (nearly 20 years) I do not have a copy of any statement which I gave to that Tribunal nor the list of documents or exhibits which is referred to as "the book" on the transcript.

Section 2: Your work as Research Senior Registrar at the Royal Free Hospital

5. **Your earlier statements to the Inquiry explain that you worked as Research Senior Registrar at the Royal Free Hospital between January 1983 and October 1984. However, an article authored by you (Lee CA, Forum on AIDS, hepatitis and haemophilia, J Thromb Haemost 2004; 2: 518-19) (copy enclosed) suggests that your work at the Royal Free began before January 1983 and continued beyond October 1984 (see: "We developed the concept of joint liver clinics in 1981, the patient being seen together with the haematologist and**

[1] See **[WITN0644043]** §6.

hepatologist"; "In December 1982 we began to measure T4:T8 rations in our patients with haemophilia"; "we eventually established from testing stored sera in November 1984"; "by late 1984 we knew that 112 of the 525 patients then registered at the Royal Free were infected with HIV"). Please clarify and provide full details of your work at the Royal Free at this time.

I refer to my answers to the Lindsay Tribunal transcript pp.5-35 **[LIND0000326]** which set out the nature of my work at the Royal Free at the time.

I also refer to the content of the article Lee CA, '*Forum on AIDS, hepatitis and haemophilia*' (*J Thromb Haemost*, 2004, 2, 518-519) **[WITN0644060, p.5]** where I explain that in 1982 I was funded by the charity Action Research to research NANB hepatitis in haemophilia under the supervision of Howard Thomas and Peter Kernoff. The Action Research Grant was given in 1982 but I started the post in 1983. The "we" in column 2 paragraph 4 is clearly a reference to the development of liver clinics at the Royal Free. I also refer to the document at **[WITN0644061]** namely the job description for the post of Research Physician and the document at **[WITN0644062]** which is the Grant Application to Action Research. It may be seen from p.6 of **[WITN0644062]** that the role of the medical registrar in the study is described as being involved in the day to day supervision of patients included in the clinical studies, and in the collection and analysis of clinical and laboratory data. It may also be seen under the heading "Ethical Considerations" that the proposed studies were considered by Peter Kernoff and Howard Thomas to be regarded as components of routine patient management and surveillance. As I explained in my interview for the RCP Oral History project at p.27 **[MACK0002586]** the resultant paper was a very significant publication.

6. **Your role at the Royal Free during this period involved researching non-A non-B (NANB) hepatitis in patients with haemophilia. In the same article you explain that you were "to follow patients after their first exposure to large pool clotting factor concentrates, so called 'virgin' patients". Please provide a full and detailed description of this research, including:**

    a. **what led you to choose this subject for your research;**
    b. **the aims and objectives of the research;**
    c. **the steps taken to obtain approval for the research;**

d. your involvement and the work which you undertook or directed others to undertake;
e. what if any other organisations, bodies or individuals (including other haemophilia centres and/or other clinicians) were involved in the research;
f. how the research was funded;
g. the numbers of patients involved from the Royal Free;
h. the numbers of patients involved from other haemophilia centres (please specify which centres);
i. the information that was gathered about individual patients in the course of the research;
j. the specimens and/or samples that were obtained from patients for the purpose of the research;
k. the steps taken (if any) to inform patients of their involvement and seek their informed consent;
l. the results and/or findings of the research.

I refer you to Kernoff PBA et al, '*High risk of non-A non-B hepatitis after a first exposure to volunteer or commercial clotting factor concentrates: effects of prophylactic immune serum globulin*', (*British Journal of Haematology*, 1985, 60, 469-479). [PRSE0003439] Please identify any other publications or reports associated with the research referred to above.

I have set out the nature of the job description **[WITN0644061]** which adequately explains the nature of the research role which was advertised and for which I successfully applied. Points (a) to (f) above are answered by the Inquiry reviewing the document at **[WITN0644062]**. Points (g) to (i) and (l) are, after this distance in time, best answered by reading the product of the research which was the publication referred to above **[PRSE0003439]**. As to questions (j) and (k) this forms the subject of subsequent questioning on the process for obtaining consent in relation to the use of specimens. The practice of storing samples was set up by Dr Peter Kernoff when he took up post in 1978.

I think it is important to add that samples used were stored for clinical management and treatment of patients with haemophilia. The epidemiological observational research studies, such as that above, which used stored samples on an anonymous basis was not an experimental study which either at the time or subsequently required ethical approval or, I believe, express consent from patients. This is because

it was an observational epidemiological research study and did not involve any breach of confidentiality. Observational research of this kind, relying often on large quantities of previously collected data without express consent from the patients was not contrary to accepted medical practice. Indeed I believe such observational research as I carried out was in the interest of public health and made a significant contribution in the attempts to better understand and improve the treatment of hepatitis. In saying so, I associate myself with arguments made in such papers as Rustam A-S et al, "*Using patient-identifiable data for observational research and audit. Overprotection could damage the public interest*" (*BMJ* 2000, 321, 1031-32) **[WITN0644063]**, where it is explained that a requirement for consent for this kind of research might have resulted in systematic bias which would invalidate the findings of the observational research if patients were excluded because they did not consent. The article explains, by way of example, that obtaining consent can be biased by age or gender, and by whether individuals are dead, untraceable, cognitively impaired or deemed to distressed to be approached for their consent. These are precisely the kind of arguments that were being made in 2000 to justify the continuation of what was then the *status quo*. The extent to which the approach has changed since my retirement is beyond the scope of this inquiry, but for clarity, I do not believe that any observational epidemiological research study that I carried out during the whole of my career was carried out improperly or contrary to the acceptable standards which prevailed at the time the study was carried out or published.

7. **On 18 July 1983 you wrote to Dr Charles Rizza (copy letter enclosed), requesting specimens from patients at the Oxford Haemophilia Centre.**
    a. **Was this request part of the research referred to in the above paragraph?**
    b. **Why did you make this request?**
    c. **What was Dr Rizza's response? Did he supply specimens to you, as envisaged by your letter? Over what period of time?**
    d. **Did you make similar requests to other haemophilia centres and/or clinicians? If so please specify which ones and describe their response.**
    e. **What steps were taken (if any) to obtain the consent of the patients at Oxford whose specimens were to be sent to you?**

My responses are as follows:-

a. No. See the jointly published article with Dr Rizza, Lee CA et al, '*Relationships between blood product exposure and immunological abnormalities in English haemophiliacs*' (*British Journal of Haematology*, 1985, 60, 161-72) **[WITN0644064]**.

b. For the reason stated in the letter. Oxford was the first centre to make concentrates and had longstanding use of concentrate. The study concerned immuno-compromised patients. We had found that our FVIII treated haemophilia A patients, who received both commercial and NHS FVIII concentrates, were immunocompromised but our exclusively NHS FIX treated haemophilia B patients were not immunocompromised. (Lee CA et al, *'Plasma fractionation methods and T-subsets in haemophilia'* (*Lancet* 1983, ii, 158-159)) **[WITN0644065]**.

The reasons samples were sought from Oxford was because there was hardly any commercial concentrate used there. For the purpose of our epidemiological study we wanted to see whether there were any relevant differences in results when using NHS as compared with commercial concentrate. It was because we at the Free did not have many patients using solely NHS concentrate that we needed samples from Oxford to widen the cohort of patients studied. The results of the Rizza study are in the paper referred to above **[WITN0644064]**.

c. I have no copy of his response. But plainly specimens were supplied and formed data for the observational study. I am unable to give the period of time.

d. No other centres were involved.

e. If consent was expressly obtained in Oxford it would have been obtained by Dr Rizza, but for reasons summarised above, I do not consider this observational research study was of a kind which required express consent from patients and do not consider that there was any breach of confidentiality in use of data which remained anonymous.

8. **On 3 October 1983 you wrote to Dr Rizza again (copy enclosed), referring to "our plan for the joint study which we discussed at Oxford and by telephone last week".**

    a. **Please provide full details of the proposed joint study with Dr Rizza.**
    b. **Was this part of the research referred to in paragraph 6 above or a separate study?**
    c. **Did the study with Dr Rizza described in this letter go ahead? If so please provide full details, describing what was done as part of the study, what data and specimens were provided by Dr Rizza and over what period of time.**
    d. **What steps were taken (if any) to obtain the consent of the patients in question to their participation in the study?**

I refer to the answers given to question 7 above.

9. **In the letter of 3 October 1983 you stated that "If we manage to obtain this data it should make a valuable contribution and perhaps even silence the Daily Mail". What did you mean by that?**

We were hopeful it would make a valuable contribution to the work that was being done at that time. I do not now recall the specific article or headline in respect of which final comment was made. I do not think it is controversial to observe that the Daily Mail has, on occasion, been sensationalist in its headlines or content and the comment may have been directed at some such headline or content.

10. **In a further letter to Dr Rizza dated 16 November 1983 (copy enclosed) you stated that "I have a nasty feeling that NHS concentrate is going to turn out safer!" What did you mean by that? Why should the prospect of a finding that NHS concentrate was safer than other products cause "a nasty feeling"?**

The 'nasty feeling' was a fear for my patients. Our initial thinking had been that it was the manufacturing or fractionation process that made the difference to the patient outcome. The evidence that emerged from this observational research study was that it was likely to be the donor pool. That is the nasty feeling: my patients were at risk.

11. **Please provide full details of any involvement that you had:**

    a. **directly with patients at the Royal Free;**

b. **with any decisions concerning the treatment of, or the provision of information to, patients with haemophilia, hepatitis and/or HIV at the Royal Free;**
c. **with any decisions as to which factor concentrates would be used for patients at the Royal Free; and**
d. **during your time as a Senior Registrar and/or during the period prior to appointment as a consultant at the Royal Free in 1986.**

My response is as follows:

a. I have to date been asked to respond (and have promptly responded to) no less than eight Rule 9 requests from the Inquiry providing specific responses to concerns raised in the case of particular patients. In doing so I have attached or referred to any relevant documents which were in my possession relating to those patients or which were provided to me by the Inquiry. In the light of this, I have been advised by my legal advisers that in the context where I have already described at some length my involvement with specific patients identified by this Inquiry in previous Rule 9 requests it is neither reasonable nor proportionate nor realistic to expect me to provide "*full details of any involvement directly with patients at the Royal Free*" a hospital where I was Centre Director for some 13 years, and a consultant since 1987. I would also add that the Haemophilia Centre was a centre with its own laboratory and its own multi-disciplinary team, six nurses, three consultants, junior staff, counsellors, and assessment. MDT working was the norm and we delivered a comprehensive package of care to our patients. See management chart at **[WITN0644066, p.15]**.

I also would wish to emphasise that in the period 1987 to 1992 I was doing regular HIV clinics at the centre. Tragically, we had around eight of our patients die each year in this period, usually after a long illness. These were young men who had fought adversity of haemophilia, and were now dying. We cared very much for these patients and were doing all we could to help them. The way that some of the questions are posed in this Rule 9 request seems to imply that we at the centre were blind as to the very real suffering that these patients were undergoing and were

motivated by reasons unconnected with trying to provide the best healthcare of these patients. That is just not the case.

b. The question is simply too broad and I have been advised by my legal advisers that it is neither reasonable nor proportionate nor realistic to expect me to answer it other than in general terms. I should add that I have already given detailed accounts in previous Rule 9 requests, in evidence before the Lindsay Tribunal in 2001 and in published articles setting out the history of the use of blood products. In order to assist the Inquiry I also provide with this statement a substantial number of documents which I consider may be relevant to the Inquiry's investigation into the period between 1983 and 1986 and in large part these documents answer this request. Unless specific medical notes are provided for my comment (and to be meaningful I would require sight of the full relevant bundle of medical records in relation to any intervention or decision-making) these generic questions can add little to those accounts.

c. I have outlined in general terms the answer to this question in earlier evidence to the Lindsay Tribunal see transcript pp.15-17 **[LIND0000326]** and have little I can add to it:

Yes.
A. Although I was coming back one day a week, but again, I had no direct clinical responsibility.

Q. Yes. But nonetheless, your knowledge of the practice that was adopted by the Royal Free at that time would be of assistance to the Tribunal. So perhaps if I could ask you what the practice was in 1983, first of all, for patients with Haemophilia A. A. We had a very strict policy that DDAVP was used for those with mild disease.

Q. Yes.
A. With mild Haemophilia A. For those who had severe Haemophilia A, there was not any positive stopping of treatment and people went on having both National Health Service and commercial concentrate. The children in our centre had always been on National Health Service Factor VIII; partly, I suppose, in the beginning because that that's where the Factor VIII came from. And then as time went by, parents were particularly keen to keep their children on British product. And they were small and there was enough to do that.

Q. Yes.
A. There was never enough to do that for adults. But there was actually no scientific basis at that time for doing it anyway.

Q. Yes. And just in terms of -- would that have been an inflexible policy for children who were receiving concentrates; would they always have got National Health Service, or would there have been occasions when they --
A. No. They always had National Health Service.

Q. Yes. And at that time were any of your children receiving cryoprecipitate as distinct from concentrates?
A. No. I mean, as you know, I have carefully checked on that issue, and the only person with severe Haemophilia A who received cryoprecipitate during that period was, if you like, a kind of conscientious objector that didn't want to have concentrate.

Q. Yes. Whether for children or for adults, the choice was if somebody was a person with mild haemophilia and who could be treated with DDAVP, that was done; and if not, they were treated with concentrate, either NHS or commercial --

A. Yes.

.....

...

Q. Yes. So therefore, what one would be looking at would be a period from 1984 until sometime in 1985 when you would have become confident of the heat-treated product; would that be fair?
A. Yes. I think I can also recollect that there was a patient who had a carcinoma of the rectum, and Peter Kernoff particularly stocked up National Health Service concentrate so he could have that operation done.

Q. Yes. Now, if we could move then into 19 -- the end of 1984, the beginning of 1985. Did -- well, sorry. When did the Royal Free start using heated concentrates?
A. During the early part of 1985, for Factor VIII deficient patients, but it wasn't, you know, on a sudden date; it was a gradual transition during that early time --

Q. A.

Yes.
-- over, I would guess, between three and six months, something like that.

Q. Professor?

A. No.

And had there been any usage of heat-treated concentrate prior to that,

Q. Had your centre been involved in any of the clinical trials?
A. No. The clinical trial of the one that -- the Alpha product actually began after -- it was the early part of 1985.

Q. Yes. And so --
A. No, we hadn't had any heated concentrate before.

Q. I see. And in relation to Factor VIII patients, did you begin to use, in the early part of 1985, heat-treated commercial product and heat-treated National Health Service product?

A. Yes. We were using both; I mean, as I recall, there was heat-treated commercial product available at the end of December, but the National Health Service wasn't until February '85.

Q. Yes. I think that the evidence the Tribunal has heard would confirm your recollection in that regard, Professor. And what was the position in relation to Factor IX concentrate for persons with Haemophilia B?
A. This wasn't heated until August of 1985. And Dr. Kernoff took the view that the donor pool in the UK at that point would have been less of a risk from HIV compared to the donor pool in the United States. And also at that time - although, you know, it's perfectly clear now in retrospect - at that time it still wasn't entirely clear whether heating would fix the problem. So he took the decision to continue patients with Haemophilia B on unheated National Health Service Factor IX concentrate.

Q. Yes. Sorry, just before we come to that. At the beginning of 1985 -- the end of 1984/beginning of 1985, would the position have continued, that all of your patients would have been receiving National Health Service Factor IX?
A. Yes.

Q. And would you have had any usage, say, in 1984, of commercial non National Health Service Factor IX?
A. I don't think so.

I would also underline that it was not my clinical responsibility to determine which factor concentrates would be used at the Royal Free. I had no direct clinical responsibility in this period.

As to point (d) above, I again refer the Inquiry to the answers I gave to the Lindsay Tribunal in particular pp.15-21 of the transcript **[LIND0000326]**.

Section 3: Decisions and actions of the Royal Free Haemophilia Centre ("the Centre") and your decisions and actions at the Centre

12. Please describe the roles, functions and responsibilities of the Centre during the time that you worked there.

I have described my role function and responsibilities in previous evidence to this Inquiry in Rule 9 requests[2] and to the Lindsay Tribunal at pp.1-7 of the transcript **[LIND0000326]**. I have also described my role in a published review of the period Lee CA, *'Blood borne infections and haemophilia: the worst of times'* (*J Haem Pract,*

[2] Please see **[WITN0644003]** §7 and following.

2015, 2(2), 5-7) **[WITN0644067]** and I refer the Inquiry to that account in particular p. 1, columns 1 and 2 and the references there referred to.

13. Please describe your role and responsibilities at the Centre as (a) honorary consultant in haematology, (b) consultant haematologist, (c) acting director and (d) director of the Centre.

