Wednesday, 30 March 2011

(9.30 am)

THE CHAIRMAN: Good morning.

MS DUNLOP: Sir, today is the final day of block 1 of our hearings and we have two witnesses, Professor Ludlum and Dr Tait, who are going to address some questions of statistics with particular reference to the haemophilia centres, of which they are directors.

Before beginning the evidence for today, however, sir, I would like to clarify something. The statistics that we have today relate to people who are listed in various documents and identified by numbers. Such identification is solely for the purpose of confidentiality. In describing people in that way, however, we run the risk of creating the impression that we have forgotten that every number is a person.

In the tables of those with HIV/AIDS, the majority of the people referred to are dead. Some of those are children, some in a very large spreadsheet relating to Hepatitis C have died and others are very ill.

It may be that families of the people we are talking about, whether affected by HIV or Hepatitis C, are following the Inquiry and perhaps reading the transcript. I therefore want to say that the whole team is very conscious of what must lie behind these numbers

and how much we regret any further distress that this discussion may cause.

With that in mind, I would like actually initially to say something about some data we have from Aberdeen.

I see Professor Ludlum is sitting but I'm sure he will bear with me if I explain that we don't have Dr Henry Watson, who is the director of the haemophilia centre in Aberdeen, but we do have some statistics which relate to Aberdeen and I would like, if I may, to look briefly at them now.

THE CHAIRMAN: Should we be bothering Professor Ludlum at the moment?

MS DUNLOP: If Professor Ludlum wants to go and take a seat in the audience that will be fine.

THE CHAIRMAN: I don't want to give the impression that this was part of his contribution. I think if you just take Professor Ludlum back to the room, we will get him back in due course.

Yes, Ms Dunlop.

MS DUNLOP: Sir, we do have two documents relating to Aberdeen. One is a spreadsheet and one is entitled "Methodology". These are, I'm told, in the court book database. Perhaps we can look at the spreadsheet first. I think that would be the sensible thing to do. It is [PEN0120161].

THE CHAIRMAN: Yes.
MS DUNLOP: Before we look at this, I should confirm that we did receive letters from the directors in Inverness and Dundee, saying that they did not have any patients at haemophilia centres there who had acquired HIV, as far as they were aware, which is why we don't have information from them, but from the other three centres we have spreadsheets and methodologies. The Aberdeen one is the smallest in terms of numbers and it is on the screen in front of us now.

We should note --

THE CHAIRMAN: Sorry, can I just ask: this is Aberdeen, is it?
MS DUNLOP: Yes. There are also some hard copies around.
THE CHAIRMAN: Yes indeed, I'm just looking to see where it says "Aberdeen".
MS DUNLOP: Well, unfortunately it doesn't seem to say "Aberdeen". It does at the bottom. There is mention of Aberdeen certainly on the spreadsheet but in terms of its source, we are certainly satisfied that it comes from Aberdeen.
THE CHAIRMAN: That's fine. I merely wanted to identify it so that we know.
MS DUNLOP: It would be extremely important to acknowledge, and this is really the point that I was trying to make

at the outset, that what has been done is a sort of coding system, where the A patients are Aberdeen patients, the G patients are Glasgow adult patients, the E patients are Edinburgh patients and the Y patients are Yorkhill patients.

THE CHAIRMAN: I think that makes the sense I want.

MS DUNLOP: On the left-hand side of the spreadsheet there are the numbers, and perhaps slightly confusingly the different rows of the spreadsheet are occupied by the same person. The number of rows seems to depend on the numbers of instances of administration of treatment. But we can see, for example, that patient number 1 from Aberdeen is somebody who had haemophilia A. That was severe haemophilia A. The first positive test was 15 January 1985 and they were not under the age of 16 at the time of the first positive sample. There are then a number of different instances of treatment listed, manufacturers. Then for those people who have the hard copies, this is on the second page. You really have to put the two pages longwise together. But on the second page there is a column headed "Dead or alive", and then finally there is "Other information".

The entries in the column headed "Dead or alive" which are shown towards the bottom -- and perhaps we can scroll down and we can see where those come -- have

appeared to the team to be potentially confusing and some attempt has been made to clarify these particular entries. These relate to patients numbers 4 to 8. At this point I think we should turn to the methodology, so the other Aberdeen document, which is [PEN0120156]. I should let you read it sir, plainly.

The original source material has been UKHCDO. (Pause).

THE CHAIRMAN: Right.

MS DUNLOP: So, as far as --

THE CHAIRMAN: It looks as if there have been judgments to be made at various stages in carrying this out, but the methodology is set out there and can be followed by anyone who has an interest. Thank you.

MS DUNLOP: Indeed, sir. The two witnesses we have will be able to explain this in their own words but I gather that the directors have met and discussed the respective figures so that there is appropriate allocation within the haemophilia centres and also to try to avoid double counting.

THE CHAIRMAN: Is the belief that that has been achieved?

MS DUNLOP: That is the belief, sir, yes.

I just wanted really to say, in case anyone was slightly puzzled by the A4 to A8, that when the spreadsheet is looked at with the methodology, certainly

patient numbers 1, 2 and 3 do seem to be those who are considered to have acquired HIV infection from treatment received in Aberdeen haemophilia centre. Dr Watson then told us that there were also three patients who had received treatment in Aberdeen but who were considered to have been infected in Edinburgh and it is my understanding that those three people don't appear, therefore, on this spreadsheet.

The next group of people -- if we can go back to the methodology and perhaps we could go to the previous page, please -- there is a long paragraph beginning:

"Patients who had received treatment in the Aberdeen centre ..."

These I understand to be numbers 4 to 8 inclusive. In essence, what is said here is that the judgment that has been made is that these five individuals probably did not acquire their infection in Aberdeen. Then the last group of people referred to in the methodology, another group of five people, were considered definitely not to have been infected, and I also understand that they don't feature on the spreadsheet.

So I really just wanted to go through that in a little bit of detail because it's at first sight perhaps not quite as easy to follow as the other two spreadsheets.

THE CHAIRMAN: Just be absolutely clear about patients 4 to 8, they appear here and nowhere else. Is that right?
MS DUNLOP: Yes.
THE CHAIRMAN: They are here although the judgment is that they probably were not infected in Aberdeen?
MS DUNLOP: Yes. The other thing to which I should draw attention is that patient number 2 does appear to have had both PFC and commercial material but patients numbers 1 and 3 look to have been individuals treated almost entirely -- in the case of person number 3, I think entirely -- with PFC material, which must mean that for those two people, the source of infection, at least on this information, does look likely to have been PFC material.
THE CHAIRMAN: Yes.
MS DUNLOP: And --
THE CHAIRMAN: Yes, 1978 was the year in which patient 1 had quite a collection of different forms of therapy.
MS DUNLOP: Yes.
THE CHAIRMAN: PFC Factor VIII, cryoprecipitate and Baxter's hemofil.
MS DUNLOP: Yes. But from 1979 onwards it is PFC and then the first positive test is January 1985.
THE CHAIRMAN: And given the date of the Baxter -- the likelihood of that contributing is lower than the later

period.

MS DUNLOP: Certainly as I would understand it.

THE CHAIRMAN: As one would understand it.