I refer the Inquiry to the general account I gave to the oral history project **[MACK0002586, pp.15-18]** and to the document entitled '*The Katharine Dormandy Haemophilia Centre and Haemostasis Unit – a history*' **[WITN0644068]** in which I set out in chronological order the development of the centre, my Action Research Fellowship to study NANB hepatitis between 1982 and 1984, my appointment in 1987 as Consultant Haematologist specifically to provide care and lead research for patients with HIV and hepatitis, the events of 1991 when Peter Kernoff sustained severe disabling illness and was unable to work again, and I was appointed acting Director April 1991 to April 1992 and subsequently Director of the centre. I remained Director of the Centre from April 1992 to December 2005, a period of 13 years. I also refer, by way of contemporaneous documentation to support the roles which were being discharged, to the 1987 pamphlet describing the Centre **[WITN0644069]** and its activities.

14. What decisions and actions were taken, and what policies were formulated, at the Centre regarding the importation, manufacture and use of blood products (in particular factor concentrates)? What involvement did you have?

I sought to answer a similar question when asked by the Lindsay Tribunal in 2001, and refer to the answer I gave to questions at pp.15-26 **[LIND0000326]** of the transcript. I do not think I can give a fuller account now than I was able to in similar circumstances some 19 years ago.

15. Who was responsible for the selection and purchase of blood products for use at the Centre, and what decisions were taken as to which products to use? In addressing this issue, please answer the following questions:

a. How, and on what basis, were decisions made about the selection and purchase of blood products?

b. What were the reasons or considerations that led to the choice of one product over another?
c. What role did commercial and/or financial considerations play?
d. What involvement did you have?

These questions cover some of the same ground as that in the above questions and I refer the Inquiry to the answers I gave to the Lindsay Tribunal in 2001 **[LIND0000326]**. I have understood this question as referring to the key period under consideration namely until 1985 when heated concentrate became available. Once these products were available, and even before that (see for example the UKHCDO document of 14 December 1984 and the subsequently issued Guidelines and recommendations referred to below) there were recommendations of which products to use in a descending order of safety.

As to commercial considerations, when Peter Kernoff was Centre Director I had nothing to do with choosing one product over another at all or commercial or financial considerations. After he went I (largely by the advice of my husband) did not have any involvement with any of the drug companies for purchasing. Initially "supplies" at the RFH dealt with negotiations with drug companies. The negotiations with pharmaceutical companies for contracting purposes were conducted by the RFH chief pharmacist, John Farrell and the chief laboratory scientist within the Centre who also held a managerial role, Mr Angus McGraw. My decision making was limited to type e.g. should patients have high purity, should they have recombinant, monoclonal purified, made on the contemporary UKHCDO guideline. I had no commercial involvement.

As to trials and sponsorship, I personally never took any money directly from any drug company. The nearest I came receiving sponsorship was that if I lectured they would pay for my flight.

16. What was the relationship between the Centre and the pharmaceutical companies manufacturing/supplying blood products? What influence did that relationship have on the decisions and actions described above? What relationship did you have with any pharmaceutical companies

manufacturing/supplying blood products and what influence did that have on your decisions and actions?

I refer to the answer above, and to the evidence I gave to the Lindsay Tribunal in particular pp.29-30 **[LIND0000326]**. I would also refer to the document titled *'Clotting factor obtained 'free' in the context of therapeutic trials'* **[WITN0644070, p.20]**.

In more general terms I also refer to Lee CA, '*The Royal Free Hospital Haemophilia Centre*' (*The Bulletin*, 1988, No. 4, 8) **[HSOC0022932, p.8]**. This document explains that the association between the Royal Free and the recombinant Factor VIII date back to work undertaken by Dr Ted Tuddenham in purifying factor VIII from blood, using new technology and monoclonal antibodies developed by Dr Alison Goodall. This development led to a joint venture with purified factor VIII and other reagents being supplied by the Royal Free and its UK-backed backer Speywood laboratories to the American biotechnology company Genetech. The scale-up to the 1988 level of production by Cutter Biological Inc – part of the Bayer Company – presented many problems and took four years to achieve.

I would also observe that it was the case that the Centre was in receipt of a relatively large volume of clotting factor concentrate obtained "free" in the context of therapeutic trials. The units and their equivalent cost are shown at **[WITN0644070, p.20]**. This reflected the Royal Free's status as a training centre of the World Federation of Hemophilia.

17. If the responsibility for the selection and purchase of blood products lay with an organisation other than the Centre, please specify which organisations and provide as much information as you can about its decision-making.

I have already explained that the selection and purchase of blood products e.g. whether to use NHS concentrate for adults or children in the period relevant to this Inquiry (i.e. up to 1985 when heated concentrate became available) was taken by Dr

Peter Kernoff and refer to the answers already given and the evidence I gave to the Lindsay Tribunal in particular pp.29-30 **[LIND0000326]**:

Q.: where we left off was that no children with haemophilia developed HIV arising from the receipt of National Health Service Factor VIII concentrate. And you indicated that that was a matter of choice in relation to the parents of the children concerned, isn't that correct?

A. I think that needs a little clarification. Some parents preferred to have British product. The actual choice of product that was prescribed was actually determined by the centre.

Q. And that's what you meant earlier on in your evidence when you said that it wasn't a matter for discussion between the consultant concerned and the patients in relation to treatment options, isn't that what you meant?
A. No, that is what I meant. In those days, and indeed even today, the determination of the clotting factor concentrate used in a centre is not a matter of choice.

Q. So in that regard, Dr. Peter Kernoff had some rationale for using National Health Service concentrate for children. What was the basis of that rationale, or do you know what the basis of that rationale was?
A. Yes, I've explained it previously. It's partly historical and partly the fact that children are small and, therefore, don't require as much treatment. The National Health Service product was developed in Oxford and later they moved to making it in Elstree. And it was the practice, because it was available, to use National Health Service product. There was also a programme of self-sufficiency in the UK that was promoted by the Callaghan government. There was never enough clotting factor concentrate to treat adults with National Health Service product, but there was enough to treat children completely with this product. We also, in line with many other treaters, had a policy that we would keep people on the same batch and the same type of concentrate until that was exhausted. So that was really the rationale.

Q. And would that rationale be found at page 162 of the documentation attached to your statement, being the recommendation from the Haemophilia Treaters Organisation of the 24th of June, 1983?
A. Yeah. What -- you're now moving in time to 1983. I'm talking about the generality of what was used to treat children. In 1983, there was an encouragement to use National Health Service product, preferentially, if that was available.

18. How were decisions taken as to which products to use for particular patients? What role did you have in such decisions?

I refer to the answers above and the evidence I gave to the Lindsay Tribunal in particular pp.29–32 **[LIND0000326]** some of which is reproduced in answer to the previous question.

19. What alternative treatments to factor concentrates were available for people with bleeding disorders?

The question is very general and not time specific. It does not reflect the fact that the available treatments changed over time. I refer to my evidence given to the Lindsay Tribunal at p.17ff **[LIND0000326]** which explains my experience of the emergence of heat treated concentrates in the early part of 1985. I also refer to my article *'Blood borne infections and haemophilia: the worst of times'* **[WITN0644067]** which explains the emergence of alternative treatments. By way of objective evidence, the Inquiry might also consider the article by Mannucci PM, *'AIDS, hepatitis and hemophilia in the 1980s: memoirs from an insider'* (*J Thromb Haemost*, 2003, 1, 2065-9) at **[WITN0644071]** which describes DDAVP and cryoprecipitate as alternative to concentrates and the rationale and circumstances in which such alternatives might be used.

For a general review of treatment and treatment options I refer the Inquiry to a paper which I was co-author and which was based on the report of the joint WHO World Federation of Hemophilia meeting in Geneva on 21-23 March 1994 which I attended: Berntorp E et al, '*Modern treatment of haemophilia*' (*Bulletin of the World Health Organisation*, 1995, 73 (5), 691-701) at **[WITN0644072]**, a document which is still available online. It may be seen from that paper that it explains (relevant to the purposes of this inquiry), the then-current state of knowledge with respect to:-The role of primary prophylaxis in haemophilia care.

- Viral Safety of currently available products
- Products for treating or preventing bleeding in persons with haemophilia A or B
- Optimal doses of products
- Management of haemophiliacs with inhibitors
- Management of patients with HIV infection and/or hepatitis

I should also explain at this time I sat on the executive of the World Federation of Hemophilia with special responsibility to liaise with the WHO. The 1995 Bulletin just referred to was produced from the deliberations of a consensus group of international experts and I helped to prepare this document from their deliberations.

I also refer to the Guidelines produced by UKHCDO on produced by UKHCDO and which I was co-author.

- (1995) Preston FE et al, '*Guidelines on the diagnosis and management of chronic liver disease in haemophilia*' (*Haemophilia*, 1995, 1, Suppl. 4, 42-44) **[WITN0644073]**;
- (1997) UKHCDO Executive Committee, '*Guidelines on therapeutic products to treat haemophilia and other hereditary coagulation disorders*' (*Haemophilia*, 1997, 3, 63-77) **[HSOC0000333]**; and
- (2001) Makris M et al, '*Guidelines on the diagnosis, management and prevention of hepatitis in haemophilia*' (*Haemophilia*, 2001, 7, 339-345) **[WITN0644074]**.

As well as the earlier guidance emanating from 1984 the 'AIDS Advisory Document' **[HCDO0000270-007]** which lists treatment options in decreasing order of safety from blood borne infection with HIV for "haemophilia A" **[HCDO0000270-007, p.2]** and recommendations for treatment of "haemophilia B" **[HCDO0000270-007, p.3]**, the advice in the 1988 document **[PRSE0003484]**, and the update advice in the 1989 document **[BPLL0001998]**.

I also refer to the Centre's clinical guidelines effective from May 2001, **[WITN0644075]** summarising the treatment options for FVIII and FIX deficiency **[WITN0644075, p.21]** as illustrating how the treatment options had developed over time.

20. What were, in your view, the advantages and disadvantages of those alternative treatments? What use was made of them? Do you consider that they should have been used in preference to factor concentrates so as to reduce the risk of infection? If not, why?

This question is largely answered by reading the above Guidelines and papers. They explain some of the pros and cons of alternative treatments such as DDAVP. In respect of cryoprecipitate, I would also refer to the Mannucci article which at **[WITN0644071]** column 2, explains the choice to use single-donor cryoprecipitate as

opposed to large pool concentrate and the circumstances in which that alternative might be chosen. I think the advice/recommendations given at the time by UKHCDO was entirely reasonable and based on the most up-to-date evidence available. As can be seen from those documents the guidelines were promulgated by the some of the most knowledgeable and eminent haematologists working in the field at the time.

21. What was the policy and approach at the Centre as regards the use of cryoprecipitate for the treatment of patients with bleeding disorders? Did that policy and approach change over time and if so how?

The Centre's approach was to follow the advice and recommendations of UKHCDO as it was emerged. Contemporaneous documents from 1984 **[HCDO0000270-007]**, show the emerging state of knowledge as to the effect of heat on concentrates. The recommendations summarised at **[HCDO0000270-007, pp.2-3]** include, for Haemophilia A patients needing blood products: (i) using cryopreciptiate or heated NHS factor VIII if available for virgin patients; (ii) using heat treated NHS factor VIII, if available or heat treated US commercial. For haemophilia B, using fresh frozen plasma in preference to NHS Factor IX concentrate. In severe and moderate Christmas Disease previously exposed to Factor IX concentrate, continue to use NHS factor IX. I have in my answers above referred to later versions of similar guidance reproduced by UKHCDO to show how the advice recommendations changed over time.

I also refer the Inquiry to my description of the operation of the Royal Free Haemophilia Centre **[HSOC0022932, p.8]** and the use of cryoprecipitate and home treatment.

Further I would observe that in our paper Lee CA et al, '*Acute Fulminant non-A, non-B hepatitis leading to chronic active hepatitis after treatment with cryoprecipitate*' (*Gut*, 1985, 26, 639-641) **[WITN0644076]**, we discuss the incidence of NANB hepatitis after infusion of cryoprecipitate and explain that although the risk of transmitting NANB hepatitis with cryoprecipitate is lower than that associated with large donor pool

factor VIII concentrates, the risks may become significant when large doses are used and the resulting NANB hepatitis may run a severe protracted course. As that article also makes clear on occasion to limit further exposure to blood products DDAVP was used.

This approach is consistent with the European thinking at the time, see the article *'AIDS, hepatitis and hemophilia in the 1980s: memoirs from an insider'* **[WITN0644071]**, where Mannucci describes the rationale for the use of DDAVP and cryoprecipitate as alternative to concentrate. He explains that cryoprecipitate was really only pertinent to the treatment of mild haemophiliacs who were infrequently treated.

22. What was the policy and approach at the Centre in relation to home treatment? Did that policy and approach change over time and if so how?

Please see the answer and documents referred to above. The Centre's approach was to align itself with the UKHCDO Guidelines. I also refer to the *'Pan-Thames Consortium Guidelines 2003 – Guidelines for Home Treatment and Prophylaxis for Adults with Haemophilia'* **[WITN0644075, p.24]**.

23. What was the policy and approach at the Centre in relation to prophylactic treatment? Did that policy and approach change over time and if so how?

Please see the answer and documents referred to above. The Centre's approach was to align itself with the UKHCDO Guidelines and was (through Peter Kernoff, and later myself) instrumental in the production of those guidelines and recommendations. See also documents such as **[WITN0644066, p.83]** which describes the development of child and family centred approach in the era of home treatment and prophylaxis **[WITN0644075, p.26]** which describes the Centre's approach to children and prophylaxis and Yee TT et al, *'Experience of prophylaxis treatment in children with severe haemophilia'* (*Haemophilia*, 2002, 8, 76-8) which describes our practice in the Centre from 1994 **[WITN0644077]**.

As may be seen from **[WITN0644078]**, I was present in Geneva at a joint WHO meeting on the control of haemophilia: Modern Treatment of Haemophilia. That document (and the subsequent article based on the meeting published in the Bulletin of the WHO in 1995) explains the rationale for prophylaxis treatment in haemophilia and the recommendations as they were then.

24. What was the policy and approach at the Centre in relation to the use of factor concentrates for children? How did that policy and approach change over time? You told the Lindsay Tribunal that the Centre's policy was always to treat children with NHS rather than commercial concentrates. Is that correct? When, by whom and why was that policy adopted? Was the policy consistently applied? Prior to the adoption of that policy what treatments were administered to children?

I refer the Inquiry to my evidence to the Lindsay Tribunal which answers this question in particular p.15-18 of the transcript **[LIND0000326]**. As I explained then and as I now repeat, I was coming back one day a week but had no direct clinical responsibility. What I described to the Lindsay Tribunal was my best recollection of the policy or practice which was followed by the Centre at the material time in relation to the use of particular treatments. To the best of my knowledge what I said then was correct.

25. To what extent, and why, were people with mild or moderate bleeding disorders treated at the Centre with factor concentrates? You told the Lindsay Tribunal that there was a policy of treating mild haemophilia A patients with DDAVP. Is that correct? When, by whom and why was that policy adopted? Was the policy consistently applied?

The Mannucci article **[WITN0644071]** referred to above gives the rationale for this treatment at the time. I doubt if is appropriate to describe any individual treatment decision as being determined by policy rather than the individual factors in the case. A range of treatment options was available depending on the circumstances of the individual case. But the treatment that was given in any particular case would have, so far as possible, followed the Guidelines issued by the UKHCDO.

26. Approximately how many patients with bleeding disorders were under the care of the Centre when you first started working there and over the years that

followed? (If you are able to give exact rather than approximate figures, please do so).

The best figures I am able to produce are summarised in documents. For example, the Bulletin entry for the Royal Free Hospital **[HSOC0022932, p.8]**, describes how during the past 10 years (i.e. since 1978) there had been an enormous expansion in the Centre. In 1987-88 there were 981 registered patients 424 with haemophilia, A, 95 with haemophilia B, 204 with Von Willebrand's disease, 68 with Factor IX deficiency, and 142 with congenital platelet disorders.

The "away-day" document at **[WITN0644066]** describes patient numbers for anticoagulation as rising from 923 registered patients in 1997 rising to 1699 in 1999 (the date of the away day). The number of children with haemophilia registered at the Centre under the age of 16 was 250 at that date. Generally speaking it is right to recognise that the Haemophilia Centre and Haemostasis Unit was at the time I was Director of it, the largest in the country. I also refer to Figure 1 in the document entitled "overview of the increasing costs of treatment for patients with congenital coagulation disorders at the Royal Free Hospital **[WITN0644070, p.4]** which shows that the haemophilic patients registered at the Royal Free rose from approximately 600 in 1982 to 1000 in 1987, and to over 1600 by 1994.

27. What viruses or infections, other than HIV, HCV and HBV, were transmitted to patients at the Centre in consequence of the use of blood products?

I cannot answer this question definitively. The risk of other viruses being transmitted including TT virus and human parovirus B19 is canvassed in a paper of which I was co-author: '*Guidelines on the diagnosis, management and prevention of hepatitis in haemophilia*' **[WITN0644074]**. It is also summarised in '*Modern treatment of haemophilia*' (1995) Bulletin of the WHO **[WITN0644072]**. I also refer the Inquiry to another paper of which I was co-author: Yee TT et al, '*Transmission of symptomatic parvovirus B19 infection by clotting factor concentrate*' (*British Journal of Haematology*, 1996, 93, 457-459) **[WITN0644079]**, in respect of human parovirus.