MS DUNLOP: Yes. If you wish, sir, to look-back at the HCDO tables -- and I don't think it is necessary to go to this but in the preliminary report, [PEN0131459] shows us that Aberdeen had seven positive HIV test results.

THE CHAIRMAN: Which page, just remind me?

MS DUNLOP: It is 1459, which is real page 579.

THE CHAIRMAN: Yes.

MS DUNLOP: One of the steps which has been done in relation to Edinburgh and Glasgow -- and it may be that this is coming in relation to Aberdeen -- is to ask, not just for the date of the fist positive test, but also for the date of the last negative test. Looking at the UKHCDO material, it does look as though that information must be available at least for some patients.

THE CHAIRMAN: Yes.

MS DUNLOP: So in that that is an exercise which assists in narrowing the window of infection, that might be useful information to obtain and I will ask if that can be obtained, particularly for the three patients in Aberdeen.

THE CHAIRMAN: Yes, thank you very much. That would help. So far, I don't think I have any further questions to

ask about this. I think that I can follow it and we will see how it works out overall.

MS DUNLOP: Before leaving Aberdeen, one does note that only one of the three individuals, 1 to 3, is still alive.

THE CHAIRMAN: Yes.

MS DUNLOP: With that rather lengthy introduction, I would now like to ask Professor Ludlum to come and give evidence, please.

THE CHAIRMAN: Ms Dunlop, you will be coming to clarify the position with Inverness, which in the preliminary report has two and now, in the information you have, is said to have none.

MS DUNLOP: My understanding, sir, is that that is as a result of the discussions that have taken place.

THE CHAIRMAN: With the reallocation --

MS DUNLOP: Yes.

PROFESSOR CHRISTOPHER LUDLUM (affirmed)

Questions by MS DUNLOP

MS DUNLOP: Professor, until now invariably when we meet a doctor for the first time, we go to their CV and I'm going to break with tradition and not do that because we have asked you to come here today simply to talk about some data which you have provided for us and we have also arranged for you to return in May, when we will be beginning to look at questions of haemophilia care and

the history of treatment with concentrates and it appeared more appropriate at that time to look at the background of your career and the period you have spent in the care of haemophilia patients.

So to explain, sir, that that's why we are not going to go through Professor Ludlum's CV at the moment.

You are the director of the haemophilia centre at Edinburgh Royal Infirmary. Is that correct?

A. That's correct.

Q. And you have been since 1980?

A. That's correct.

Q. You have, I think, in conjunction with the other directors, prepared some material for the Inquiry, both in relation to Hepatitis C and in relation to HIV. Is that correct?

A. That's correct.

Q. Right. Although you have been involved in the Hepatitis C material, it is my understanding that Dr Tait, who is also here today, is going to explain that to us. So I really intend just to ask you about your HIV statistics, just to explain that to you.

You also have provided a methodology and we will have that on the screen in front of us. It is [PEN0120153].

In short, Dr Ludlum, what I understand to have

happened is that, as a group, the Scottish directors obtained data from UKHCDO. Is that correct?

A. That's correct, yes.

Q. There is a certain circularity about it because they only hold that data because it has been supplied from the centres in Scotland in the first place. Is that right?

A. Yes.

Q. And the cycle seems to be continuing because we heard from Dr Hay that it is the intention of UKHCDO to receive back from the directors as a group, the data which they have recently worked on and try to reconcile the views of the Scottish directors with what UKHCDO holds. Is that your understanding?

A. Yes, I think there is scope for improving the quality of the data. When the data was originally collected, in the 1970s and the 1980s, it was all done manually and then retrospectively entered into the national computer system, and so I think there have been some transcription errors and other misunderstandings in the data. So I think there is an opportunity to try and improve the quality of it.

Q. Yes. I suppose too that at the time when data was recorded or entered, it might not have been obvious to people exactly what aspects of the material might be

examined in future years, and that may in part explain why the focus is not always exactly what one is looking for or why some tidying up might now be possible.

Just to look then at the first paragraph of the methodology, you say that UKHCDO was able to provide dates of the first positive HIV test and the last negative test and treatment products by year for each patient. Then you say the list was reviewed at each haemophilia centre and discussions took place between each of the Scottish centres to agree at which centre within Scotland it was most likely that a patient contracted HIV.

Did you meet as a body?

A. No, we did this over the telephone.

Q. But you endeavoured to eliminate any double counting?

A. Yes.

Q. Are you satisfied that, as far as you were able, that has been achieved?

A. Yes.

Q. Were there initially one or two people who appeared on more than one list?

A. Oh, yes, because a patient will appear on a list for a centre for a particular year, if they go to that centre and get even a single episode of treatment. So if there is a patient perhaps who is normally resident in

Edinburgh, goes up to Inverness for the weekend, develops a bleed up there, needs treatment, he will go to the Inverness haemophilia centre and get some treatment and then hopefully that will treat his bleed. But that patient will then be recorded as having been treated in Inverness as well as Edinburgh, even though only one episode of treatment was administered.

Q. In paragraph 3 of the methodology, so we need to scroll down a little bit, you say:

"The list was compared with local details of haemophilia patients known to have been HIV positive. The UKHCDO list included all patients we knew about locally."

I kind of wondered if there was a bit of a syllogism there. Does that mean that all the patients you know about locally, when you looked at the UKHCDO list, they were all there? Were there any on the list that you didn't know about?

A. No.

Q. No. Right. Is it possible that there are still some patients who are being treated for haemophilia in Scotland who are not registered at a centre?

A. I think it unlikely. I think virtually all patients eventually will come to a haemophilia centre. The diagnosis may be made outwith a haemophilia centre. In

a hospital a new patient presents with bleeding problems, they may have a Factor VIII or a Factor IX assay measured in the local laboratory, and if that's low and the patient is thought to have haemophilia, they may be treated in a hospital initially because that's where they are and that's maybe where they are bleeding, but they will be quickly referred to a haemophilia centre thereafter.

Q. Then you say you also liaised with Health Protection Scotland. This is paragraph 4 and I take it you did obtain some additional information from them because they too have a register of HIV infected individuals.

I suppose, given that we now understand that the outcome of the discussions among the directors has been to remove from the UKHCDO list some patients who are not infected in Scotland -- or at least who you consider were not infected in Scotland -- is the corollary true, that there may be some people in England, for example, who have been lost to a haemophilia centre in a Scotland but who were in fact, for all we know, infected in Scotland?

A. It is possible but I think unlikely. The difficulty, I think, is that the patient comes from Scotland, where they have been treated for a number of years. They go

to England over this critical period of the late 1970s/early 1980s. The chances are there won't be retrospective sera stored and they will be found to be HIV positive, say in 1985, when they might have had three years' worth of treatment in England and before that, two years' worth in Scotland. So it might be very difficult to say where they had acquired their infection.

Then it would be a matter of seeing what products they had been treated with and if they had received commercial products over that time, then it is more likely that they will have contracted the HIV from the commercial products than NHS products.

So for that reason, it is difficult but we don't think we know of any patients who were infected in Scotland and now live in England.

Q. I suppose, if I'm understanding the first paragraph correctly, the way in which UKHCDO provided the data to you in the first place would go a long way towards eliminating that because they are providing you with a list of names of people for whom there is any treatment recorded as having been given in Scotland who are HIV positive. Is that correct? Yes.

The other point I wanted to pick up from your last answer, professor, was when you said that it was more

likely to have been infection by commercial products. I just wanted to you explain why that is your working rule?

A. HIV came into the American population sooner than the UK and regrettably it got into the American blood supply sooner, therefore, than in the UK. So the UK was roughly three years perhaps behind, and come the end of 1984, heat treatment became available and so at that point, after effective heat treatment was introduced, HIV conversion almost completely stopped in England.

Q. So would it be particularly the case that the earlier infections -- and by "earlier" I'm thinking of perhaps 1982 and before -- could at a very sort of broad level be thought to be more likely to be caused by commercial product?

A. I think that's fair, yes.

Q. One of the things that you were asked when the Inquiry was seeking information from you was whether you knew of any partners of people who had become infected and you have answered that in paragraph 6 that you are not aware of any partner who became infected. So can we take that to be the position for Edinburgh?

A. Yes.

Q. Yes. I should ask you, professor, that in the Edinburgh centre, obviously you will be seeing patients who live

in Edinburgh, but how big is your geographical net? Do you go to Fife, the Borders, all around?

A. Southeast Scotland, Borders, Lothian, Fife, some of Forth Valley. It depends a bit where patients live and where they have their family contacts and where they would like to be seen, particularly between here and Glasgow.

Q. Yes. Dr Hay suggested to us that Edinburgh -- and I think perhaps also Glasgow -- might on occasions act as a sort of tertiary centre for some of the other haemophilia centres in Scotland. Is that correct?

A. Yes. Edinburgh and Glasgow are both what are called comprehensive care centres of which there are about 22 or 23 in the UK. These are centres that provide a very wide range of services and have an expertise in haemophilia, perhaps more than smaller haemophilia centres just because they are seeing more patients.

So it is my responsibility to offer help and assistance to the haemophilia centres in the East of Scotland, in Dundee, Aberdeen and Inverness. If they have patients who they want my advice about, or want us to analyse blood samples from them, then that's part of our responsibility and we provide that service.

Q. In paragraph 7 you refer to an aspect of the history of matters which we have encountered before, which is the

storage of blood samples in Edinburgh. We have been told that that practice of storing blood samples began in 1984. Is that accurate?

A. No, I think it was the routine arrangement in the virology department in the 1970s.

Q. Right. I'm sorry, I think I have misremembered what that related to. So it goes back further than that?

A. It did.

Q. Yes.

A. Yes.

Q. Therefore it has been possible for the Edinburgh centre to go back to samples, in some cases quite old samples, and retrospectively test in order to find out or to try to find out when somebody seroconverted. Is that correct?

A. Yes. Perhaps I should add that these samples were originally collected for virological assessment, principally in relation to Hepatitis B in the 1970s, when we were interested in looking at Hepatitis B infection and its transmission in haemophilia.

Q. If you have been the director since 1980, I take it then the practice of retaining these samples began before your arrival?

A. The project began before my arrival and so did the retaining of samples, yes.

Q. Conveniently we have page 2 of your methodology coming on the screen, and you say that it was also possible, because of the samples that were stored, to know the HIV status on new patients arriving to live in Edinburgh from outwith Scotland, and that you have removed from your section of the UKHCDO list those who were already seropositive at the time of their arrival in Scotland?

A. Yes.

Q. That has left you with 23 patients on your list, which has been provided in the form of a spreadsheet and so to that spreadsheet we should turn. It is [PEN0120159].

Sir, as would be expect, this is a much longer spreadsheet than the one we looked at for Aberdeen but the same sort of format has been adopted. So the code numbers of patients are listed on the left-hand side, and plainly they run from 1 to 23.

You were asked, professor, about the group of individuals who have been described as the Edinburgh cohort and the Inquiry team is familiar with some of the circumstances in which those patients became infected and we will be going on to look in more detail at that group of people later in the Inquiry.

One of the things you were asked to do, however, given that there are 18 people in that group and there are 23 on the spreadsheet, was to indicate which people

on the spreadsheet are the Edinburgh cohort. You have done that for us. It is actually simpler because of the relative numbers involved to say which of the 23 people are not in the group known as the Edinburgh cohort, and from the information you have provided that would be patients numbers 5, 16, 19, 21 and 22.

If we look at those patients, professor, so if we start by looking at patient number 5 -- I can see that's on the screen -- really, out of that group, 5, 16, 19, 21 and 22, these appear to be people who for the most part, not entirely but for the most part, were also treated entirely with NHS material. Is that correct?

A. That's correct.

Q. Perhaps we should just look at them. That's number 5. I think actually everybody in your spreadsheet, professor, is somebody who had haemophilia A and who had haemophilia which was described as severe.

A. Could I just add a qualification --

Q. Yes.

A. -- to these records? These are the records we have available. As I mentioned at the beginning, if a patient went to another haemophilia centre on a Saturday afternoon for some treatment because they have got a bleed, they may have got some treatment that doesn't get recorded here.

Q. Yes. So one of the effects, in fact, of allocating people within the five centres, so everybody has been allocated to one centre, is that you lose the one treatment episode they had at another centre when they were away for the weekend, or something like that; is that right?
A. That should have been reported to UKHCDO but --
Q. But it is not on this table?
A. It would be on this table if it had been reported to UKHCDO.
Q. I see. But there is a margin of error, I think is what you are saying really?
A. There is always a difficulty with visitors who come, often outwith working hours, who need just a single shot of treatment but that's just the caveat I would put in for these records.
Q. I see. Just to complete the exercise of looking at the people I identified, we have looked at number 5 and then number 16 and then number 19. We see long lists of treatment with PFC material. Number 21 and number 22. Really, of those five individuals, it appears to be only number 22 who has a number of instances of treatment with commercial products. Is that right?
A. Yes.
Q. I don't think you actually answered what I said to you

earlier but all of the individuals who are mentioned in your table had haemophilia, which was classified as severe.

A. That's correct.

Q. Yes. Were most of these people on home treatment, professor?

A. I think --

Q. If you can't answer that --

A. The majority were on home treatment, yes, with concentrates.

Q. Something else we should note is that from the group of people we just looked at, the five individuals who don't form part of the Edinburgh cohort, only one person, person number 19, is still alive. From the 18 patients in the Edinburgh cohort, there are three people who are still alive. Is that correct?

A. Yes.

Q. You have given some information about cause of death. We can see that in the final column, where you have answered whether somebody's death was related to AIDS, and in some instances you have answered "yes", sometimes you have said "probably not", sometimes you have said "HIV contributory", and I think there is one person whose death is recorded as not having been related to HIV. And actually in your methodology you explain these

different categorisations and that's based, I think, on a combination of data from your own records and also from Health Protection Scotland. Is that right?

A. Health Protection Scotland and UKHCDO database.

Q. It looks to be -- if you put together people who have "yes" in that final column and people who have "HIV contributory" -- that, I think, 14 people either died of AIDS or died of something in which HIV/AIDS was a contributory factor. Is that correct?