Section 4: Knowledge of, and response to, risk

General

28. By the time you began your research at the Royal Free in the early 1980s, what did you know and understand about the risks of infection associated with blood and/or blood products? What were the sources of your knowledge? How did your knowledge and understanding develop over time?

I have sought to answer this question on more than one occasion in my evidence to the Lindsay Tribunal but I consider the best evidence of my knowledge and understanding at any particular time and evidence of its development over time is within the numerous articles, book chapters and books which I published and the guidelines and related documents which I participated in producing. I would also refer to my training as a senior registrar at St George's Department of Haematology.

In order to attain accreditation in haematology it was obligatory to spend time in a transfusion centre. I was attached to the South London Transfusion Centre, Tooting for 10 months 1979/80. During this training I would have understood the risks of transfusion acquired infection at that time.

In terms of Guidance I refer in particular to:-

- Haemophilia Centre Directors Organisation's (HCDO) 'Aids Advisory Document' (14 December 1984) **[HCDO0000270-007]**;
- UK Haemophilia Reference Centre Directors' 'Recommendations on choice of therapeutic products for the treatment of on-inhibitor patients with Haemophilia A, Haemophilia B or Von Willebrand's disease' (1988) **[PRSE0003484]**;
- UK Haemophilia Reference Centre Directors' Updated version of the above (1989) **[BPLL0001998]**;
- 'Guidelines on the diagnosis and management of chronic liver disease in haemophilia' (1995) **[WITN0644073]**;

- UKHCDO Executive Committee's 'Guidelines on therapeutic products to treat haemophilia and other hereditary coagulation disorders' (1997) **[HSOC0000333]**; and
- 'Guidelines on the diagnosis management and prevention of hepatitis in haemophilia' (2001) **[WITN0644074]**.

As to articles, one which is relevant to this issue is Lee CA, '*Viral hepatitis and haemophilia*' (*British Medical Bulletin*, 1990, Vol. 46, No. 2, 408-422) **[WITN0644080]**. In that article I give my account of the emerging knowledge and treatment of viral hepatitis. After setting out a chronological history of the development of treatment for viral hepatitis that bulletin concludes: "*The seriousness of the viral hepatitis problem was underestimated in the past. Partly as a consequence of the emergence of AIDS, it is now recognised as a matter of dominant importance. Effective methods of prevention have now been implemented. The challenge for the future will be the development of successful strategies for treatment*".

29. What advisory and decision-making structures were in place, or were put in place, at the Centre and/or within the area covered by the Centre, to consider and/or assess the risks of infection associated with the use of blood and/or blood products?

This question is in part answered above by reference to my and the Centre's involvement with the UKHCDO. It can be seen from the documents produced that patient safety and risks to patients were a key focus of the recommendations.

30. What was your understanding of the relative risks of infection from (i) the use of commercially supplied blood products and (ii) the use of NHS blood products?

In terms of the risk of clotting factor concentrates transmitting hepatitis I refer to the evidence I gave to the Lindsay Tribunal at transcript p.12ff **[LIND0000326]** with my reference to the *Kasper* article in 1972, and the *Craske* paper in 1978.

What was not clear was the rate at which such transmission occurred. I explained then, and repeat now that knowledge of the fact that giving clotting factor concentrate was inevitably followed by NANB hepatitis really was not available until the Fletcher paper and our study.

As I have previously explained elsewhere (e.g. oral history project **[MACK0002586, p. 14]**). The paper that was eventually published in 1985 on NANB hepatitis and was presented a various meetings from 1983 onwards including, as I told the Lindsay Tribunal, the British Society of Haematology in 1984. The significance of the paper was that 100 per cent of people who received a large pool plasma derived clotting factor concentrate whether the plasma came from British donors (the NHS) or whether it came from commercial donors which at that time were mostly American would get NANB hepatitis albeit the disease was self-clearing in a minority of cases. This came as a surprise. The virus, which later became known as hepatitis C, had not then been identified and we had no test for it. It was difficult to explain to patients what was wrong when we ourselves did not know. The hepatitis C virus (HCV) was identified in 1989. Until then it was known as NANB hepatitis. A diagnosis of hepatitis C was made by exclusion of hepatitis A and hepatitis B and with abnormal liver transferases (transminases). In 1990 we were able to test for antibody to HCV. This test was developed in the virology laboratory together with expertise from the liver unit at the Royal Free Hospital. At this time the NHS did not have a licensed test and the National Blood Transfusion Service were awaiting further verification of testing kits but they began testing in 1991. As **[BART0000668]** shows as soon as it was available we wrote to patients to tell them about it. In respect of specific interaction with specific patients of concern to this Inquiry I refer to my earlier Rule 9 requests. I refer also to the policy document dated 4 May 1990 for the Haemophilia Centre in which the hepatitis C virus is described **[BART0000668, p2.]**. Our policy was to review all patients and test them at review appointments.

In recognition of the developing knowledge (and the arrival of the HIV virus on the scene at the same time), the UKHCDO was able to stratify treatment options in

probable decreasing order of safety (e.g. from AIDS for Haemophilia A) **[HCDO0000270-007, p2]**.

31. What decision and actions were taken by the Centre and by you to minimise or reduce exposure to infection?

The Centre was at the vanguard of the identification of the risk of infection, whether with the HIV infection or NANB hepatitis, and the papers that were published were highly significant and influenced treatment across the board. In the light of the developing knowledge the UKHCDO was able to stratify treatment options in probable decreasing order of safety (e.g. from AIDS for Haemophilia A) **[HCDO0000270-007, p2]** and in this way exposure to infection was reduced as much as possible.

Hepatitis

32. By the time you began your research at the Royal Free, what was your knowledge and understanding of the risks of the transmission of hepatitis, including hepatitis B and NANB hepatitis (hepatitis C), from blood and/or blood products? What were the sources of your knowledge? How did that knowledge and understanding develop over time?

In general terms, I would say that in 1983 when I began working at the Royal Free my knowledge about transfusion transmitted disease was that which was generally known to the blood transfusion service at that time. But beyond this the question is almost impossible to answer in the sense that it is very difficult to remember when one didn't know something or learnt it for the first time. As I have indicated above, my significant body of published work on both haemophilia and HIV is probably the best evidence of what my knowledge and understanding was at any particular time. As a haematologist seeking to undertake a specific research specialism in this area, I was embarking on an area where the general knowledge of these matters was fairly limited. An example is what I explained to the Lindsay Tribunal when I was asked at p.14 **[LIND0000326]** of the transcript, "*what was the reaction amongst your*

colleagues when you decided to make the study of NANB hepatitis the subject of your research in 1982" and I indicated that *"there was a general ignorance of the subject."*

33. What if any enquiries and/or investigations did the Centre and/or you carry out or cause to be carried out in respect of the risks of transmission of hepatitis? What information was obtained as a result?

I think it is important to be clear that during the period 1983 to 1987 treatment practice at the Royal Free was not my clinical responsibility. As I explained to the Lindsay Tribunal at p.15 **[LIND0000326]**, I was in the Centre from the end of 1982 to November 1984 and worked closely with Peter Kernoff. Between 1985 and 1987, I was essentially working as a consultant away from the Free and although I came back one day a week I had no direct clinical responsibility.

If the question concerns what research or other work did I carry out with regard to risk of transmission then I refer the Inquiry to my CV and list of published work on this subject **[WITN0644059]**.

34. What if any actions did the Centre or you take to reduce the risk to patients of being infected with hepatitis (of any kind)?

I refer to the evidence I gave to the Lindsay Tribunal at p.16 of the transcript **[LIND0000326]**:-

"For those who had severe Haemophilia A, there was not any positive stopping of treatment and people went on having both National Health Service and commercial concentrate."

35. What was your understanding of the nature and severity of the different forms of blood borne viral hepatitis and how did that understanding develop over time?

I refer the Inquiry to the large number of published articles and book chapters I have written on the subject of both hepatitis C (formerly NANB) and HIV and haemophilia and reproduce as an appendix to this statement an edited list of the publications taken from my CV that relate specifically to HCV and HIV **[WITN0644081]**. This is

the best evidence of my understanding at the material time and how that understanding developed.

HIV and AIDS

36. What was your knowledge and understanding of HIV (HTLV-III) and AIDS and in particular of the risks of transmission from blood and blood products? How did your knowledge and understanding develop over time?

I refer the Inquiry to the large number of articles I have written on the subject of both hepatitis C (NANB) and HIV and haemophilia. This is the best evidence of my understanding at particular times and how that understanding developed over time The relevant published articles on this subject are set out in the edited list of my CV publications attached **[WITN0644081]**.

I should add that much of this published work led to my DSc Med, - awarded for a consistent contribution to the understanding of transfusion transmitted disease in the field of haemophilia.

37. How and when did you first become aware that there might be an association between AIDS and the use of blood products?

Please see my answer at transcript p.8ff of my evidence from the Lindsay Tribunal **[LIND0000326]**. So far as I was aware the first indication of the transmission by blood transfusion of what later become known as AIDS or HIV was a publication in the Lancet on 30 April 1983. I do not think I was aware of the publication by the MMWR of 10 December 1982. I then attended a World Federation of Haemophilia congress in Stockholm between 27 June and 1 July 1983 where there was no consensus opinion and the debate was really whether there were immune abnormalities due to an infection or due to some kind of immune modulation from the clotting factor. As I explained to the Lindsay Tribunal there was a 1984 paper in the New England Journal of Medicine which contained further information: Curran JW et al, '*Acquired Immunodeficiency Syndrome (AIDS) associated with transfusions*' (*The New England Journal of Medicine*, 12 Jan 1984, 310, 2, 69-75) **[WITN0644082]**. That

was a seminal paper giving proof that blood transfusion can transmit an infective agent.

My own paper: Lee CA et al, '*The natural history of human immunodeficiency virus infection in a haemophilia cohort*' (*British Journal of Haematology*, 1989, 73, 228-234) **[WITN0644083]** established that the first infection in the cohort was in around 1979, and that there were no seroconversions after 1985. The seroconversion probably occurred steadily over a period of time, probably because, early on the plasma pools were not contaminated, but as time went on there was a greater contamination of the plasma pools. It also suggests that by 1982/1983 the time when the first indications of infection came about, about half of the patients already had this problem. As I also mentioned to the Lindsay Tribunal it was .because we had the stored specimens for hepatitis that we were able to examine this cohort. The further milestones in relation to knowledge of HIV are discussed in the Lindsay Tribunal transcript at p.12 **[LIND0000326]**.

38. What steps did you take in light of that awareness? What steps were taken at the Centre?

I have already answered this question in general terms above and was asked questions about how the developing knowledge affected treatment. I refer the Inquiry to my answer at p.35 of the transcript of the Lindsay Tribunal **[LIND0000326]** which explains that I was only working at the Free one day a week and explain how the matter was being dealt with on a day to day basis. The only people in the Royal Free who had any expertise in this area at the time were Mrs Riva Miller and Dr Peter Kernoff.

39. What if any enquiries and/or investigations did you or the Centre carry out or cause to be carried out in respect of the risks of transmission of HIV or AIDS? What information was obtained as a result?

See the answer above.

40. Did you or the Centre continue to use factor concentrates to treat patients, after becoming aware of the possible risks of infection of HIV? If so, why?

The test for HIV (to test for possible infection) and therefore a clearer understanding of it, came in late 1984. By that time heated concentrates had already become available. Heating concentrate prevented transmission of HIV. I should add that at this time I was a Consultant Haematologist at Queen Mary's University Hospital and Charing Cross Medical School.

41. You wrote an article entitled "Acquired Immunodeficiency Syndrome: An Update", which was published by the Haemophilia Society as a factsheet (Haemofact AIDS, Release No 3) on 11 May 1984 (copy enclosed).

a. How did you come to write this article? Were you asked to write it (and if so by whom) or was it your idea?
b. You state in the article that "epidemiological studies have suggested that it [AIDS] may be related to a transmissible agent". Which epidemiological studies were you referring to?
c. You refer in the article to studies in Scotland, Australia and America ("it is now clear from studies in Scotland, Australia and America that these changes occur whether the plasma source used for the concentrate manufacture is volunteer or commercial"). Which studies were you referring to? It might be suggested that this statement could lead to those reading it to conclude that there was no material difference in risk between NHS and commercial factor concentrates – please comment.
d. It might also be suggested that this article (either read alone or read together with Haemofact AIDS, Release No 4, published on 24 September 1984 and authored by Dr Kernoff – copy enclosed) could lead those reading it to conclude that the risk of transmission of AIDS from factor concentrates was very low and/or that the article provided false reassurance to people with haemophilia and their families about the safety of factor concentrates: see, for example, the evidence given to the Inquiry by W1003 – Paul – on 10 October 2019 (transcript, pp. 22-30, copy enclosed). What is your response to that suggestion?
e. In the article which you authored, you stated that "In Great Britain the number of haemophiliacs who have been reported with AIDS remain at 2. Thus the incidence is less than 1 in 1,000 patients at risk". Please explain what you meant to convey in this statement and whether you consider the statement to have been accurate.

This article was written thirty six years ago. It is difficult if not impossible to answer with precision these kinds of questions after such a period of time. Some nineteen years ago, I gave evidence to the Lindsay Tribunal and explained the emerging

evidence of which I was aware in relation to HIV in the context that I was working one day a week at the Royal Free and was not responsible for clinical decision making.

As I have elsewhere made clear Peter Kernoff who was the Director of the Centre was a stickler for detail and would always seek to ensure that any information presented was accurate and could be supported by evidence. I believe the statements made were accurate at the time I made them. I do not believe they are misleading nor (insofar as anyone claims to be misled or given false reassurance) was there any intention to mislead or give false reassurance.

The article makes clear that there was a strong suggestion that HIV was transmitted by blood products which was a proper reflection of the evidence available at the time. I also refer to my publication '*Relationships between blood product exposure and immunological abnormalities in English Haemophiliacs*' **[WITN0644064]**, which explains my thinking at the relevant time "*Fractionation procedures used to prepare clotting factor concentrates, and the amounts of concentrate used, are more likely to be causally related to these immunological abnormalities than the origins of source donor plasmas*." In fact, as we later discovered the origins of the source donor plasmas was far more important than the fractionation procedures.

42. In Haemofact AIDS, Release No 4, Dr Kernoff wrote that "The presence of antibodies is usually taken as evidence of immunity to infection, and perhaps one reason why the risk of AIDS in haemophilia is so low (around 1 in 1000_ is that many patients are immune to it".

a. Were you involved in the writing of this article? Did you see the article before it was published?
b. Do you consider that the suggestion that "the risk of AIDS in haemophilia is so low (around 1 in 1000)" is accurate? If so why?

I repeat the answer I gave above. The questions appear to insinuate that either I or Peter Kernoff was responsible for giving misleading information in these communications. I reject that criticism. Clearly if one looks retrospectively at a

particular cohort as I did in *'The natural history of human immunodeficiency virus infection in a haemophilia cohort'* **[WITN0644083]** then on the basis of collated data one is able to reach certain conclusions which were not available at the time in 1983 or 1984. That data shows that by June 1982, about half of all patients already had infection. The reference to the number of reported cases in the UK in 1984 in the Haemofact documents was I believe accurate at the time it was made.

Response to risk

43. Did you or the Centre take any steps to ensure that patients and/or the public were informed and educated about the risks of hepatitis and HIV? If so, what steps?

The answer to this question is already given above and in my evidence to the Lindsay Tribunal.

44. Do you consider that your decisions and actions and those of the Centre in response to any known or suspected risks of infection were adequate and appropriate? If so, why? If not, please explain what you accept could or should have been done differently.

I repeat I was not responsible for the clinical decision making at this time. That said, I was a party to, and aware of, the thoughts and actions of Peter Kernoff and the Centre's response. The decisions which were made - at the time they were made - were made on the basis of the emerging knowledge at that time and were made appropriately. They were based on our understanding of the emerging knowledge about this new virus. It seems to me somewhat artificial to look at the question from hindsight, armed with knowledge of matters we did not know, and say things could or should have been done differently.

45. What decisions or actions by you and/or the Centre could and/or should have avoided, or brought to an end earlier, the use of infected blood products?