A. Yes.

Q. Patients 17 and 20 were under 16 at the time of their first positive sample. I just wanted to ask you a little bit, professor, about the way in which haemophilia care is organised in Edinburgh, as far as the difference between children and adults is concerned. For Glasgow it is rather obvious because there are the two different hospitals, but it doesn't seem to be split quite like that in Edinburgh, or am I wrong?

A. At that time, during the 1980s, I looked after children and adults with haemophilia and then about 1993, I think it was, paediatric haematologist, Dr Angela Thomas, was appointed and so she took on the primary care of the children after that time.

Q. Before that happened, did children come to the Royal Infirmary or did you go to Sciennes Road?

A. Both. The children came to the Royal Infirmary. And in those days we had children, larger children, in the Royal Infirmary if they needed to come in as inpatients. If they were very small, then they would be admitted to the children's hospital and I would go and see them there.

Q. What, roughly, speaking, is the age at which somebody would transfer from paediatric care to adult care?

A. It's rather variable but between about 16 and 18 or 19.

Q. I wanted, professor, just to run past you an article, to which we have referred in our preliminary report.

THE CHAIRMAN: Are you leaving the tables altogether?

MS DUNLOP: No. Still actually talking about numbers, sir, but the article is [LIT0010888].

This is one of a number of articles, professor, about the group of people known as the Edinburgh cohort. Is that correct?

A. Yes.

Q. I think, perhaps to lay people, it appears really quite a technical article about certain aspects of the progression of the disease but the only thing I wanted to ask you about was a reference on the second page. You describe the group as being 18 of 32 HIV exposed patients, but on the second page we can see the graphs. If we scroll down a little bit, just to read the text

under figure 1, you say:

"In addition to these patients ..."

That's the 18 referred to as group 1:

"... eight haemophiliacs who had become HIV seropositive through the use of commercial Factor VIII were included ..."

As well as some other individuals. Should I take from what you are saying today that those eight people are largely not individuals infected in Edinburgh?

A. I think that is correct.

Q. So they happened to be patients who were under treatment in Edinburgh but they, according to the exercise you have recently carried out, do not appear to be those who acquire their infection in Edinburgh?

A. Yes.

Q. Might it be that some of those people were on the original UKHCDO list that you received and they might be some who have been removed as a result of discussions?

A. Almost certainly.

Q. Yes. We don't need the article, thank you.

The two columns which we can see, the last negative and the first positive, these do enable the reader to pinpoint to some extent the beginning and end of the period within which seroconversion occurred, and sometimes that is quite a short period. Is that

correct?

So if one looks, for example, at number 9, if we can do that, we can see that number 9, a sample on 16 April 1984, tested negative, whereas on 20 July 1984 there was a positive result. And indeed, if we just look through the table, a three-month interval, or even in relation to number 17, a two month interval is not uncommon.

It does look, professor, as though to enable you to supply this information, there must have been quite regular sampling. Is that the case? Were samples taken every time a patient visited the hospital?

A. No, samples were collected when blood was being taken for other purposes to check their haemoglobin or their blood chemistry. Then a sample would be stored at the same time, a small aliquot of that sample.

Q. It perhaps follows from what you said earlier, professor, about an understanding that earlier infections might be more likely to be associated with commercial product, that almost everybody in this table was infected around really -- well, 1984 looks to have been the commonest year; and the only person who one might describe as rather an early infection, looked at in the context of the whole story, would be number 22, who we see had a negative test in March 1981 and then

a positive test in December 1981.

For the most part people were not under 16 but there are, I think, two people who were under 16. You are nodding.

The only other thing I think I should just take at this point is that UKHCDO have provided for us numbers of patients registered at the various centres. I'm hoping that I have the right number. I think it's [PEN0131454]. Yes. Which is page 574, sir.

THE CHAIRMAN: Sorry.

MS DUNLOP: It's page 574. The tables have only been provided at five yearly intervals but we can see from those tables, if we look at your own centre, professor, that in 1980, registered with your centre were 156 people with haemophilia A and 30 people with haemophilia B. In 1985 170 with haemophilia A and 36 with haemophilia B. Presumably you are very aware of this sort of information?

A. Yes.

Q. Thank you. Thank you professor.

THE CHAIRMAN: Professor Ludlum, I think that it is quite difficult to assimilate all of the information on these tables at first sight, and I have no doubt questions will arise after one begins to study them. But could we look, please, back at your analytical material for

a moment? Professor Ludlum's own spreadsheet, please, yes.

In the final column, column K, you have noted whether the death was related to HIV/AIDS. Can you tell me, please, whether the information recorded there reflects an up-to-date reassessment of the position or whether it merely reflects historical information about cause of death?

A. It reflects historical information on the UKHCDO database and information supplied by Health Protection Scotland, who gave us extracts from the death certificates.

THE CHAIRMAN: Would it be the position that knowledge of HIV and AIDS has progressed considerably since 1990, and if one were attributing a cause of death now with all relevant information, might the result be different?

A. I think some of the results -- the causes of death would be differently recorded, not so much from, I think, advancing knowledge but from the acceptability of having AIDS on a death certificate. There was a lot of anxiety amongst the patients when they were alive and before they died, and their families thereafter did not want to see AIDS on the death certificate, if at all possible.

Therefore, various euphemisms were used, like a deficiency of cell-mediated immunity, and I suspect

some of the certificates were a little economical of all the details.

THE CHAIRMAN: Have adjustments been made to reflect that, by, for example, looking at cell related immunodeficiency and perhaps interpreting it in the light of modern knowledge or not?

A. Well, when I reviewed the information for this spreadsheet -- let me give you an example: there was one death in which the primary cause was septicemia and the secondary cause was deficiency of cell-mediated immunity. Septicemia per se would not be AIDS but my interpretation of this death certificate was in fact that the patient died of AIDS and this was an economical way of recording the information.

THE CHAIRMAN: When one comes to your table, the reality has been reflected here, has it, rather than --

A. Yes, that particular patient I recorded as having AIDS.

THE CHAIRMAN: So far as possible you have done that?

A. Yes.

THE CHAIRMAN: That was my interest in the way it has been prepared.

The other possibility, of course, is that there are causes of death that don't disclose a possible HIV/AIDS background. For example, if there were suicides in this list, what would one do about that?

A. A suicide I would say was HIV contributory.
THE CHAIRMAN: That would recognise that the person's state of mind had been seriously compromised by knowledge of the disease?
A. Could have been, yes.
THE CHAIRMAN: And that has been taken into account?
A. Yes.
THE CHAIRMAN: Thank you very much. I think that deals with that issue.

The other issue that arises does not relate specifically to what you have brought out here, but when one finds evidence, as you have, of double counting in the particular, it seems to raise a question whether the general database itself for haemophilia patients on which we are relying for comparison may similarly be compromised by double counting. Do you have any comment on that?
A. I think it very unlikely there is double counting because, before patients are entered into the database, their demographics are compared with patients already in the database and I think it very, very unlikely there is any double counting in the database.
THE CHAIRMAN: The third and last point I want to ask you about at the moment comes out of information you did provide about the storage of samples in the virology

department. I don't think I have an adequate understanding of the procedures that were adopted from time to time, and in particular how far back that practice of virology being the centre for storing material might have lasted.

I do have personal recollection of a virologist who died unfortunately very young, who was in post in the 1960s in Edinburgh. So I imagine that it goes back as far as that. But what was the routine? One would take samples, as I think samples are taken from many of us at a certain age, all the time, for testing for a particular purpose and that of course would absorb a certain amount of material, but I understand you to say that aliquots would be maintained separately from that and stored in the virology department. Why was that done?

A. That was done in virology because it's sometimes very useful to be able to go back and look at historically previous samples to see whether there has been a change in the tests that you are using. For example if a sample of blood is taken from someone who is just developing an infection, they may not, for example, have an antibody to that infection and so the test is negative or weakly positive. You go back and have another sample two or three weeks later, and it is

strongly positive and you can compare the results from these two and see there has been a definite change in the result. That's why samples are kept.

THE CHAIRMAN: I think in other contexts we have heard of the move to PCR testing from previous antibody tests and would that be an example of an occasion on which one might like to go back to an earlier --

A. Indeed.

THE CHAIRMAN: Has this been done routinely really over a very long time in Edinburgh, as far as you are aware?

A. In Edinburgh in virology it had been done for a long time for all samples. I understand now that the arrangements are different.

THE CHAIRMAN: When did they change?

A. I'm not quite sure.

THE CHAIRMAN: Recently or ...?

A. Relatively recently, I think, yes.

THE CHAIRMAN: So the period with which I'm concerned, up to the 1980s, there would be routine storage of samples for checking, rechecking, in order to ensure that one could find out what had been happening to a patient over a period of time?

Thank you very much.

A. Could I add that -- I mean, we would be storing parallel samples in haematology.

THE CHAIRMAN: Yes, I should have asked that. So you are keeping them also?

A. We kept two sorts of samples. Any sample that was sent down for a clotting test, a Factor VIII or Factor IX assay, was routinely stored because sometimes we wanted to go back and check the clotting test result or do additional tests.

Those samples were stored and on some patients we also stored a small serum sample. That was to have a duplicate sample from the virology store. The reason we did that was unfortunately from time to time the deep freezes have electrical failures and the whole deep freeze can go down and melt and you have lost all those samples. So this seemed to be a way of trying to guard against the loss of potentially valuable samples.

THE CHAIRMAN: Thank you very much.

Mr Dawson?

Questions by MR DAWSON

MR DAWSON: Professor Ludlum, may I first ask you some questions about the general methodology which was supplied by yourself and the other haemophilia centre directors in the compilation of your individual reports on HIV.

My understanding of the process that was gone through was that a list arrived from the UKHCDO data and

the first thing that was done with that list is it was reduced to comprise what one might call a Scottish list, and then that Scottish list was allocated amongst the Scottish centres; is that correct?

A. Not quite. We set great store by patient confidentiality and so far as possible, we don't like producing national lists. So the lists were sent to each individual haemophilia centre. So we started out with six lists, one for each haemophilia centre.

Q. Who determined which individuals were included on which list?

A. That was determined by whether or not the patient had received treatment at that centre. So if a patient had received treatment at any time, shall we say in Edinburgh, they appeared on my Edinburgh list.

Q. So the totality of the information if one looks at all six of the lists, would include every patient who had received treatment in Scotland at any time?

A. Yes.

Q. I think in response to one of the questions asked by counsel to the Inquiry, in particular, with regard to the situation with people who perhaps might more properly belong on the English list, you said that there was a possibility of individuals being lost to England.

Could I ask you: what process did you go through

initially in order to determine whether or not an individual should remain on your list or would more appropriately be placed in what one might call a "foreign list"?

A. The patients for the Edinburgh centre who were in the not-Scotland list, if I can put it that way, were all ones that arrived in Edinburgh and were HIV positive when they arrived.

Q. So one could deduce from that that they could not have acquired their HIV infection in Edinburgh. But what then happened to those discarded individuals? Would they be perhaps offered to another centre, where they might have been infected, or would they simply have been discarded entirely?

A. If they had been -- they would have been -- another Scottish centre? Well, they would have appeared on that Scottish centre's list as well and we would have had discussions and it would have been clear if they had been at Glasgow, for example, after they had been to Edinburgh. And I had said, well, you know, when they were here, they were HIV positive, they would then be removed, I think, from the Glasgow list.

Q. I think the position, as I understand your evidence on this, is that Edinburgh is at a slight advantage -- or perhaps a considerable advantage -- over the other

centres because of the amount of historical samples which exist within the Edinburgh region. Therefore, with these samples, one is able to say with more certainty precisely what you have just described, which effectively is whether someone was or was not infected in Edinburgh. Is that correct?

A. That is correct, yes.

Q. The position is that with other centres, some other tests must have been applied in order to work out whether or not an individual should remain on their list or not. Are you aware of what that test was?

A. I think you need to perhaps speak to my colleague, Dr Tait, about the Glasgow centre, where there are a number of patients, I think, who were HIV positive and who had had quite a lot of treatment in England before they came to Scotland. And in fact there may have been patients who were treated almost concurrently in let's say, Glasgow and somewhere in England and then it may be that a value judgment has to be made about where they might have been infected.

Q. Would that value judgment be along the lines of where someone had received the most treatment or would it depend on the timing of the treatment?

A. It would depend upon the timing and the nature of the treatment.

Q. How many people were on the original list that you were supplied with for the Edinburgh area?
A. I think it was 29.
Q. Okay. So you have whittled that list down to 23. So there are six individuals who have either been discarded from all of the lists as being foreign infections or people who have, more appropriately, put on to lists of other Scottish regions. Is that correct?
A. Yes.
Q. And can you tell me how many people fell into each of those two categories?
A. From memory, I think all six came from outwith Scotland and I don't think they appeared on other lists but I can't be absolutely certain --
Q. The figure of 29 is actually a figure I wanted to ask you about and perhaps it would be an appropriate point to do that now.

There is a table which we looked at with Dr Hay when he gave his evidence, which produces a figure for Edinburgh of 29. Are you aware of that table?
A. Yes.
Q. Can you tell me why it is that there is a difference between that table and the figure that you have produced in your table?
A. Yes. My table is patients who I believe were infected

by HIV in Scotland. The figure of 29 from Dr Hay, as presented in appendix A or 1, are all patients who attended the Edinburgh centre and who were known to be HIV positive at any stage.

Q. Thank you. I'm not sure who I should ask most appropriately about the total number which comes out of all the tables that have been produced, but are you able to give me some assistance with that?

A. I think I can, yes.

Q. I have totted it up and I think the number comes to 64 in total although as we have seen, and I think you may or may not have heard this in relation to the Aberdeen centre, there is perhaps a slight difficulty with the number who are produced in the Aberdeen list as these perhaps should not strictly fall within the categorisation of Scottish infections at all.

There are five such patients, which may take us down to a total of 59. Is that your understanding of the total number?

A. My understanding is -- and based on there being three in Aberdeen -- the total for Scotland is 58, of whom 20, I think, are alive and 38 sadly have died.