I repeat the answer I gave above. I refer the Inquiry to the paper by Mannucci '*AIDS, hepatitis and hemophilia in the 1980s: memoirs from an insider*' **[WITN0644071]**. I associate myself with many of the comments he makes in that article in particular:

Re. treatment with concentrate for haemophilia

- *"the view at the time…was that the problem of hepatitis was a tolerable one, because the benefits of concentrates seemed to outweigh risks. In the 1960s and 1970s severe liver disease was not a prominent cause of death in haemophilia. The most significant cause of death remained bleeding, particularly intracranial bleeding. Hence for severe haemophiliacs, there was no alternative but to continue the life-saving concentrate treatment despite the risks of hepatitis"* **[WITN0644071, p.2, col.1]**

Re. Aids

- *"In 1982 worldwide there was only a report of two haemophiliac who had developed AIDS – Pneumocystis carinii pneumonia among persons with haemophilia" A MMWR Mob Mortal Wkly Rep 1982 31 365-7; (a document I was not aware of)*
- *In 1983 there were no more than 10-15 full blown cases and many of us had not seen a case till 1984. It must also be borne in mind that although by 1983 many of us had the view of a possibility that the cause of AIDS might be a virus there were alternative theories. The idea of the immune system being compromised by the constant use of concentrates was well supported."*
- *…"In a February 1985 issue of the Lancet we reported in a letter to the Editor an absence of antibodies to LAV in patients treated exclusively with a concentrate heated at 60 degrees C. for 72h. This was the first demonstration that dry-heating could inactivate the AIDS virus containing clotting factor concentrates used for haemophilia treatment.*
- *"Although some extreme views were held that haemophiliacs should not receive concentrates, there was in my view little alternative during that period but to continue treating. I certainly told haemophiliacs under my care of the risk of AIDS from the early stages, but if one balances the risks that were known at that time against the substantial, well perceived benefits of concentrate treatment, it is not surprising that very few of them elected to discontinue the use of factor concentrates."*

46. Did you or the Centre revert to treatment with cryoprecipitate for some or all of your patients in response to the risk of infection? If so, how was it determined

which patients would be offered a return to cryoprecipitate and which would not? If not, why not?

I am not able to answer this question. The clinical decision making was taken by Peter Kernoff.

47. **In the Royal College of Physicians ("RCP") Oral History Project interview (copy enclosed) (transcript, p. 33), you referred to there being a meeting every month in 1983/4, at the old Middlesex Hospital or sometimes at St Mary's Hospital, to discuss issues relating to HIV/AIDS. Please provide details of these meetings, including names of those who attended and the issues that were discussed. Who was responsible for arranging the meetings?**

This was 36-37 years ago. I am not able to provide this information at this distance in time. If I had any documents relating to those meetings I would provide them but I do not.

48. **In the RCP Oral History Project interview (transcript, p. 34), you refer to a World Federation of Hemophilia meeting in Stockholm in 1983 which you attended. Please set out what you can recall of that meeting, the attendees and what was discussed insofar as relevant to the Inquiry's Terms of Reference.**

The meeting in Stockholm was referred to by me in my evidence to the Lindsay Tribunal and I refer to the transcript at pp.9-10 **[LIND0000326]**. As I said to the Lindsay Tribunal 19 years ago "*I can't really remember the detail*". It is now some 37 years ago and while thankfully my memory remains intact it is unrealistic to expect me to remember things now which I could not remember then. By reference to the work I was doing at the time it is likely there would have been reference to my work published in 1983 such as '*Plasma fractionation methods and T-subsets in haemophilia*' **[WITN0644065]** which as noted above was concentrating more on fractionation methods rather than the source of the donor plasma.

49. **What actions or decisions or policies of other clinicians or other organisations, within your knowledge, played a part in, or contributed to, the scale of infection in patients with bleeding disorders? What, if anything, do you consider could or should have been done differently by these others?**

I do not accept the premise of this questioning which is that there were a series of actions which ought to have been taken but were not at the time to reduce the spread of infection through blood borne viruses. In saying so I associate myself with P. Mannucci's closing remarks in the article referred to above under the heading "*the fallacy of retrospective knowledge*". In my evidence to the Lindsay Tribunal I sought to explain that clinical decisions taken by Peter Kernoff, in the period of concern to this Inquiry, were made based on the knowledge that was available at that time. For example at the bottom of p.17 of the transcript I explain that there was real doubt about the efficacy of heat treatment **[LIND0000326]**:-

"Dr Kernoff took the view that the donor pool in the UK in that time would have been less of a risk from HIV compared with the donor pool in the USA. And also at that time, although you know, its perfectly clear now in retrospect – at that time it still wasn't entirely clear whether any heating would fix the problem. So he took the decision continue with Haemophilia B on unheated NHS Factor IX concentrate"

50. Do you consider that greater efforts should have been made to inactivate viruses in blood or blood products prior to 1980? If so, who should have made or coordinated those efforts and what steps should have been taken and when? If not, why?

I don't think I can answer the question which concerns matters prior to 1980.

Section 5: Treatment of patients at the Centre

Provision of information to patients

51. What information did you provide or cause to be provided, and/or what information was (to your knowledge) provided by others at the Centre, to patients with a bleeding disorder about the risks of infection in consequence of treatment with blood products (in particular, factor concentrates), prior to such treatment commencing? Please detail whether and if so how this changed over time.

I have sought to provide answers to this question by referring to contemporaneous documents such as the Haemophilia Centre Directors Organisation's Aids Advisory

Document dated 14 December 1984 **[HCDO0000270-007]** which presents options for treatment in decreasing order of safety and underlines that in individual patients there would need to be a choice. One can see that the recommendation was that concentrate was still needed, and that there were issues with the availability of heat treated products. If heated UK concentrate was available it would be used. As the Note recognises it was thought that heated concentrates may still transmit hepatitis, and the difference in safety between heated imported concentrate and unheated UK concentrate was debatable.

But I should re-emphasise two points:

First, that all the Centre management decisions up to 1991, when Peter Kernoff sustained a heart attack, were made by him as Director. Yes I became aware of risks of infection consequent on treatment with blood products, and yes, I discussed such risks with him as the Centre developed its response but ultimately he was responsible for the decisions that were taken.

Second, I did not become a member of UKHCDO Committee until 1991 and therefore did not take part in what might be described as "*top table*" discussions about treatment choices, resource concerns, choice of factor concentrate etc. until nearly 6 years after the introduction of heated factor concentrates in 1985 by which time clinical practice recommendations had significantly developed.

The subsequent 1988 and 1989 documents **[PRSE0003484 and BPLL0001998 respectively]** show how as more products became available the available treatment options changed. Within the recommendations in the 1988 document the guidance explains "*we regard it as self-evident that all patients should be treated with the safest possible therapeutic products….In attempting to meet this ideal however there remain several problems*". I agree with this statement about patient safety and that was our approach. The Guidance then goes onto list a number of difficulties not least the fact that not all of the products were currently easily obtainable.

52. Do you accept that patients should have been informed that it was well known that there were hepatitis viruses within blood?

The information that was given to patients was conditioned by the state of knowledge at the time. I consider documents such as the UKHCDO document from 1984 is good evidence of what the relevant practice at the time and that it was the intention to give patients a choice of treatments. Such patients would have been told about the risk of transmission of blood borne viruses. I would also note from articles such as Anonymous, '*Legal action over hepatitis*' (*The Bulletin*, 1988, No. 4, 14) **[HSOC0022932, p.14]** that by 1983/1984 it was generally recognised by treating doctors that unheated concentrates were contra-indicated because of the risk of hepatitis in circumstances where the patient was a "virgin" patient and had not previously had concentrate and there was good reason for not using them in her particular case at that time.

The point as to communication of information is borne out by the documents. Take for example, the pro-formal letter from 1990 **[BART0000668]**, which begins "*Many haemophiliacs who have been treated in the past with unheated clotting factor concentrates or other blood products have been exposed to the non-A non-B hepatitis NANBH virus*."

In terms of my general approach to providing information to patients I think it may also be relevant to refer to my correspondence with Professor Frank Hill, Chairman UKHCDO copied to Dr Gill at the Health Protection Agency dated 20 May 2004 with respect to the risk of transmission of vCJD in the context of haemophilia **[HCDO0000254-629]**. That letter concludes:

> "*It is frankly scandalous that we are denied the opportunity of conveying full information to our patients. Our doctor patient relationship is in danger of being destroyed because implicated batch numbers are being withheld. ...I would suggest that at the present time we are failing in our duty of care for matters out of our control*"

I cite this example because it demonstrates that if I recognised a failure in a duty of care to patients I was not shy in recognising and articulating it to those in a position

to do something about it. I also refer to my answers to earlier Rule 9 requests concerning particular patients, and the letters which the I or the Centre caused to be written to patients informing them of the precautionary measures taken with respect to recalls of BPL Factor VIII batches because it was found that "*a donor had not met the current health requirements for CJD*".

Turning to the question above, patients were informed of risks of hepatitis viruses. As to its being "*well known*" it rather depends what time period one is talking about and what the relevant balance of risk for treatment was. It is clear from documents such as the letter to patients dated 4 June 1990 **[BART0000668]**, that the Centre took a pro-active approach to informing patients of risks, and that patients were regularly called in for a review of their condition during the time that I was Centre Director. For specific patient responses I refer back to my earlier Rule 9 responses.

53. In your interview as part of the RCP Oral History Project, you stated that the significance of your research, which you presented at various meetings from 1983 onwards, "was that 100 per cent of people who received a large pool plasma derived clotting factor concentrate, whether the plasma came from British donors, that's National Health Service, or whether it came from commercial donors, which in those dates were mostly American, they would get non A and non B hepatitis".

a. Were patients at the Centre informed, whether by you or by others, that all people who received factor concentrate would get non-A, non-B hepatitis? If so, how and when was this information provided to them? If not, why not?

I refer to the letter dated 4 June 1990 **[BART0000668]** informing patients of exposure to clotting factor concentrates. This letter was designed for giving results of the first anti HCV tests. Prior to that, information as far as it was known would have been given at the regular patient reviews. It is important to remember that HCV and HIV were not transmitted after 1985 because from 1985 onwards, heated clotting factor concentrates were used.

b. Please provide details of the meetings at which you presented your research from 1983 onwards.

So far as possible I have answered this question when answering questions from the Lindsay Tribunal see transcript p.6 **[LIND0000326]**.

From 1983 until 2012 I attended and presented research at BSH, biannual World Federation of Hemophilia, biannual world AIDS meeting, biannual International Society for Thrombosis and Haemostasis.

I do not hold a detailed list of my presentations and lectures but all work was published and is shown in the publications list of my CV **[WITN0644059]**. See in particular the list of lectures in my CV between 1994 and 2015.

54. What information did you provide or cause to be provided (or was, to your knowledge, provided by others at the Centre) to patients about alternatives to treatment with factor concentrates? Please detail whether and if so how this changed over time.

I refer to the UKHCDO documents from 1984 **[HCDO0000270-007]**, 1988 **[PRSE0003484]** and 1989 **[BPLL0001998]** which describe the approach to treatment and information during that period. It may be seen from **[WITN0644070, p.8]** at point 8/95 that even in 1995 an enhanced approach to informed consent to treatment was only just gaining momentum. Thus it is there noted that "The issue of informed consent to Blood Transfusion was under discussion by the Royal College of Pathologists. Dr Pasi has been asked by the UKHCDO to produce a set of guidelines for counselling patients/parents of children about to commence treatment with plasma derived products".

55. What information did you provide or cause to be provided (or was, to your knowledge, provided by others at the Centre) to patients before they began home treatment?

Patients were trained in the centre by the haemophilia specialist nurses. There was also a domiciliary nurse – this was particularly used by children.

56. You told the Lindsay Tribunal that it was not the policy in the mid-1980s to discuss with patients the relative merits of blood products or treatment options. Is that correct? If so, was your statement describing the position at the Centre, or were you speaking more generally about clinical practice in haemophilia centres? Why did clinicians not discuss these matters with patients?

I stand by the evidence I gave to the Lindsay Tribunal, and refer to what was said both at p.17ff and at p.28-29 of the transcript **[LIND0000326]**. It was not at the time the practice to discuss the treatments that were being used with patients. Further evidence for that practice is the note just referred to at **[BART0000581, p.2]** at the 1995 meeting of the Haemophilia Working party (of which I was the Chair). Times and practice have changed since then.

If the question relates to the period when heat treated concentrates were becoming available in 1984-1985 then I was not Centre Director at that time and have tried to answer as best I can by referring back to the evidence I gave the Lindsay Tribunal. The Free started using heat treated concentrates in the early part of 1985, for factor VIII deficient patients. It was a gradual transition over three or six months. We used both NHS and commercial heat treated product for Factor VIII and did not use heat treated Factor IX till August of 1985. I cannot give evidence about what information was given to patients about the relative merits of these treatments because I was not directly involved in that although I am sure the reason why heated concentrate was being used would have been well publicised.

HIV

57. When you first discuss AIDS or HIV (HTLV-III) with any of the patients at the Centre?

I cannot give a precise date, but it is likely to have been in 1987 when I returned as consultant. I would have spoken to patients directly. I would also refer to the publication *'Acquired Immunodeficiency Syndrome: An update'* is a patient-facing document which I would have expected to be read by patients **[WITN1003018]**.

58. Please describe how and when you learned that patients under the care of the Centre had been infected with HIV.

I have given a partial answer to this question in the Lindsay Tribunal **[LIND0000326]**. But I can add that following the testing of samples sent to Professor Richard Tedder in November 1984 for the new anti HTLVIII test the results would have been sent to Dr Peter Kernoff. It was only then that we knew that 112 of our patients were infected. By that time I was Consultant Haematologist at Queen Mary's Roehampton.

I refer the Inquiry to my evidence there and to the published article '*The natural history of human immunodeficiency virus infection in a haemophilia cohort*' **[WITN0644083]** as well as the history of events I gave in '*Blood borne infections and haemophilia: the worst of times*' **[WITN0644067]** where I describe the first Royal Free patient who seroconverted was also the first documented patient to seroconvert in this country. The early seroconverter was 1979 but we did not know that until 1984/5.

59. How and when were patients at the Centre told that they had been, or might have been, infected with HIV? Were they told in person, by letter or by telephone? Were patients seen individually or in groups?

I have already answered this question at least in part when asked in respect of specific patients in previous Rule 9 requests and I do not repeat those answers. As to counselling of those who were told that they had been or might have been affected I refer to my answer at p.35 of the Lindsay Tribunal transcript **[LIND0000326]**:

> Well, I have to emphasise that I was -- I wasn't working there then. I was just going there a day a week. But the people who were mostly involved in giving out the results which we had available -- maybe I should just go back one step. The last thing I did before I left in November of 1984 was I took samples from all the patients and sent them to Professor Tedder at the Middlesex Hospital, who was measuring the antiHTLV-III antibody on a research basis. So we had results from the beginning of 1985. But these were not from a bona fide laboratory; they were still, if you like, research. And during that period, Dr. Eleanor Goldman, who was a clinical assistant in the unit, and Mrs. Riva Miller, who was a social worker, were the individuals who were mostly involved in giving out results. Also, Dr. Elizabeth Miller, who took over my research post, was also involved. And what I know is that the kind of information that was being given to patients was very confusing, because it wasn't known whether the antibody was protective; it wasn't known whether it meant that people were infectious. People -- we just knew that they had this antibody. And the conversations that were held involved discussion about -- 'we don't know what this means, it could mean that you're immune'.

I also refer to the description of counselling given at **[WITN0644069, p.4]** by our medical social worker Mrs Riva Miller:

> *Counselling*
> *Our medical social worker, Mrs Riva Miller has always applied the techniques of family therapy and is one of two trained family therapists (the other being Dr. Eleanor Goldman) within the Haemophilia Centre. Patients are seen by her at the time of reviews and are encouraged to bring relatives or close friends to such interviews. Sometimes, if there is a specific problem, a family interview will be especially set up- This way of working has naturally extended to HIV-related problems and it has been used to help address dreaded issues.*
>
> *An integral part of the counselling is the organisation of groups. These meet once or twice yearly, for about two hours on a week day evening. We have carefully structured groups for parents of younger children, adolescents, wives, adults and, more recently, for HIV-positive patients. They provoke hard and sometimes painful discussion and are certainly not a forum for gossip. We also have a staff support group, held monthly, mainly for 'hands-on' carers, particularly the nursing sisters who are very heavily involved in all aspects of patient care"*

60. What information was given to them about the significance of a positive diagnosis? Were patients told to keep their infection a secret?

I have nothing to add to what I said to the Lindsay Tribunal at p.35.

61. What was the Centre's/your policy in relation to testing partners/family members of people known or suspected to be infected with HIV? Under what circumstances were tests carried out?

An answer to this question is probably best found in:

(i) My article: Goldman E et al, *'Counselling HIV positive haemophilic men who wish to have children'* (BMJ, 1992, 304, 829-830) **[WITN0644084]** which explains that when HIV testing became available in early 1985 all haemophilic patients were invited to bring their sexual partners for counselling and HIV testing.

(ii) The Aids Advisory Document (1984) **[HCDO0000270-007]** produced by the Haemophilia Centre Directors Organisation.

62. What if any information or advice did the Centre provide to partners or family members of people that were at risk of infection with HIV or were infected with HIV?

For specific answers in respect of specific patients please see my earlier Rule 9 responses. For general answers, see above.

63. How many patients at the Centre were infected with HIV? Of those infected,

a. How many had severe haemophilia A?
b. How many had moderate haemophilia A?
c. How many had mild haemophilia A?
d. How many had haemophilia B or von Willebrand's disease?
e. How many were children?

I refer the Inquiry to my articles: *'The natural history of human immunodeficiency virus infection in a haemophilia cohort'* **[WITN0644083]**, Phillips AN et al, *'Use of CD4 lymphocyte count to predict long term survival free of AIDS after HIV infection'* (*BMJ*, 30 July 1994, 309, 309-313) **[WITN0644085]**, and Sabin CA et al, *'Comparison of immunodeficiency and AIDS defining conditions in HIV negative and HIV positive men with haemophilia A'* (*BMJ*, 27 January 1996, 312, 207-210) **[WITN0644086]** from which some of this information can be derived.