Q. Right. You will be aware, perhaps or perhaps not, that there are a number of other total figures that have been proposed in connection with HIV infections amongst the

haemophilia population in Scotland. If we could have up to the screen paragraph 3.60 of the preliminary report, please. This is page number 46 of the original version. In fact, reading over to page 47. Just reading the last sentence there in paragraph 3.60 it says:

"The data show that the numbers of patients registered with Scottish haemophilia centres with all bleeding disorders who tested positive for HIV between 1982 and 1995 were ..."

Flip over to the next page we will see there is a table. That gives, broken down by centre, a total number of 72. You may have answered this question already in relation to the 29 but could you explain the discrepancy between the figure of 72 and the figure of 58 you have just given me as a total from the exercise that you have carried out?

A. The figure of 72 will be all patients who have ever been treated in Scotland, who have ever been HIV positive. So a goodly number of these, maybe between 58 and 72, will be people infected from outwith Scotland who either came to live in Scotland or came here on holiday or a business trip, needed some treatment and then got recorded in the database.

Q. As far as Edinburgh is concerned, you could see perhaps with some certainty that they must have been infected

elsewhere because you can work out, on their arrival in Edinburgh, whether they had seroconverted or not. Is that correct?

A. That's correct.

Q. But in relation to the other centres, a different methodology, which we have touched on, would require to be applied to working out whether a person should be included in the Scottish list or not. Is that correct?

A. It depended when they came to live at that other centre. If they came after 1985, there was HIV testing available then and so they could be tested from about 1985 onwards.

Q. Thank you. You will be in paragraph 3.61, which is also produced there. There is a reference to a footnote, which one can read at the bottom of the page, footnote number 66, if we just scroll down to the bottom of the page to see that footnote. It says there:

"The Scottish Centre for Infection and Environmental Health data record 87 HIV positive haemophiliac patients to 30 September 1999."

There is a suggestion there that the different reference periods may help to explain the difference, that being, as I understand it, the difference between the 72 figure and the 87 figure. That figure of 87 is one which appears in a number of places -- this is one

of them. I understand that that figure was a figure which was given to the Ross committee as well. Can you assist us at all with why it is that that figure is different from the 72 and different from the figure that you have given today?

A. I can't because I'm not familiar with how the Scottish Centre for Infection and Environmental Health collected the data.

Q. Thank you, I understand that.

If I could ask you a few specific questions about the methodology and the table that you have provided that counsel to the Inquiry have taken you to. If I could ask you first of all a general question about the table, there is no identification within this table as to where the individual patients identified received the various treatments that are identified here. Presumably that must be information to which you have access?

A. Well, the treatment would either be given in the haemophilia centre or in the patient's home or possibly in a hospital ward if they are having an operation as an inpatient.

Q. Perhaps I should be slightly more specific with my question. What I was meaning was in which region they had received the treatment.

A. Virtually all the patients live in Southeast Scotland.
Q. But that doesn't necessarily mean, as I think you have explained already, that they will have received all of their treatment in Southeast Scotland?
A. Well, we would supply them with their treatment. I'm sorry.
Q. I think you have already mentioned the possibility that people would receive treatments in different parts of the country, based on where they might be living at a specific time or having to go away temporarily from their normal place of residence. Is that fair?
A. The treatment that they use are usually locally supplied.
THE CHAIRMAN: I think professor, you and Mr Dawson are getting out of context here. I think what Mr Dawson is interested in is whether all of the treatments listed against each of the patients were in a single region or whether some of the treatments might have been in Edinburgh and some when they were on holiday in Glasgow or Inverness or whatever. Are these all Edinburgh treatments or are they mixed?
A. I think it is fair to say they are Edinburgh responsible treatments. We were responsible for them.
THE CHAIRMAN: Sometimes you would give away a Factor VIII package with someone going on holiday?

A. Yes.

MR DAWSON: I'm obliged, sir.

Could I ask you to have a look at the methodology document we have looked at already. I just have a few questions on that.

In paragraph 3 of the documents you say a list was compared with local details of haemophilia patients known to be HIV positive. The UKHCDO list included all patients which we knew about locally and counsel to the Inquiry has asked you some questions about that. You also say that additional data from local records was added where available. What was that additional data that was added from local records?

A. I think there were some seroconversion dates which weren't in the UK list.

Q. I assume that that kind of information is information which perhaps ought to have been included in the UKHCDO list but for some reason was not, and therefore, for the sake of completeness, it was added from the local records for the purpose of this document. Is that correct?

A. Yes, and we made one or two corrections to dates of seroconversion that appear to have been mistyped when they were entered into the database.

Q. Thank you.

In paragraph 7, which appears at the bottom of that page, you give us some information about something we discussed already, which is the issue of blood samples being regularly stored in Edinburgh. You say there:

"As routine blood samples were regularly stored in Edinburgh on many patients, it was possible to retrospectively ascertain approximately when patients seroconverted to HIV."

I think perhaps, although I don't think we need to have it up, there was an earlier version of this statement, which you have updated and my recollection was that the word "approximately" did not appear in that. I wondered if you could explain to me why that was inserted. This is in connection with the date of seroconversion based on the analysis of the stored samples.

A. I perhaps was being a little pedantic because, if the timing of the two samples is a long way apart, then there is a large window of uncertainty. So the date, if we give a mid date or you could give shortly after the fist sample, that is all.

Q. Thank you. Could I ask you some questions about paragraph 5. This is the paragraph where you give some information about the death statistics that you have provided. It says there that:

"Based on the information available, a judgment was made as to whether deaths were related to HIV/AIDS, the deaths were classified as:

"i. Related to HIV/AIDS.

"ii. HIV contributed.

"iii. Probably not related to HIV/AIDS.

"iv. Not due to HIV/AIDS."

I think you have explained already that the information -- the death information, if you like -- came both from UKHCDO records but also from Health Protection Scotland. Could I ask you, first of all, does the sum total of the information with which you were provided on the deaths, effectively mean that what you were given was the reference on the death certificate for the individuals or did you have more information than that?

A. No, I had the information on the death certificates.

Q. Nothing more than that?

A. And what was in the UKHCDO register.

Q. Did the UKHCDO register for these patients include any information other than what was on the death certificate?

A. It contained very little information actually. There was much more information on the death certificates, they were much more helpful.

Q. Would it be fair to say that the height of the information, in terms of usefulness, that you had was the death certificate?

A. Yes.

Q. Could you explain to me the difference between your classifications i, ii, iii and iv, please?

A. I is where I was convinced that it was highly likely that the patient had died of AIDS. There were a number of AIDS-defining illnesses, for example pneumocystis pneumonia, cerebral toxoplasmosis, lymphomas. If those were mentioned in the death certificates then they clearly died of AIDS.

There were a number of patients, as I described earlier, that I read between the lines of the death certificate because they didn't have clear AIDS-defining illnesses, but I think the message from the death certificate, as I read it, was the patient died of AIDS. So I have included those under i.

Under ii, HIV contributed, what I have in mind here in particular are deaths where the primary cause of death was given as being related to liver disease or hepatic failure. That was almost certainly due to Hepatitis C, and Hepatitis C had progressed much more rapidly because of the HIV. So although the death, I think, technically was due to liver disease, and might

well be recorded in liver disease deaths, I think that patient died much earlier from the liver disease because of the HIV.

The third group, probably not related to HIV and AIDS, are deaths that I had some difficulty in seeing that it was likely that HIV contributed. Three of these deaths were due to major catastrophic haemorrhage. With the information available, that seemed clearly to be the cause of death, given the site at which the haemorrhage occurred, my recollection of these events, sadly. And the fourth group, not related to HIV, I think is only one individual. He clearly had a condition that I don't think is related to AIDS at all and HIV.

Q. Can I just ask you two questions coming out of that.

I think in relation to the third category, you used the phrase "not likely to be caused by HIV or AIDS". Does that mean the second category could also be defined as likely to have been caused by HIV?

A. The second category is the patient has died of a condition that was made worse by HIV. I don't think they died because of HIV.

Q. I understand. I think the other question I was going to ask you relates to that and it is that, as I understand it -- please tell me if I'm wrong with this proposition -- that the contribution that HIV would make

would be on the basis of its immuno-suppressant qualities, making the body less resistant to other things that might not kill a person in other circumstances. Is that correct?

A. Yes.

Q. I think we looked at a paper earlier which was written by you and others on the Edinburgh cohort and you identified who they are within your numbers. My understanding is that you have written a number of research papers on some of these individuals within the list of 23. Is that correct? Or is it all the individuals?

A. No, some of them.

Q. Some of the individuals, yes. Your research interest in these individuals, did it extend to cause of death or did it not go that far?

A. Well, it was part of caring for the patients.

Q. The reason why I'm asking the question is what I'm keen to try and find out is whether or not you yourself, given your researches from interests in the patients, may be a more reliable source of information than the rather limited UKHCDO and HPS information. Do you have any comment on that?

A. Well, yes, I do, in that all these patients were known to me very well and I still have it embossed on my mind

some of the terrible things that happened with HIV 20 years ago, and so I have quite a good memory, not obviously for all the details but for many of patients' conditions.

Q. Thank you. I think, as counsel to the Inquiry pointed out with these numbers all over the place, it is quite easy to lose sight sometimes of the fact that there are individuals who lie behind this, but it seems to me what you have done in relation to that question of which category they fall into is actually to provide a much better estimate of which category they should fall into than just simply looking at the death certificate. Is that fair?

A. Yes.

Q. Thank you. The last section I would like to ask you on is in connection with question 6. There it says on the first page:

"To tell partners of those with haemophilia of the possible risk of sexual transmission of HIV infection. Counselling and testing was offered which could be at the haemophilia centre, general practitioner or other clinic, eg infectious diseases. I'm not aware of any partner who became infected."

I had rather assumed from that that all the haemophilia doctors have said something about partners,

that you must have been asked a specific question about partners in the compilation of this document. Is that correct?

A. I think one of my colleagues mentioned about partners.

Q. Right.

A. I didn't in my draft statement and I received an enquiry from the Inquiry as to whether we had offered counselling and testing of partners. So that's why I put in this paragraph.

Q. And your position in relation to that is you had a policy. When was that policy --

THE CHAIRMAN: Mr Dawson, I thought it was only on data that you are pursuing this. But if you are going into a wider issue, we must stop now and allow the stenographer a break.

Do remember that this is statistics today and the other issues might be more appropriately dealt with later.

(11.09 am)

(Short break)

(11.36 am)

THE CHAIRMAN: Mr Dawson, I am quite anxious that we shouldn't get into topics that are going to be dealt with properly later, and the topic you have touched on is of course one that will in due course occupy us for

quite a considerable period of time. I, from my own point of view -- and it is my point of view -- don't want to get out of context. It is going to be difficult enough dealing with the writing up of the material anyway and getting it out of context will not help me. So I would be much obliged if you would limit your questions to those aspects of any issue that relate to today's topic.

MR DAWSON: I fully understand and accept that, sir. It did rather seem to me that this paragraph perhaps is somewhat out of place.

THE CHAIRMAN: You shouldn't always take the invitation where you see it offered.

MR DAWSON: I think that in light of that and in light of the fact that Professor Ludlum will be coming back at least once more to address these topics, I have no further questions.

THE CHAIRMAN: Thank you very much.

I'm sure you appreciate, Professor Ludlum, that this is a topic that will exercise us all at some stage in the future but not today.

Mr Anderson?

Questions by MR ANDERSON

MR ANDERSON: Thank you, sir.

Professor Ludlum, good morning. I would like to

raise with you just one issue which does not arise out of the evidence you have given to the Inquiry this morning but rather concerns itself with the role of the UKHCDO and that is the extent to which that body at the material time were leaders of professional opinion or followers of professional opinion. I ask you this because, as you may be aware, we have heard evidence from Dr Hay of that body, who was asked about that and gave what I think might fairly be described as somewhat equivocal evidence about that.

So can I invite you, please, to let the Inquiry have your comment on the extent to which that body at the material time were leaders or followers of professional opinion.

THE CHAIRMAN: What is the material time, Mr Anderson, with respect? The whole period that Dr Ludlum has been involved with or some part? Because I'm equally concerned that you should not stray from today's topic.

MR ANDERSON: I understand that but it did occur to me, with respect, that this was an appropriate time to raise the issue rather than deal with it at a later stage when Professor Ludlum is giving evidence. But I'm content to leave it then, if that's a matter that you would prefer, sir -- if it is easier for you.

THE CHAIRMAN: It is not easy for me to have a mix of

material. It means that I have to go searching through perhaps the whole transcript to find a relevant comment if I have not noted it at the time.

If there is an issue over a particular period, when things were happening, and it is related to the emergence of HIV/AIDS, I'm happy about that, but if it is not time-limited it doesn't seem to me to relate to the data that has been discussed.

MR ANDERSON: Perhaps I can invite Professor Ludlum to answer that question and perhaps assist by making it more specific in that what I'm dealing with, professor, is the mid 1980s. If that is of assistance. Could I perhaps invite you to give your comment.

A. From my perspective, UKHCDO has been a leader in the haemophilia field in the UK and I think that's recognised internationally. The database actually started in 1950, as a card index box at the Medical Research Council and it was computerised, I think, in about 1968, when the association, the organisation was formed by the foresight of Dr Rosemary Biggs who was one of the leaders in haemophilia care at the Oxford Haemophilia Centre. It was her foresight to set up a database and to record the sort of information that we have been discussing today, and has been possible. And there is such a database in very few other countries

throughout the world.

So UKHCDO gave a very substantial lead in forming this database, recording how patients were treated each year, whether they got an inhibitor at one stage, when they got jaundice.

Going on to a little later, the 1980s, my view is that UKHCDO, and particularly its reference centre committee -- that was the committee made up of the directors of the big centres -- very much gave a lead in how haemophilia treatment should be pursued.

I have in mind particularly the guidance that was given in, I think it was, May or June 1983 and also in December 1984 in relation to the introduction of heat treatment. I think the UK was one of the first countries to make this decision. It was a very difficult decision to make. I'm sure the Inquiry will be returning to this issue. But UKHCDO gave a lead not only for the UK but for many countries in fact in the world, in relation to this.