Answers:

a) severe haemophilia A 101;

b) and c) moderate/mild haemophilia A (FVIII> 2u/dL) 7 – you cannot really separate out mild and moderate;

d) Haemophilia B: 1. Von Willebrand's Disease (VWD): I think probably 1, was treated with cryoprecipitate but subsequently it was found this patient had other risk factors for HIV;

e) I do not think there were any.

Hepatitis B

64. Were patients infected with hepatitis B informed of their infection and if so how?

Patients were informed of hepatitis B during reviews and would have been seen by the hepatologist in the joint liver clinics – Professor Howard Thomas 1979 -1987 Professor Geoffrey Dusheiko, Professor Prem Mistry and Dr David Patch from 1988.

65. What information was provided to patients infected with hepatitis B about the infection, its significance, prognosis, treatment options and management?

The individuals that had it would have been seen in conjunction with hepatologists and the liver clinic. They were seen on an individual basis and reviewed.

The standard treatment was 6 monthly review together with a walk-in clinic for specific problems. If there were specific liver problems or HIV then there was referral to a joint clinic held in the centre. I would sit along the HIV and liver consultant. They would be told everything that was known about hepatitis B at that time. It should not be forgotten that at that time we had some of the most internationally renowned specialists providing multi-disciplinary care at the centre, e.g. Professor Geoffrey Dusheiko, Professor Howard Thomas etc.

66. How many patients at the Centre were infected with hepatitis B?

I cannot be precise but it was small number: in single digits.

NANB Hepatitis/Hepatitis C

67. Were patients infected with NANB hepatitis informed of their infection and if so how?

I refer to my evidence to the Lindsay Tribunal, transcript p.14 **[LIND0000326]**. We did not have a test for NANB until 1991. I also refer to the HCV policy document for the Royal Free at **[WITN0644087, p.2]** and in particular the policy of anti-HCV testing result provision and counselling in the haemophilia centre. Please also see the letter to patients at **[BART0000668]**.

68. What information was provided to patients infected with NANB hepatitis about the infection, its significance, prognosis, treatment options and management?

See above answer.

69. In your witness statement to the Inquiry WITN0644001 dated 10 May 2019 you said, at paragraph 9, that "Patients/parents had been party to discussions about non-A non-B hepatitis at each review appointment since 1985". Please detail the kind of discussions about NANB hepatitis which you say took place at review appointments.

This is answered by reference to the policy document **[WITN0644087, p.2]**. Discussion of the diagnosis – possibility of chronic liver disease, possibility of sexual transmission etc.

70. When did the Centre begin testing patients for hepatitis C? How were patients told of their diagnosis of hepatitis C? Were they told in person, by letter or by phone?[3]

See answer above.

71. What information was provided to patients infected with hepatitis C about the infection, its significance, prognosis, treatment options and management?

See answer above which can be read together with the then current UKHCDO document: 'Recommendations on choice of therapeutic product for the treatment of non-inhibitor patients with haemophilia A, haemophilia B or Von Willebrand's disease' **[BPLL0001998]**.

72. How many patients at the Centre were infected with hepatitis C?

I cannot give a figure save to say that the first concentrates would have transmitted hepatitis C in 1961; they were not heated until 1985, after which time there were no further transmissions. Yet the virus was not identified until 1989 and there were no antibody tests until 1991. We identified a cohort of 310 patients in '*The natural*

[3] I enclose a copy of what appears to be a pro-forma letter sent to patients at the Royal Free in 1990 informing them of a positive anti-HCV test **[BART0000668]**.

history of human immunodeficiency virus infection in a haemophilia cohort' **[WITN0644083]**.

Delay/public health/other information

73. Were the results of testing for HIV and hepatitis (of all kinds) notified to patients promptly, or were there delays in informing patients of their diagnosis? If there were delays in informing patients, explain why.

I was not involved in giving HIV results but the result of the new HCV tests was conveyed as soon as we had them – same answer as (67).

74. To what extent, if at all, did you and/or your colleagues at the Centre take into account the public health implications of HIV, AIDS, hepatitis B and NANB hepatitis/hepatitis C, when taking decisions as to what information or advice to provide to patients or what treatment to offer patients?

The public health implications are clearly taken into account and resulted in Guidelines produced by UKHCDO e.g. **[PRSE0003484]** and **[BPLL0001998]**.

75. What information was provided to patients about the risks of other infections?

I refer to previous answers on counselling and advice.

76. What information was provided to patients about the risks of infecting others?

I refer to previous answers on counselling and advice.

Consent

77. How often were blood samples taken from patients attending the Centre? What information was given to patients about the purposes for which blood samples were taken? Did the Centre obtain patients' informed consent to the storage and use of those samples? In answering these questions please note the following:

a. **The Inquiry understands that in 1978 Dr Kernoff established a bank of stored serum samples from patients, taken at each clinic visit when they were treated with factor concentrates.**
b. **In your interview as part of the RCP Oral History Project you stated that "The other important thing historically which also, you know, is very different in the climate of today was every time our patients with haemophilia came we collected a sample which was stored in our deep freezers. We didn't ask their permission although I think we probably told them what their blood was being tested for and that we were storing it but that, you know, probably didn't mean much to them. I mean in the present day you would have to take consent and that's another issue that now is very problematical because later on we went on to use these specimens to test not only for hepatitis and HIV and the patients today are complaining that we did that without their consent, which clearly we did ...".**

I have already explained that the use of stored specimens for observational epidemiological research studies on an anonymous basis was not of a kind which required express consent from patients by reference to the prevailing acceptable professional standards at the time. As I explained to the Lindsay Tribunal p.12 **[LIND0000326]**, it was because we had large amounts of specimen stored because of our interest in hepatitis that when the HIV test became available at the end of 1984 we were able to review the natural history of HIV in a haemophilia cohort which was a publication of some importance in establishing treatment for the disease. I repeat I do not accept that any observational epidemiological research study which I carried out was in breach of any professionally accepted guidance at the time it was done. I also consider that the epidemiological work which I and colleagues did at this time made a significant contribution to the development of the understanding and treatment of hepatitis and subsequently HIV.

78. **Were patients under the care of the Centre treated with factor concentrates or other blood products without their express and informed consent? If so, how and why did this occur? What was the approach to obtaining consent to treatment? If it is your position that patients did give express and informed consent to treatment with factor concentrates, please explain the basis for that position.**

The first point is that this is not a proper question for me to answer since I was not treating patients directly in this period and the clinical responsibility lay with Peter

Kernoff. The second point is that the words "*express and informed consent*" bear a different shade of meaning now in 2020 to that which prevailed in 1980 some 40 years ago. Attitudes have changed as has the doctor-patient relationship and the degree to which patients are now required to be informed of all material risks in relation to any proposed treatment as well as any risks which may be particularly relevant to the particular patient. This has been most notably so following a relatively recent Supreme Court decision. In relation to what happened at the time I again associate myself with the remarks of Mannucci in his memoir **[WITN0644071]**:

"The most significant cause of death remained bleeding, particularly intracranial bleeding. Hence for severe haemophiliacs, there was no alternative but to continue the life-saving concentrate treatment despite the risks of hepatitis" **[WITN0644071, p.2]**.

79. Were patients under the care of the Centre tested for HIV or for hepatitis or for any other purpose without their express and informed consent? If so, how and why did this occur? What was the approach to obtaining consent for testing?

I have already sought to answer this question as best I can. There is a distinction to be drawn between testing for HIV and HCV. I had involvement in the latter not the former which was during the currency of the HIV epidemic and when Peter Kernoff was director of the centre. In relation to HCV testing and review of such tests I have already explained the approach that was taken in relation to specific patients in earlier Rule 9 responses and generically above.

PUPS

80. Detail all decisions and actions taken by you or with your involvement with regard to a category of people referred to as 'previously untreated patients' (PUPS).

Previously untreated patients would be treated within the comprehensive care setting. Basically we would not have treated these patients differently but attended to their clinical needs.

81. Please detail all research studies that you were involved with during your time at the Centre. In relation to those research studies that could be relevant to the Inquiry's Terms of Reference, please:

a. describe the purpose of the research;
b. explain the steps that were taken to obtain approval for the research;
c. explain what your involvement was;
d. identify what other organisations or bodies were involved in the research;
e. state how the research was funded and from whom the funds came;
f. state the number of patients involved;
g. provide details of the steps taken to inform patients of their involvement and seek their informed consent; and
h. provide details of any publications relating to the research.

Please provide the same details in relation to any epidemiological or similar studies which you undertook (insofar as relevant to the Terms of Reference).

This request best answered by reviewing my CV of publications and to the information contained in those articles. It is disproportionate to answer (a) to (h) in respect of each one given that there are approximately 135 separate papers which are relevant to the terms of reference of the Inquiry.

I am providing an annotated list of my publications from my CV and answers to these questions are available in each paper. The number of peer reviewed published papers relating to transfusion transmitted disease is I think, 135.

(You do not need to repeat any information already provided in answer to question 6 above; a separate question about the Department of Health funded UKHCDO vCJD surveillance study appears in section 10 below).

82. A paper co-authored by you, and published in the British Journal of Haematology 1989, 73, 228-234 ("The natural history of human immunodeficiency virus infection in a haemophilic cohort", copy enclosed), describes 112 patients who were entered into a study using data from records and samples from the period 1 December 1979 to 30 November 1988. The paper explains that the patients "*were reviewed for clinical and laboratory*

assessment at least every 6 months". **Were these 112 patients aware that they had been entered into this study?**

What information was provided to them and what steps were taken to obtain their consent? Were they aware that they were being reviewed for the purposes of the study on a regular basis?

This was a retrospective observational epidemiological review. It collected anonymised information from the patient notes. It was regular practice to see our haemophilia patients for review of their haemophilia every six months or more often if they had problems e.g. bleeding or other medical problems. I repeat my earlier answer about informed consent for such observational studies. The studies involved no breach of confidentiality and were in the public interest. The information from studying this group of patients gave information to the world at large about CD4 count. This was a very important piece of learning and it is not a piece of research that required ethical approval or express informed consent judged by standards at the time. The information was presented at the first world AIDS meeting 1988, and again in 1990. In 1990 our anonymised cohort results were considered at main plenary sessions because it gave information about the development of HIV for other groups.

As to the frequency of review it is right that patients with severe haemophilia (but not HIV) were seen at least six monthly, and those with other inherited clotting deficiencies annually. HIV patients were seen at least three-monthly from 1985. The purpose of the review was to take medical history, conduct a review of home and in-patient treatment records, physical examination and standard blood test. A serum sample was stored pursuant to the practice that had been ongoing since 1979. The patients were not being reviewed for the purposes of the study. Rather the study was made possible by dint of the fact that we had the information on our database as a result of the reviews and that information was used anonymously for the purpose of the study in a manner that I believe was entirely appropriate judged by the standards at the time.

83. What do you understand to be the ethical principles that should guide research? Did you apply those principles to the research studies referred to above and if so how? If not, why not?

I refer to the GMC Guideline *"Good Practice in Research"* (2010) for a current statement of what is expected in relation to research. That document replaces *"Research: The role and responsibilities of doctors"* (2002). I am not sure if before 2002 the GMC published an authoritative guidance document but doubtless there were statements of good practice in respect of research from relevant professional bodies.

I have already set out above my view as to what was the appropriate research practice in respect of observational research studies at the material time and other studies, e.g. the Alpha Interferon study and repeat, I do not consider that at any time I conducted any research without consent for which express consent was required by reference to standards which prevailed at the time.

I observe that it is clear that the governing legal and ethical framework in respect of research and testing has changed over time and a practice that would have been deemed acceptable in 1980 -1990 may not be deemed so 30 years later. I say this in particular in respect of HIV testing of the Royal Free patient cohort in respect of which I had no direct involvement in the key period under concern prior to 1987. I would only observe that it is evident that in the currency and aftermath of the AIDS epidemic there was legitimate debate in the medical community about HIV testing. See for example a letter to the BMJ on 11 July 1987 Vol. 295 p.73 which records the annual representative meeting of the BMA passing by 183 to 140 a motion saying that doctors should be allowed to test a patient for antibodies to HIV without first obtaining consent.

I fully accept that the governing legal and ethical framework and attitudes towards consent have shifted and that the legal landscape (which includes the introduction of the Human Tissue Act 2004) is significantly different to how it was in the 1980s.

In terms of my own practice my reply is that I complied with the relevant ethical principles as I understood them as they applied at the time of any research I carried out and do not believe I was in breach of any relevant professional duty at any time.

84. Were patients involved in research studies without their express consent? If so, how and why did this occur?

This question proceeds on the false premise that all research studies, even epidemiological observation studies, required express consent. On my understanding of the medical and ethical principles which applied at the time, they did not. All research studies in which I was involved that required ethical approval and express consent, e.g. treatment with Alpha interferon, all had express consent from patients. Thus patients in the Concorde and HIV studies would have had their express consent obtained. In summary, I do not believe I carried out any research study, for which consent was required, without consent.

85. Was patient data (anonymised, de-identified or otherwise) used for the purpose of research or for any other purpose without their express consent? If so, what data was used and how and why did this occur?

I repeat the answer given above.

86. Was patient data (anonymised, de-identified or otherwise) shared with third parties (e.g. UKHCDO or Oxford Haemophilia Centre)? If so how and why did this occur and what information was provided to whom?

I repeat the answer given above.

87. Please provide details of any articles or studies that you have published insofar as relevant to the Inquiry's Terms of Reference.

I refer to the publications listed on my CV **[WITN0644059]**, including published articles, *"HIV and Haemophilia at the Royal Free Collected Papers 1979 to 1994"*, and various chapters in books I have written which are listed in my CV.

Treatment of patients who were infected with HIV and/or hepatitis

88. How was the care and treatment of patients with HIV/AIDS managed at the Centre? In particular:

- **a. What steps were taken to arrange for, or refer patients for, specialist care?**
- **b. What treatment options were offered over the years to those infected with HIV?**
- **c. What information was provided to patients about the risks and benefits of specific treatments and about side effects?**

I have endeavoured to answer these questions already by reference to contemporaneous documentation, guidance and articles that I published. I refer to those answers already given. It probably should be noted that from 1990 an AIDS Centre was developed at the Royal Free under the leadership of Professor Margaret Johnson who attended regular joint HIV clinics in the Centre.

89. What follow-up and/or ongoing monitoring was arranged in respect of patients who were infected with HIV?

This question has essentially already been asked and answered. But I repeat what is described in: Yee TT et al, '*The natural history of HCV in a cohort of haemophilic patients infected between 1961 and 1985*' (*Gut* 2000, 47, 845-581) **[WITN0644088]**:

> *"From 1985 onwards, HIV seropositive patients were seen at least three monthly. Assessment included medical history, review of home and in patient treatment records, physical examination and standard blood test. From 1979, a serum sample was taken at each clinic visit and stored art -40 degrees C".*

90. How was the care and treatment of patients with hepatitis B managed at the Centre? In particular:

- **a. What steps were taken to arrange for, or refer patients for, specialist care?**
- **b. What treatment options were offered over the years?**
- **c. What information was provided to patients about the risks and benefits of specific treatments and about side effects?**

I refer to answers already given and to guidelines which the Centre followed e.g. the Pan-Thames Consortium Guidelines 2003 **[WITN0644075, p.19]**. I also refer to the document at **[HSOC0022932, p.16]** in respect of the vaccine for hepatitis B.

91. What follow-up and/or ongoing monitoring was arranged in respect of patients who were infected with hepatitis B?

See the above guidelines at **[WITN0644075, p.68]** which set out a checklist for outpatient reviews together with the information at **[HSOC0022932, p.16]** about the vaccine.

92. How was the care and treatment of patients with NANB hepatitis managed at the Centre? In particular:

a. What steps were taken to arrange for, or refer patients for, specialist care?
b. What treatment options were offered over the years?
c. What information was provided to patients about the risks and benefits of specific treatments and about side effects?

I refer the Inquiry to the description I gave in *'Blood borne infections and haemophilia: the worst of times'* **[WITN0644067]**, where I describe how NANB patients were followed up.

93. How was the care and treatment of patients with hepatitis C managed at the Centre? In particular:

a. What steps were taken to arrange for, or refer patients for, specialist care?
b. What treatment options were offered over the years?
c. What information was provided to patients about the risks and benefits of specific treatments and about side effects?

I refer to the answers already given.

94. What follow-up and/or ongoing monitoring was arranged in respect of patients who were infected with hepatitis C?

I refer to the answers already given and in particular the letter to patients **[BART0000668, p.1]** and the HCV policy document at **[BART0000668, p.2]**.

95. In a keynote address at the AGM of the Haemophilia Society in 1991 entitled 'Haemophilia and Hepatitis Past, Present and Future', published in The Bulletin in August 1991 (copy enclosed):

a. You suggested that liver damage as a consequence of hepatitis C was "*a very rare event*".

i. What was the basis for your statement that liver damage was "*very rare*"?

ii. Please explain why you described liver damage as a "*very rare*" event, given the content of a document prepared by you dated 4 May 1990 entitled 'HCV – Policy Document for the Haemophilia Centre' (copy enclosed) which states that "*We know that the past incidence of NANB following treatment with unheated clotting factor concentrate was 100%. Prospective studies post blood transfusion have shown that half of such infections lead to chronic infection and of these 20% lead to cirrhosis of the liver*".

b. In referring to the possibility of treatment with interferon, you stated that "*Interferon, in common with most treatments, has side effects: these are 'flu-like' symptoms and sometimes a lowering of the white cell count*". What was the basis for your description of the side-effects of interferon in these terms? The Inquiry has heard evidence from multiple witnesses that the side-effects of interferon were frequently very severe – please set out your understanding of the side effects of this and other treatments for hepatitis C and whether and if so how that understanding developed over time.

In order to answer this question I refer the Inquiry to:

(i) Lee CA et al, '*Interferon therapy for chronic non-A non-B and chronic delta liver disease in haemophilia*' (*British Journal of Haematology*, 1989, 72, 235-238) **[WITN0644089]**;

(ii) My 1994 article: Telfer P et al, '*The progression of HCV-associated liver disease in a cohort of haemophilic patients*' (*British Journal of Haematology*, 1994, 87, 555-561) **[WITN0644090]**; and

(iii) Miller EJ et al, '*Non-invasive investigation of liver disease in haemophilic patients*' (*J Clin Pathol*, 1988, 41, 1039-1043) **[WITN0644091]** which gives evidence as to risk of liver cirrhosis.

In the 1994 article we concluded that "*HCV is associated with serious liver disease in haemophilic patients but so far this has been restricted to a minority of those at risk.*"

By 1995 as is explained at **[WITN0644070, p.8]**: we had identified 242 patients who were infected with HCV during 1965 to 1985 over 100 of whom had both HIV and HCV. 10% had progressed to liver failure over 20 years from infection.

As to side effects and the development of my understanding see: '*Interferon therapy for chronic non-A non-B and chronic delta liver disease in haemophilia*' **[WITN0644089]** and Telfer P et al, '*Alpha interferon for pehatitis C virus infection in haemophilic patients*' (*Haemophilia*, 1995, 1, 54-58) **[WITN0644092]** a controlled trial in 20 haemophilic patients where we describe side effects as:-

"Fever malaise, lethargy, poor concentration and irritability were reported as troublesome in 16 (80%) of patients",

But we found these tended to lessen as treatment continued and were generally tolerable when paracetamol was taken with the interferon injections.

We went on to conclude that:

"*Side effects were very common, as is usual with interferon, and although only temporary in the majority of cases, may deter patients from adhering to the demanding treatment regime*". **[WITN0644092, p.4]**.

96. You were involved in a long-term follow-up study of patients infected with HIV and hepatitis C. please provide full details of that study.

I refer the Inquiry to: Sabin CA et al, '*Markers of HIV-1 disease progression in individuals with haemophilia coinfected with hepatitis C virus: a longitudinal study*' (*Lancet*, 16 November 2002, 360, 1546-1555) **[WITN0644093]** where we measured markers of liver function and took CD4 counts every 3 months in 111 patients registered at the Royal Free Hospital. HIV RNA concentrations were measured yearly

and then every 3–6 months from 1996. We used Cox's regression models to assess the independent prognostic value of these markers for AIDS and death.

Please also see: '*The natural history of HCV in a cohort of haemophilic patients infected between 1961 and 1985*' **[WITN0644088]** where we described the long term follow up of haemophilic patients infected with HCV between 1961 and 1985. As summarised in the discussion section of that paper we found that detailed follow up of 310 haemophilic patients has shown the lethal combination of HCV and HIV coinfection with 47% progression to death from any cause and 19% to liver related death after 25 years. However for those HCV positive individuals without HIV infection we have shown that hepatitis C is a very slowly progressive disorder with a 3 % progression rate to a liver related death from the time of HIV infection in 1985.

97. What involvement did you have with clinical trials in relation to treatments for HIV and/or hepatitis? Please provide full details.

I have mentioned above the controlled trial into Alpha interferon.

I also refer to:

- MRC trials for HIV infection –
    - Concorde (Concorde Coordinating Committee, '*Concorde: MRC/ANRS randomized double-blind controlled trial of immediate and deferred zidovudine in symptom-free HIV infection*' (*Lancet*, 1994, 343, 871-81)) **[WITN0644094]**
    - Alpha (*AIDS,* 1996, 10, 867-880)
    - Delta (*Lancet,* 1996, 348, 283-291)
- Dusheiko et al, "*International trial of ribavirin in HCV*" (*Journal of Hepatology*, 1996, 25, 591-598).

98. What arrangements were made for the care and treatment of children infected with HIV and/or hepatitis? How did those arrangements differ (if at all) from the arrangements made for adults?

I refer to:

- Evidence given to the Lindsay Tribunal already summarised in particular with respect to the use of NHS concentrate;
- Guidelines for treatment on Prophylaxis with Children with Haemophilia **[WITN0644075, p.26]**.

99. What if any arrangements were made to provide patients infected through blood products with counselling, psychological support, social work support and/or other support?

I refer to the evidence given to the Lindsay Tribunal already referred to and the role played by Riva Miller. I also refer to my CV and by way of background to the Chapter in the 1998 book *"Aids a Guide to Clinical Counselling"* - Riva Miller and R Bor. Science Press, London 1988 29-34.

100 Was the Centre allocated, whether by the Department of Health and Social Security or another source, any funding to help with counselling of patients infected with HIV?

There was funding to contribute to staffing costs but Peter Kernoff managed this and I do not know the details.

101 What kind of counselling if any was made available to patients at the Centre?

I have answered this in my evidence to the Lindsay Tribunal – transcript p.35 **[LIND0000326]**:

> "And during that period, Dr. Eleanor Goldman, who was a clinical assistant in the unit, and Mrs. Riva Miller, who was a social worker, were the individuals who were mostly involved in giving out results. Also, Dr. Elizabeth Miller, who took over my research post, was also involved. And what I know is that the kind of information that was being given to patients was very confusing, because it wasn't known whether the antibody was protective; it wasn't known whether it meant that people were infectious. People -- we just knew that they had this antibody. And the conversations that were held involved discussion about -- 'we don't know what this means, it could mean that you're immune'.
>
> Q. You indicated that there was a social worker available.
> Was that social worker available for counselling?
> A. I mean, the term "counselling," the social worker had been part of the haemophilia team -- well, she's been there for -- I think since about the early 1970s. So she wasn't specifically available for counselling. She would be somebody who took part in many consultations with patients about haemophilia and the issues around haemophilia. She wasn't particularly hired to give anti HTLV-III results.

Q. But she was there and available?
A. Yes, because in haemophilia, the biggest things that one has to discuss with families is when a new baby is born; and talking to carriers, that they might possibly have some -- a baby with haemophilia. And that was a major role that she had. She also had a major role in the welfare rights issues surrounding people with haemophilia; about their employment, about getting them mobility allowance so they can drive cars, and many of these issues. So the HTLV-III antibody result-giving was a minor part of her job."

102 What (if any) difficulties did you/the Centre encounter in obtaining sufficient funding for the treatment of people who had been infected with HIV and/or hepatitis C? (I enclose a copy of minutes of a meeting on 16 February 1995 of the Haemophilia Working Party of the North Thames (East and West) Regional Haemophilia Directors, which discusses issues about funding; please address these issues as well as any other difficulties with funding or availability of treatment).]

Yes, there were significant difficulties with hepatitis C, when we were using Ribavirin and Interferon. The nature of the commissioning process was that we had to send papers to "contracts", who would enter into contracts with commissioning organisation (probably a Primary Care Trust). Sometimes such commissioning requests were refused. By contrast I do not think there were particular problems with AIDS funding. However one specific issue arose in relation to use of AIDS funding which is referred to in the Working Party minutes. The Factor VIII was very high purity, monoclonal purification, while others were not so high purity. We found that if you treated people with high purity concentrate you could slow down CD4 decline and this might prolong life by 2 years by using high purity concentrate. I was successful in securing (at least for a period) that high purity concentrate by using AIDS allocated money at Royal Free for my patients. This is the same "AIDS" money to which the working party minutes refer when they say: "*since AIDS funding is to be withdrawn in the future, this argument seemed likely to become academic*". The reference to AIDS money is I think a reference to a specific allocation of central funding which was due to be withdrawn at that time.

In general terms in relation to costs/funding pressures I also refer to my BMJ Editorial Lee CA et al, '*High cost, low volume care: the case of haemophilia*' (*BMJ*, 18 October 1997, 315, 962-3) **[WITN0644095]** which underlines the costs pressures on a Centre providing haemophilia treatment.

Records

103 What was the Centre's policy or practice as regards recording information on death certificates when a patient had been infected with HIV or hepatitis?

There was no exception for HIV or hepatitis. The death certificate would have been completed in the usual way.

104 What were the retention policies of the Centre in regards to medical records?

Although the medical records were kept in the Centre they were the responsibility of the Royal Free NHS Trust and as far as I understand they have been digitalised.

105 Did you maintain separate files for some or all patients? If so, why; where were those files located; and where are those files now?

I do not have any files of any patients and was not in the habit of keeping separate files from the main clinical records.

106 Did you keep records or information (e.g. information being used for the purpose of research) about any of your patients at your home or anywhere other than the Centre? If so, why, what information and where is that information held now?

No.

107 Do you still hold records or information about any of your patients? If so, explain why and identify the records or information that you still hold.

No, save to the extent that I have been provided with medical records of patients for the purpose of this Inquiry.

Section 6: Self-sufficiency

108 In December 1974 the Department of Health announced additional funding with the primary aim of making the NHS self-sufficient in Factor VIII blood products within two to three years. The Inquiry recognises that at this time you

were a Registrar at St Mary's Hospital and that you did not become a director of the Centre until 1991. If you are able to respond, from your own knowledge, to the questions in this section please do so; if you are not, please say so.

a. **When did you become aware of this announcement?**
b. **What did you understand the term "self-sufficiency" to mean? In particular, did you understand it to mean self-sufficiency in providing Factor VIII blood products prophylactically, or solely in response to bleeding incidents?**
c. **Did your understanding of what "self-sufficiency" meant change at any time? If so, when and why?**
d. **What was your understanding of how others defined "self-sufficiency"?**
e. **What if any role did you play, at any time, in any arrangements or initiatives designed to help achieve self-sufficiency?**

I can only answer in general terms in the same terms as I gave evidence to the Lindsay Tribunal at p.29 **[LIND0000326]**:-

> Q. So in that regard, Dr. Peter Kernoff had some rationale for using National Health Service concentrate for children. What was the basis of that rationale, or do you know what the basis of that rationale was?
>
> A. Yes, I've explained it previously. It's partly historical and partly the fact that children are small and, therefore, don't require as much treatment. The National Health Service product was developed in Oxford and later they moved to making it in Elstree. And it was the practice, because it was available, to use National Health Service product. There was also a programme of self-sufficiency in the UK that was promoted by the Callaghan government. There was never enough clotting factor concentrate to treat adults with National Health Service product, but there was enough to treat children completely with this product. We also, in line with many other treaters, had a policy that we would keep people on the same batch and the same type of concentrate until that was exhausted. So that was really the rationale.

109 How were estimates made of how much Factor VIII blood product would be required for use in England and Wales? In particular:

a. **What was the role of the director of the Centre in making such estimates, and how did this change over time?**
b. **What was the role of UKHCDO and how did this change over time?**
c. **What assumptions would underpin the estimates (including assumptions as to how the blood products would be used)?**
d. **How would the estimate be made (e.g. by whom were they made, when and through what process)?**
e. **How were the estimates shared with other interested parties?**

f. How did any of these processes change over time?

I repeat the answer above: I can only reply in general terms. To do so, I refer to the document *'Overview of the increasing costs of treatment for patients with congenital coagulation disorders at the Royal Free Hospital'* **[WITN0644070, p.2]**. As that document explains all information about patients treated with haemophilia had been established on a central database at Oxford since 1976. In 1994 the Free treated 12.7% of all UK patients. Its annual consumptions are as set out at **[WITN0644070, p.10]**. Fig 7 shows a flattening of the curve between 1982 and 1985 because of the HIV epidemic.

I do not think I can answer the particularised questions because they really concern a time 1980 to 1985 when I was not Director of the Centre.

110 How were annual figures derived for how much Factor VIII blood product had been used over the course of a year?

a. What was the role of the director of the Centre in providing such figures, and how did this change over time?
b. What was the role of UKHCDO and how did this change over time?
c. How would the calculations be made (e.g. by whom were they made, when, through what process and using what data)?
d. How were those figures broken down geographically (e.g. by country, region or any other unit)?
e. How were the figures shared with other interested parties?
f. How did any of these processes change over time?

The best answer I can give to this array of questions is:

- All patients were required to keep treatment records in order to assess their haemophilia care most were on home treatment).
- These data were stored electronically – Peter Kernoff set up a computer as early as 1980.
- Annual returns were collated by our data manager, Francoise Kendall, and submitted to Oxford to the national data base, these were called the: "Oxford returns". The UKHCDO held the national data base. Although I think later on, after

I had left, this database was moved to Manchester and DOH used it for commissioning.

- The process changed over time in that the patients had a requirement to keep their own records (paper) later (electronic) they would record date, treatment batch, and reason for treatment on paper or electronically re. home treatment. We were probably better than most early on in collating this information. Latterly the routine collection of this information became much more widespread.

111 Were there significant differences between the estimates that were made and actual use? If so, why?

I cannot answer this. I was never involved in projection but from recollection (and from the straight line increase in volumes shown **[WITN0644070, p.16]**) I think that the information/projection provided would have been of a straight line increase. That increased usage was explained by two reasons: (i) increased prophylaxis for children three times a week so always a low level of concentrate. (ii) increased in use of concentrate in surgery. By the 1990s we were conducting bilateral knee replacements under anaesthetic, with a very substantially increased concentrate requirement.

112 It may be suggested that England and Wales never achieved self-sufficiency of Factor VIII blood products, in the sense that clinicians were always reliant on commercially imported products to meet the actual demand of patients for such products.

a. Is this correct, to the best of your knowledge?
b. If so, why, in your opinion, was self-sufficiency was never achieved?
c. If, in your view, self-sufficiency was achieved, when was it achieved and why it was not achieved earlier?

Answers:

a) yes.

b) demand exceeded supply.

c) once heat treated products became available then the risk was reduced. As the Archer Inquiry concluded:

"By the mid-1980s, heat-treated products were becoming available and it was considered safe to use commercial concentrates from the USA".

I would add that in the DoH publication *'Self-Sufficiency in Blood Products in England and Wales: A Chronology from 1973 to 1991'* (2006) **[WITN0644096]** the DoH concluded as follows (p.30):

"About 3000 patients with haemophilia who were treated with blood products in the 1970s and early 1980s were infected with HCV and many with HIV. Available evidence suggests that during this period not only was the Government actively pursuing the policy of self-sufficiency, but that NANBH was perceived as a mild, and often asymptomatic disease. The advantages of treatment with factor VIII concentrates were perceived to far outweigh its potential risks. This view was held by patients, their physicians, and the Haemophilia Society. From the early 1980s, BPL attempted to devise an effective viral inactivation procedure. However, by the time it became apparent that NANBH was more serious than initially thought, all domestic and imported concentrates were already routinely heat-treated and therefore conferred little risk of infection with NANBH or HIV. "

113 It may be suggested that a significant contributory factor to England and Wales not achieving self-sufficiency (or not doing so earlier) was a failure by haemophilia clinicians to provide timely and accurate estimates of future demand for Factor VIII blood products. In particular, it may be suggested that haemophilia clinicians failed to identify the foreseeable increase in use of such products once they became available. How would you respond to these suggestions?

I think such suggestions are without foundation. It can be seen that the annual returns made by the Royal Free and summarised in the tables produced in the document referred to above show a straight-line year on year increase in demand for Factor VIII in the period up to 1985. I feel reasonably confident any projections would have been made based on the straight line increase. Issues of delay and failure to achieve self-sufficiency earlier are political matters which have sought to be addressed in other Inquiries (e.g. the Archer Inquiry, the Penrose Inquiry) already. As

can be seen from the above extract the DoH have explained the delay by arguing that:-

- not only was the Government actively pursuing the policy of self-sufficiency, but
- that NANBH was perceived by patients and clinicians as a mild, and often asymptomatic disease; and
- the advantages of treatment with factor VIII concentrates were perceived to far outweigh its potential risks.

114 If self-sufficiency had been achieved in Factor VIII products, what, in your view, would have been the effect on the numbers of patients infected with (i) HBV, (ii) HCV, and (iii) HIV. Please comment on when self-sufficiency would have needed to be achieved (in your view) in order for any material difference to have been made in respect of each of these viruses.

(i) HBV – little impact given the numbers and availability of vaccine since 1983.

(ii) HCV - We now know that HCV was ubiquitous – therefore every donor pool would have caused infection and self -sufficiency would not have prevented this.

(iii) HIV - significant impact.

I think these distinctions may be relevant to any conclusion the Inquiry may reach as to the consequences of failing to achieve self-sufficiency earlier.

I do not consider it is correct to attribute the delay to a failure of haemophilia clinicians to provide timely and accurate estimates of future demand for blood products.

115 It may be suggested that England and Wales did achieve self-sufficiency in respect of Factor IX blood products. To the best of your knowledge, is this correct? Please explain your answer.

Self-sufficiency was not an issue. With Factor IX, I would refer to my evidence to the Lindsay Tribunal at p.20 and note that although we as a centre had a relatively large number of patients requiring Factor IX it was significantly fewer than those requiring

Factor VIII. Factor IX deficiency is 1/6 less common than Factor VIII deficiency therefore less Factor IX was required. We initially used a Factor IX concentrate that had prothrombin complex and latterly used a more purified form from 1992.

116 If self-sufficiency in respect of Factor IX blood products was achieved, did you nonetheless use commercially produced products in preference to domestically produced products? If so, why?

No. I refer again to UKHCDO Aids Advisory Document of 1984 and the recommendations that made **[HCDO0000270-007]**.

Section 7: Blood services and BPL

117 Please outline the interactions and dealings you had with the blood services, whether on a regional or national level, and/or with BPL during the time that you worked at the Centre.

I did not have any direct dealings with BPL.

118 Do you know what if any consideration was given to increasing production of cryoprecipitate, or producing a product with lower risk, in response to the risks associated with factor products, and what if any involvement did you have with any blood service (regionally or nationally) and/or BPL in relation to this?

I am not able to help on this issue.

119 What if any discussions or meetings or interactions did you have with any blood service (regionally or nationally) and/or BPL in relation to:

a. the risk of infection with hepatitis from blood products;
b. the risk of infection with HIV/AIDS from blood products;
c. the steps to be taken to reduce the risk of infection?

I am not able to assist.

120 What if any involvement did you have with any decisions or actions taken by any blood service (regional or national) and/or BPL in response to the risks arising from blood and blood products?

I am not able to assist.

Section 8: UKHCDO

121 Please describe your involvement with UKHCDO (including any of its working parties, committees or groups).

I refer to my CV (page 9 National Committees) **[WITN0644059]**:

- UKHCDO 1991-2005
- HIV working party 1993-1999
- Hepatitis working party 1993-1999
- Chair Transfusion Transmitted Disease Working Party 1999-2003

122 During the period that you were involved with UKHCDO, please outline:

a. the purpose, functions and responsibilities of UKHCDO, as you understood them;
b. the structure, composition and role of its various committees or working groups;
c. the relationships between UKHCDO and pharmaceutical companies;
d. how decisions were taken by UKHCDO;
e. how information or advice was disseminated by UKHCDO and to whom;
f. any policies, guidance, actions or decisions of UKHCDO in which you were involved and which relate to:
i. the importation, purchase and selection of blood products[4];
ii. the manufacture of blood products;
iii. self-sufficiency;
iv. alternative treatments to factor products for patients with bleeding disorders;
v. the risks of infection associated with the use of blood products;

[4] For your assistance I refer you to: Haemophilia Centre Directors Organisation's (now UKHCDO) 'AIDS Advisory Document' dated 14 December 1984 following meeting of Haemophilia Reference Centre Directors on 10 December 1984 **[HCDO0000270-007]**; the UK Haemophilia Reference Centre Directors' 'Recommendations on choice of therapeutic products for the treatment of non-inhibitor patients with haemophilia A, haemophilia B or Von Willebrrand's disease' dated 16 May 1988 **[PRSE0003484]**; 'Recommendations on choice of therapeutic products for the treatment of non-inhibitor patients with haemophilia A, haemophilia B or Von Willebrand's disease', second edition, dated 22 May 1989 **[BPLL0001998]**; 'Guidelines on Therapeutic Products to treat Haemophilia and other hereditary coagulation disorders' issued by the UKHCDO Executive Committee in 1996 **[HSOC0000333]**.

vi. **the sharing of information about such risks with patients and/or their families;**

vii. **obtaining consent from patients for the testing and storage of their blood, for treatment and for research;**

viii. **heat treatment;**

ix. **other measures to reduce risk;**

x. **vCJD exposure; and**

xi. **treatments for HIV and hepatitis C.**

This question is more properly addressed to the relevant UKHCDO Chairs rather than me. I did not hold an executive position on UKHCDO (chair, secretary or treasurer) and do not retain any relevant documentation, minutes of meetings etc. in relation to the operation, functioning or policies etc. of the UKHCDO.

I attended meetings held at least twice a year: the main function was to ensure the best possible haemophilia care. This was achieved by the setting up of working parties to draw up clinical guidelines and these were mostly published. By way of example I disclose in my list of documents a Review Article: '*Guidelines on the diagnosis, management and prevention of hepatitis in haemophilia*' **[WITN0644074]** of which I was a co-author as a member of the Working Party.

123 **In November 1999 you wrote, in your capacity as Chairman of the Transfusion Transmitted Infection (TTI) Working Party of UKHCDO, to haemophilia centre directors explaining that it had come to your attention *"that patients with inherited bleeding disorders continue to present with undiagnosed Hepatitis C virus infection. It is important that wherever possible, patients who have been exposed to blood products before 1986 should be tested for Hepatitis C antibody and if positive, for HCV viraemia"* (copy of letter dated 18 November 1999 enclosed). What information had come to the attention of the TTI Working Party and from whom? How widespread was this problem? What action was taken by haemophilia centres in light of your letter? Were the responses of haemophilia centre directors to the problem you identified in the letter monitored or further considered by the TTI Working Party or by UKHCDO?**

I am afraid at this distance in time from the relevant events, and without relevant minutes etc. I cannot remember what the information was or where it came from, or what actions were taken in consequence. As chair of the TTI working party my remit

was to encourage best practice. Individual haemophilia directors had individual clinical responsibility.

Section 9: Pharmaceutical companies/medical research/clinical trials

124 Have you ever provided advice or consultancy services to any pharmaceutical company involved in the manufacture and/or sale of blood products? If so, please list the names of the companies and give details (including dates) of the advisory or consultancy services that you provided.

I have not received personal pecuniary gain from a pharmaceutical company.

I have participated in many clinical advisory panels and trial monitoring boards from 1992 when I became director. Any financial gain was a research contribution and paid into departmental funds. Such commercial sponsorship is listed on p.8 of my CV. Such funds were used to pay personnel to conduct trials and research.

I became a world authority in haemophilia care and therefore provided informal advice over many years to many pharmaceutical companies.

There is a list of clotting factor concentrates effectively obtained 'free' in the context of clinical trials which I have already referred and is at the end of the document: *'An analysis of treatment for patients with inherited coagulation disorders'* **[WITN0644070, p20]**.

At the Royal Free during my directorship the negotiation of contracts for clotting factor concentrates was conducted by the Pharmacist John Farrell and Angus McCraw the laboratory scientist who also held a managerial role. My only input was to inform as to the type of concentrate and that would be based on UKHCDO guidelines.

125 Have you ever received any pecuniary gain in return for performing an advisory/consultancy role for a pharmaceutical company involved in the manufacture or sale of blood products? If so, please provide details.

See above.

126 Have you ever sat on any advisory panel, board, committee or similar body, of any pharmaceutical company involved in the manufacture or sale of blood products? If so, please provide details of your involvement (including dates) and of any financial or other remuneration you received.

See above.

127 Have you ever received any financial incentives from pharmaceutical companies to use certain blood products? If so, please provide details.

See above.

128 Have you ever received any non-financial incentives from pharmaceutical companies to use certain blood products? If so, please provide details.

See above.

129 Have you ever received any funding to prescribe, supply, administer, recommend, buy or sell any blood product from a pharmaceutical company? If so, please provide details.

See above.

130 What regulations or requirements or guidelines were in place at the time concerning declaratory procedures for involvement with a pharmaceutical company? If you were so involved, did you follow these regulations, requirements and guidelines and what steps did you take to comply with them?

I was not responsible for the promulgation of declaratory procedures and cannot help with any precise provisions at any particular time. But insofar as it is suggested that I failed to declare any such involvement with pharmaceutical company I have always been transparent about it.

131 Have you ever undertaken medical research for, or on behalf of, or in association with, a pharmaceutical company involved in the manufacture or sale of blood products? If so, please provide details.

See answers above.

132 Have you ever provided a pharmaceutical company with results from medical research studies that you have undertaken? If so, please provide details.

See answers above.

133 If you did receive funding from pharmaceutical companies for medical research, did you declare the fact that you were receiving funding and the source of the funding to your employing organisation?

See answers above.

Section 10: vCJD

134 When and in what circumstances did you become aware of the risks of transmission of vCJD associated with the use of blood and blood products?

Please see my correspondence with the UKHCDO **[WITN0644097]**.

135 How and by whom were decisions taken (either nationally or locally or both) as to the information that should be provided to patients about vCJD and as to any steps which should be taken in relation to patients and their care and treatment?

The answers to many of the questions in this section are provided in the paper: Millar CM and Makris M, '*Dealing with the uncertain risks of variant Creutzfeldt-Jakob disease transmission by coagulation replacement products*' (*British Journal of Haematology*, 2012 Aug; 158 (4): 442-52) **[WITN0644098]**. I have already set out in

previous statements to this Inquiry specific responses to patients at the Free in respect of vCJD and the provision of information about specific suspect batches and

general information about counselling. Beyond that I am not really in a position to help.

136 What was the process at the Centre for informing patients about possible exposure to vCJD?[5]

The Centre would have followed the UKHCDO recommendations. A summary of the measures implemented to reduce the risk of vCJD prior to 2004 is set out at col.2 of the article referred to above **[WITN0644098]**.

137 How and when were patients told of possible exposure to vCJD?

Please see the article referred to above. The letter I wrote to UKHCDO should be seen in the context of what is said there. In particular the following **[WITN0644098, p.4]**:-

"The consensus given by the DH at the time was that patients would "*not benefit from this knowledge that uncertainty created by informing patients could cause unjustified worry and create a permanent blight on their lives*". In spite of this, and given the experience of the public health responses to HIV and HCV, and the resultant impact on the lives of affected patients and relatives, haemophilia physicians advocated for the right of recipients of implicated batches to be informed, even in the absence of known risk. Many haemophilia physicians therefore either directly informed patients who had received an implicated batch or provided all their patients with information vCJD, giving them the option to be informed whether or not they had received an implicated batch.

138 What information was provided to patients about the risks of vCJD?

For specific examples and a general explanation I refer to my previous Rule 9 requests and my exhibit to those statements in particular, **[WITN0644001/1-15]** at §14-19. I

[5] I enclose a copy of a letter dated 21 January 1998 from me to Dr Ludlam (in his capacity as Chair of UKHCDO) which contains some information about the Centre's response to the issue of vCJD **[WITN0644097]**.

took the decision to fully inform my patients of any potential risk as far as we knew it. See also my answers below in answer to Q.141.

The more generic issue is described in detail at pp.5-6 of the article: '*Dealing with the uncertain risks of variant Creutzfeldt-Jakob disease transmission by coagulation replacement products*' **[WITN0644098]** under the heading "*Public Health Notification of recipients of UK plasma-derived coagulation factors*". We had approximately 350 sets of notes and a letter had to be sent out which offered clinic appointment or telephone conversation. A redacted "*Dear doctor*" letter dated 20 September 2004. An example of this letter is already in the Inquiry's possession **[WITN0644016]** but since this includes a patient reply form and for confidentiality reasons I attach a redacted version. **[WITN0644099]**. Of the patients only a handful came up for consultation, and very few telephoned. For convenience I attach again an example letter and the leaflet which would have been enclosed.

139 What counselling, support and/or advice to be offered to patients who were informed that they might have been exposed to vCJD?

See above and my specific replies to previous Rule 9 requests.

140 What measures were put in place, from a public health perspective, in relation to the care and treatment of patients?

See article referred to above which summarises the public health response.

141 In a letter dated 20 May 2004 from you to Professor Frank Hill (copy enclosed, together with a letter from you to Dr Hill dated 8 April 2004), you state that *"Clearly we will need to follow the guidance of the vCJD incidents panel regarding our patients and high risk procedures such as brain surgery, tonsillectomy, endoscopy etc. It is imperative, however, that our patients are treated as a 'whole' and a blanket strategy developed. Individual risk assessments may be made and follow on as part of a research study. However, at the present time such information is essentially meaningless to the individual patient. The haemophilia community should lead in the development of information and the delivery of that information to patients".*

a. **What was the guidance of the vCJD incidents panel and how was that implemented at the Centre?**
b. **what did you mean by treating your patients *"as a whole"* and *"blanket strategy"*?**
c. **Were individual risk assessments made and if so how and when?**
d. **what did you mean by *"at the present time such information is essentially meaningless to the individual patient"*?**
e. **Did the haemophilia community, in your view, *"lead in the development of information and the delivery of that information to patients"*? How?**
f. **The letter continued by stating that it was *"frankly scandalous that we are denied the opportunity of conveying full information to our patients. Our doctor-patient relationship is in danger of being destroyed because implicated batch numbers are being withheld"*. Please explain:**
    i. **what led you to express these concerns;**
    ii. **whether, and if so how and when, these concerns were addressed or resolved.**

The section headed '*The measures implemented to reduce the risk of vCJD transmission pre-2004: use of recombinant coagulation factor concentrates, product recalls and patient surveillance*' on p.3 of the Millar and Makris paper answers this question in general terms at **[WITN0644098]**. As to the specific points above:

a) vCJD incidents panel recommended any invasive procedure involving lymphoid tissue e.g. colonoscopy should use dedicated instruments. All patients exposed to NHS clotting factor concentrate between 1983-1999 and therefore at risk for public health purposes were 'flagged' on the hospital patient data base.
b) It had been suggested there should be individual risk assessments but it was not clear as to the validity of such assessments. Therefore all patients who had been exposed to NHS clotting factors during the time of mad cow disease/vCJD i.e 1983-1999 were considered as a 'whole'.
c) I do not know. Not on RFH patients.
d) No one understood the validity.
e) UKHCDO largely lead. There was little support from any other regulatory body or hospital management.
f) This is summarised in the paper by Millar and Makris – p.4 **[WITN0644098]**.
g) The consensus given by the DH at the time was that patients would '*not benefit from this knowledge, and that uncertainty created by informing patients could cause*

unjustified worry and create a permanent blight on their lives' (Miller CM et al, '*Risk reduction strategies for variant Creutzfeldt–Jakob disease transmission by UK plasma products and their impact on patients with inherited bleeding disorders*' (*Haemophilia*, 2010, 16, 305-315) **[WITN0644100]**). In contrast I took the decision to fully inform my patients of any potential risk as far as we knew it.

142 Please provide full details of the UKHCDO vCJD surveillance study of haemophilia and other bleeding disorder patients which you coordinated[6];

a. What was the purpose of the study?
b. What steps were taken to obtain funding and approval for the work?
c. What was your involvement?
d. What other organisations or bodies or clinicians were involved in the study?
e. How many patients were studied?
f. Were patients informed that data about them was being collected, collated and analysed for the purpose of the study?
g. What was the outcome of the study?

The answers to all these questions are best understood by reading the product of the study:

(i) 'The risk of variant Creutzfeldt-Jakob disease among UK patients with bleeding disorders, known to have received potentially contaminated plasma products' **[WITN0644101]**

(ii) the application for multi-centre research ethics committees approval in which I was named as principal researcher **[HCDO0000774]**. It was an epidemiological analysis – a prospective and retrospective study of tissues. As to consent please see section 3 of that approval form. **[HCDO0000774, p.8]**.

Please also see:

(i) Frank Hill's letter of February 2003 'Surveillance of vCJD -DOH funded UKHCDO study **[HCDO0000243-034]**; and

[6] I refer you to an MREC application form entitled Surveillance of new variant CJD – UKHCDO dated 29 December 2000 **[HCDO0000774]** and a letter dated February 2003 from Professor Hill as Chairman of UKHCDO to colleagues about the surveillance study **[HCDO0000242-102]**.

(ii) the following papers:

'The risk of variant Creutzfeldt-Jakob disease among UK patients with bleeding disorders, known to have received potentially contaminated plasma products' **[WITN0644101]**

'Risk reduction strategies for variant Creutzfeldt–Jakob disease transmission by UK plasma products and their impact on patients with inherited bleeding disorders' **[WITN0644100]**

'Dealing with the uncertain risks of variant Creutzfeldt-Jakob disease transmission by coagulation replacement products' **[WITN0644098]**.

It should be noted that Professor Frank Hill was chairman of UKHCDO and I was chairman of TTI working party and was responsible for discussions with DOH and the MREC and the appointment of Dr Carolyn Millar who was to carry out this work. I retired in April 2005 and was no longer clinically involved after that date.

Section 11: Involvement with the financial support schemes

143 What involvement did you have with the different trusts or funds (the Macfarlane Trust, the Eileen Trust, the Macfarlane and Eileen Trust, the Caxton Foundation and the Skipton Fund) which were set up to provide financial support to people who had been infected?

I had involvement only with the Macfarlane Trust and the Skipton fund. The welfare rights officer, Elisabeth Boyd (since deceased and who served on the Skipton Fund board) helped patients access these funds. I provided necessary clinical information.

The Skipton Fund required individual forms to be completed and this was my responsibility. I can, if necessary provide an example of such a form but believe the Inquiry already possess the same.

144 To what extent did the Centre and its staff inform patients about these different trusts and funds?

The Centre actively informed patients about these Trusts. Patients were sent to Elizabeth Boyd if they had any concerns who would help them to access funds. Elizabeth Boyd was a specific welfare rights officer in the Centre.

145 Did the Centre have any policy or any guidance for staff members in relation to referring patients to the trusts and funds for support?

See answer above. Patients were referred to Elizabeth Boyd, welfare rights officer who assisted them.

146 What kind of information did the Centre (whether through you or otherwise) provide to the trusts and funds about or on behalf of patients who were seeking assistance from the trusts and funds?

As stated above I provided the necessary clinical information on request.

147 Did the Centre, or any of its staff (including you), act as a gateway for determining whether a particular patient met the eligibility criteria for the receipt of assistance from any of the trusts and funds? If so, please explain who set the criteria, what they were and how they were applied.

No.

148 Was the Centre or any of its staff (including you) involved in determining applications made by patients for assistance from the trusts or funds? If so, please describe that involvement.

No. See answer above. My role was to provide clinical information on request.

149 Did you have any involvement, and if so what involvement, whether on behalf of UKHCDO or as director of the Centre, in discussions or meetings about the availability of support from the Skipton Fund for individuals who had cleared HCV spontaneously?[7]

[7] I refer you to the email from Peter Stevens to Mark Winter dated 8 September 2004 **[HCDO0000242-102]** which refers to the subject of spontaneous clearance and states that "*Christine Lee is not passing any spontaneous clearance applications to us, believing the whole attempt to exclude them to be logically or scientifically flawed*".

Not so far as I can recollect.

150 The minutes of a meeting of the Trustees of the Macfarlane Trust on 15 September 1998 (copy enclosed) records, in the context of a discussion about financial support for risk reduced conception that "*The Chairman reported that he had had a conversation with Dr Christine Lee, Centre Director at the Royal Free Hospital, and understood that the Centre Directors' Group were proposing to prepare a discussion paper on the matter. Trustees discussed the issues raised and felt that legal advice would be necessary on whether or not Trust funds should continue to be used to create more Trust dependants*". Did you, or the Centre Directors Group, prepare such a discussion paper?[8] If so:

a. Please provide a copy if you have retained one.

b. If you do not have a copy, please set out (if you can recall) what was said in the discussion paper.

I do not recall this conversation and I do not know if such discussion paper was prepared. I have no relevant documentation to assist.

Did you provide any advice (and if so, what advice) to the Macfarlane Trust in relation to risk reduced conception and/or the provision of financial support for risk reduced conception?

No specific recollection.

151 Based on your own dealings with any of the trusts or funds and/or based on your knowledge of the experiences of the Centre's patients in relation to the trusts or funds, do you consider that the trusts and funds were well run? Do you consider that they achieved their purposes? Were there difficulties or shortcomings in the way in which they operated or in their dealings with beneficiaries and applicants for assistance?

Based on my own dealings, I think the Macfarlane Trust and Skipton fund gave assistance to patients as far as possible. I cannot specifically comment on the running of the trusts and funds.

Section 12: Other organisations

[8] I refer you to the earlier document from July 1994 prepared by Dr Goldman entitled 'Guidelines for advising couples who wish to have children when the haemophilic partner is HIV positive' **[RHAL0000310]**, which was circulated by the UKHCDO Working Party on HIV Infection, of which I was Chair.

152 Please provide details of your involvement with the Haemophilia Society. In particular please describe the work undertaken as a member of the Society's Medical Advisory Panel, insofar as relevant to the Inquiry's Terms of Reference.

I was a Member of the Medical Advisory Panel. They would telephone me (very occasionally) if they wanted to understand any factual matter. I do not think I attended any meetings. I had two grants from them (i) to look at hepatitis, and (ii) to look at genetic diagnosis of haemophilia.

153 Please provide details of your involvement with the MRC HIV Infection and AIDS Clinical Trials Working Party.

I do not think I was on the working party. When they did Concorde trial I participated but I do not think that was a working party.

154 Please provide details of your involvement with the Joint Parliamentary Group on AIDS.

I went to one meeting, I cannot now remember what it was about. I do not think I did anything else.

Section 13: Other issues

155 In your interview for the RCP Oral History Project you referred to the litigation in 1990/1991 and stated that *"we were in a very strong position because we had very clear data on when they had their infusions and when they became HIV positive and why they were having the treatment and that it was necessary"* (transcript, p. 30). What involvement did you have in the litigation? Why did you consider that you were in *"a very strong position"*? Please describe, in as much detail as you are able to, the *"very clear data"* to which you refer.

The answer is I hope obvious from what I said. We were in a strong position to respond to any claims because we had the relevant data and so could answer any claims with data as to when patients had their infusions and when they became HIV positive etc. If the claims were, on review of the data, properly justified or on review

of the data not justified then the Trust lawyers would be able to deal with the claim appropriately. I had no direct involvement in the litigation.

156 At the 9th meeting of the UK Regional Haemophilia Centre Directors Committee held on 4 September 1992 (copy of the minutes enclosed), you raised concerns (minutes, p. 3, item B) about a letter you had received from the Department of Health dated 19 August 1992 advising that *"the use of AIDS money for the purchase of high purity Factor VIII"* was *"not an acceptable practice"*. Please explain why you were particularly concerned about this letter and whether (and if so how) your concerns were resolved or addressed.

I have dealt with this point earlier in this response. A paper in the *Lancet* from the US had shown that high purity FVIII reduced the immunodeficiency caused by HIV.

I promoted the practice of using such monoclonal produced products for HIV infected patients at the RFH and Aids money was used for this purpose until such money was withdrawn.

157 In the same meeting it was agreed (minutes, p. 5) that you would draft a document for *"the collection of information regarding the number of children born to HIV positive haemophiliacs and their wives/partners in order to ascertain the incidence of vertical transmission of the HIV virus"*. Was this information collected as proposed and if so what did it demonstrate about the incidence of vertical transmission?

I do not recall this and I do not think that such information was collated.

158 In a letter dated 20 May 2004 from you to Professor Frank Hill, you stated that you had *"personally been involved in defence of doctors wrongly accused of transmitting HIV – notably Professor Jean Pierre Allain who was imprisoned for two years and Professor Temperley in Ireland"*. Please provide details of your involvement in the *"defence"* of these two, and any other, doctors.

Professor Temperley was the consultant in Dublin whose practice was the subject of the Lindsay Inquiry to which I gave evidence.

Professor Jean Pierre Allain was appointed Professor of Transfusion Medicine in Cambridge and I was asked by Professor Keith Peters, Regius Professor of Medicine,

to sit on a panel of inquiry chaired by Baroness Warnock to assess whether Professor Allain could direct the Cambridge Transfusion Service – he had been imprisoned in France in regard to treatment of haemophilia.

159 Please describe your recollection of, and any involvement in, what you have described as *"a tremendous push to get everybody on to recombinant products"* (RCP Oral History Project transcript, p. 43). Should recombinant blood products have been made available to all haemophiliacs, or to some categories of patient, earlier than they were? When, in your view, should recombinant products have been available to all?

I have detailed this 'push' elsewhere in this statement and in my published history of events. I do not think there is much more detail I can give.

160 Please describe how and when recombinant products became available to people treated at the Centre.

I have described this already. But please also see the answer below and the newspaper article referred to.

161 In a letter dated 12 March 1997 from you to Dr Ludlam (copy enclosed), you refer to a public meeting of Brent and Harrow Health Authority at which the Royal Free NHS Trust was criticised for providing recombinant Factor VIII for children and added *"The Chief Executive prevented me from speaking to Newsroom Southeast. There is a Trust view that we should keep quiet because they don't want this to be a "Jennifer's ear""*. Please provide an account of the events referred to in this letter.

I refer to the story published in the Independent dated Tuesday 17 September 1996 which explains this issue **[WITN0644102]**.

162 In the interview you gave as part of the RCP Oral History Project (transcript, p. 35) you said *"I mean cynically I think the patients – the few patients driving this are probably after money actually"*. What was the basis for that statement?

This general expression of opinion was not intended to be, nor meant as a depreciatory remark, but rather to reflect the reality that there is a general view that compensation ought to be paid to those who have suffered as a result of becoming

infected with HCV and HIV through plasma products. That was the clear view of the All Party Parliamentary Group and the reason why a number of Trusts, the McFarlane and the Skipton Trust, were set up. There has been a dissatisfaction expressed as to the operation of those Trusts and the drive for a full public inquiry despite the numerous previous public and private inquiries that have already taken place is I think based in part at least on the desire to ensure that those who continue to be affected are fairly compensated. In saying so I am not critical of those patients who pursue compensation insofar as they continue to have valid grievances and have not already been adequately compensated by earlier litigation or one of the relevant Trusts. Whether any new lessons can be learned beyond those that have already been extensively documented by the previous inquiries including, the Lindsay Tribunal, the Archer Inquiry, the Penrose Inquiry, and the All Party Parliamentary Group Inquiry, will be a matter for the Chair of this Inquiry to determine.

163 Please provide details of any complaints made about you (insofar as relevant to the Inquiry's Terms of Reference) to your employer, to the General Medical Council, to the Health Service Ombudsman or to any other body or organisation which has a responsibility to investigate complaints.

None.

164 Please explain, in as much detail as you are able to, any other issues that you believe may be of relevance to the Infected Blood Inquiry.

None.

Statement of Truth

I believe that the facts stated in this witness statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

Signed GRO-C

Dated 24th September 2020

Table of exhibits:

Date	Notes/ Description	Exhibit number
18.04.19	Professor Christine Lee's CV	WITN0644059
2004	Lee CA, '*Forum on AIDS, hepatitis and haemophilia*' (*J Thromb Haemost*, 2004, 2, 518-519)	WITN0644060
Undated	Job description for the post of Research Physician	WITN0644061
November 1981	Grant Application to Action Research	WITN0644062
28.10.00	Rustam A-S et al, "*Using patient-identifiable data for observational research and audit. Overprotection could damage the public interest*" (*BMJ*, 2000, 321,1031-32)	WITN0644063
1985	Lee CA et al, '*Relationships between blood product exposure and immunological abnormalities in English haemophiliacs*' (*British Journal of Haematology*, 1985, 60, 161-72)	WITN0644064
1983	Lee CA et al, *'Plasma fractitionation methods and T-subsets in haemophilia'* (*Lancet* 1983, ii, 158-159	WITN0644065
08.09.99	Haemophilia Centre & Haemostasis Unit away-day materials	WITN0644066
2015	Lee CA '*Blood borne infections and haemophilia: the worst of times*' (*J Haem Pract*, 2015, 2(2), 5-7)	WITN0644067
February 2015	'*The Katharine Dormandy Haemophilia Centre and Haemostatis Unit – a history*'	WITN0644068
1987	Haemophilia Centre and Haemostasis Unit pamphlet	WITN0644069
September 1995	An analysis of treatment for patients with inherited coagulation disorders	WITN0644070
2003	Mannucci PM, 'AIDS, *hepatitis and hemophilia in the 1980s: memoirs from an insider*' (*J Thromb Haemost*, 2003, 1, 2065-9)	WITN0644071
1995	Berntorp E et al, '*Modern treatment of haemophilia*' (*Bulletin of the World Health Organisation*, 1995, 73 (5), 691-701)	WITN0644072

Date	Notes/ Description	Exhibit number
1995	Preston FE et al, '*Guidelines on the diagnosis and management of chronic liver disease in haemophilia*' (*Haemophilia*, 1995, 1, Suppl. 4, 42-44)	WITN0644073
2001	Makris M et al, '*Guidelines on the diagnosis, management and prevention of hepatitis in haemophilia*' (*Haemophilia*, 2001, 7, 339-345)	WITN0644074
Various	The Katharine Dormandy Haemophilia Centre and Haemostasis Unit: Clinical Guidelines	WITN0644075
1985	Lee CA et al, '*Acute Fulminant non-A, non-B hepatitis leading to chronic active hepatitis after treatment with cryoprecipitate*' (*Gut*, 1985, 26, 639-641)	WITN0644076
2002	Yee TT et al, '*Experience of prophylaxis treatment in children with severe haemophilia*' (*Haemophilia*, 2002, 8, 76-8)	WITN0644077
21-23.03.94	Report of a joint WHO/WFH meeting on the control of haemophilia: Modern Treatment of Haemophilia	WITN0644078
1996	Yee TT et al, '*Transmission of symptomatic parvovirus B19 infection by clotting factor concentrate*' (*British Journal of Haematology*, 1996, 93, 457-459	WITN0644079
1990	Lee CA, '*Viral hepatitis and haemophilia*' (*British Medical Bulletin*,1990, Vol. 46, No. 2, 408-422	WITN0644080
30.08.20	Edited list of the publications taken from Professor Lee's CV that relate specifically to HCV and HIV	WITN0644081
12.01.84	Curran JW et al, '*Acquired Immunodeficiency Syndrome (AIDS) associated with transfusions*' (*The New England Journal of Medicine*, 12 Jan 1984, 310, 2, 69-75	WITN0644082
1989	Lee CA et al, '*The natural history of human immunodeficiency virus infection in a haemophilia cohort*' (*Brit J Haematol*, 1989, 73, 228-234)	WITN0644083
28.03.92	Goldman E et al, '*Counselling HIV positive haemophilic men who wish to have children*' (BMJ, 1992, 304, 829-830)	WITN0644084

Date	Notes/ Description	Exhibit number
30.07.94	Phillips AN et al, '*Use of CD4 lymphocyte count to predict long term survival free of AIDS after HIV infection*' (*BMJ*, 30 July 1994, 309, 309-313)	WITN0644085
27.01.96	Sabin CA et al, '*Comparison of immunodeficiency and AIDS defining conditions in HIV negative and HIV positive men with haemophilia A*' (*BMJ*, 27 January 1996, 312, 207-210)	WITN0644086
04.05.90	HCV policy document for the Centre	WITN0644087
2000	Yee TT et at, '*The natural history of HCV in a cohort of haemophilic patients infected between 1961 and 1985*' (*Gut*, 2000, 47, 845-581)	WITN0644088
1989	Lee CA et al, '*Interferon therapy for chronic non-A non-B and chronic delta liver disease in haemophilia*' (*British Journal of Haematology*, 1989, 72, 235-238)	WITN0644089
1994	Telfer P et al, '*The progression of HCV-associated liver disease in a cohort of haemophilic patients*' (*British Journal of Haematology*, 1994, 87, 555-561)	WITN0644090
1988	Miller EJ et al, '*Non-invasive investigation of liver disease in haemophilic patients*' (*J Clin Pathol*, 1988, 41, 1039-1043)	WITN0644091
1995	Telfer P et al, '*Alpha interferon for pehatitis C virus infection in haemophilic patients*' (*Haemophilia*, 1995, 1, 54-58)	WITN0644092
16.11.02	Sabin CA et al, '*Markers of HIV-1 disease progression in individuals with haemophilia coinfected with hepatitis C virus: a longitudinal study*' (*Lancet*, 16 November 2002, 360, 1546-1555)	WITN0644093
09.04.94	Concorde Coordinating Committee, '*Concorde: MRC/ANRS randomized double-blind controlled trial of immediate and deferred zidovudine in symptom-free HIV infection*' (*Lancet*, 1994, 343, 871-81)	WITN0644094
18.10.97	Lee CA et al, '*High cost, low volume care: the case of haemophilia*' (*BMJ*, 18 October 1997, 315, 962-3)	WITN0644095
27.02.06	Department of Health: Self-Sufficiency in Blood Products in England and Wales: A Chronology from 1973 to 1991	WITN0644096

Date	Notes/ Description	Exhibit number
21.01.98	Letter from Professor Lee to Dr Christopher Ludlam, UKHCDO	WITN0644097
August 2012	Millar CM and Makris M, '*Dealing with the uncertain risks of variant Creutzfeldt-Jakob disease transmission by coagulation replacement products*' (*British Journal of Haematology*, 2012 Aug; 158 (4): 442-52)	WITN0644098
September 2004	WITN0644016 - Redacted	WITN0644099
2010	Miller CM et al. '*Risk reduction strategies for variant Creutzfeldt–Jakob disease transmission by UK plasma products and their impact on patients with inherited bleeding disorders*' (*Haemophilia*, 2010, 16, 305-315)	WITN0644100
2011	Zaman SMA et al, '*The risk of variant Creutzfeldt-Jakob disease among UK patients with bleeding disorders, known to have received potentially contaminated plasma products*' (*Haemophilia*, 2011, 17, 931-937)	WITN0644101
17.09.1996	Article in The Independent	WITN0644102