Thereafter, I can mention other ways in which I think it has led to the development of haemophilia care, for example, the introduction of recombinant Factor VIII. When I was chairman of the organisation, that was led by UKHCDO. Issues in relation to VCJD and the safety of British plasma. When I was chairman of

the organisation I had the uncomfortable task of suggesting, on behalf of patients, that maybe the UK blood supply wasn't entirely safe from the possibility of VCJD infection.

So these are some of the areas in which I think UKHCDO has led very much haemophilia treatment in the UK. Some of it based on the guidelines that we produce. They arise out of research that our working parties have undertaken over many years. Perhaps what is relevant to this period is the hepatitis working party that was set up in 1977.

I don't know of any other country in the world that set up a committee to look into the question of hepatitis transmission by clotting factor concentrates in the 1970s. So this, I think, led research actually in the world on behalf of the association, on behalf of patients' safety.

MR ANDERSON: Thank you very much, professor.

THE CHAIRMAN: Mr Anderson, if that is the answer you expected, I cannot conceive how you thought that the question related to today's topic and I'm a bit disappointed.

Professor, when we come back to this you can take it that I will be interested in particular in the fate of the proposal that we should have had a Scottish

haemophilia database, but we will keep that also for the appropriate time.

Mr Sheldon?

MR SHELDON: I have no questions for Professor Ludlum at this time.

Further Questions by MS DUNLOP

MS DUNLOP: Sir, I do have a couple of questions that have arisen from matters raised by other parties if I might be able to put them.

THE CHAIRMAN: Yes.

MS DUNLOP: The first document I would like you to look at is [PEN0120151]. This is simply to take slightly further the issue of what Health Protection Scotland can contribute, just to draw this letter to your attention; have you seen it before?

A. Yes, I think I have.

Q. It is very recent. It was really being put to you by Mr Dawson that there is quite a gap between your totals and other totals that we have seen, and some of the references in the preliminary report were highlighted. This doesn't explain the gap totally but it goes some of the way to doing so. If we go further down the letter, this is reading from line 3 of the third paragraph:

"As at 31 December 2010 HPS had recorded 46 deaths among 76 haemophilia cases who are presumed to have been

infected via the receipt of contaminated blood products in Scotland."

So, as I understand it -- and HPS say this in a footnote to all their tables -- their total for people who have been infected with HIV as a result of treatment for haemophilia includes those infected beyond Scotland. They say that in a footnote. So they themselves are aware that some names have to be taken out if one is trying to arrive at how many people were infected in Scotland. As I understand it, the difference between their 76 and your total is another tranche of people that the five directors have decided can be regarded as not having been infected in Scotland. Is that it in a nutshell?

A. That's my understanding, yes.

Q. The other thing, and I think I have to just go back to this because, it's a kind of spurious accuracy, but I'm interested in the difference between your 58 and Mr Dawson and my 59. I wonder if we could just work out where you get 58. 23 for Edinburgh.

A. Yes.

Q. Plus 21 for Yorkhill.

A. Yes.

Q. 44.

A. Yes.

Q. Plus three for Aberdeen, 47, plus 12 for Glasgow.
A. I had 11 for Glasgow, I must have miscounted.
Q. Thank you.
THE CHAIRMAN: Professor Ludlum, thank you very much for the time being.
MS DUNLOP: The other witness for today, sir, is Dr Tait.

DR ROBERT CAMPBELL TAIT (sworn)

Questions by MS DUNLOP

MS DUNLOP: Dr Tait, is Campbell Tait your full name?
A. Robert Campbell Tait, known as Campbell.
Q. Yes. And you are the director of the haemophilia centre at Glasgow Royal Infirmary. Is that correct?
A. Correct.
Q. For how long have you held that position?
A. I was probably appointed co-director around about 2000/2001, having started there in 1999.
Q. Did you work in haemophilia care before 1999?
A. Not as a consultant, no.
Q. You were training?
A. No. I was a consultant at the Southern General Hospital from 1995 to 1999, and then prior to that training where one experiences all aspects of haematology.
Q. Right. What were you doing as a consultant at the Southern?
A. Very much general haematology.

Q. Thank you, Dr Tait.

You are here today to tell us about some statistics that you have put together for Glasgow and indeed you are going to talk, I think, about both HIV and Hepatitis C, but if we could start with HIV, please. You have produced a table in an almost identical format to the ones we have already examined from Edinburgh and Aberdeen. Yours is [PEN0120158].

It is perhaps slightly too small print for us to see it, is it?

THE CHAIRMAN: That's still not the whole thing, Ms Dunlop. It looks as --

MS DUNLOP: It should be, sir. There are also hard copies that were in the bundle of hard copies that was distributed. If it is easier to look at a hard copy.

THE CHAIRMAN: It didn't reach us.

MS DUNLOP: We have another complete set; which we can pass up (Handed).

THE CHAIRMAN: Do the ladies and gentlemen of the public have a bigger view than the rest of us on that screen? Not really. I'm anxious that this is really very small and I may be particularly challenged but ...

MS DUNLOP: I'm sorry, sir. There is a bit of a trade-off. In some senses it is good to see the whole thing but in other senses it is better to scroll down. I think,

having seen the whole thing, we can record that there are 12 patients whose details appear in the table. Of those 12, ten people have died and two are still alive.

Perhaps we can go along to the final column on the right, please. We can see the column headed "HIV/AIDS-related cause of death"; it looks as though six people had an HIV-related cause of death. One thing I did want to ask you, Dr Tait -- and you may not be able to answer this -- is that it was rather striking that a column on the left-hand side, "Date of first HIV positive test", in every single case, it is the 15th of a month. Can you explain why that is?

A. I think I have been asked this question by the Inquiry and I can't explain it. One could speculate why that's the case but I can't explain it. These are the data that were provided to me from UKHCDO. Would you like me to speculated?

Q. Well, I think we have speculated too and your speculation may be the same as ours but please share your speculation with us.

A. One assumes that these dates were provided to UKHCDO by the haemophilia centre and if the centre only provided a month, then maybe the UKHCDO in entering that data chose the mid point of that month because we had to put an exact date in. I think you maybe need to ask Dr Hay

if that's correct or not. He may not be able to answer.
Q. We did ask him and he couldn't explain it either. It is no doubt one of a number of things we may never get to the bottom of.
THE CHAIRMAN: It can't be accurate so it must be a convention of some kind.
A. I would agree. The 15th cannot be accurate.
MS DUNLOP: I suppose one can't rule out that it is some sort of coincidence.
THE CHAIRMAN: In this universe it is highly unlikely by the time you get to this number.
MS DUNLOP: I noticed just one or two other things, Dr Tait, that perhaps were slightly striking about this table. If we could look at person number 1, this is a person with severe haemophilia A but in the ten-year period, 1975 to 1985, there is only one recorded treatment. Do you want to comment on that? I suppose it is well before your time.
A. Yes. If you could move slightly further to the left, this may be the patient that we believe --
Q. This is the Western Infirmary patient.
A. Yes.
Q. Yes.
A. That was perhaps managed outwith the Royal Infirmary a lot of the time, in which case the Royal Infirmary may

not have data to submit to UKHCDO.

Q. Over this period, 75 to 85, the Haemophilia Centre in Glasgow was the Royal Infirmary. Is that right?

A. I am afraid -- I suspect so but I really couldn't tell you for sure. I believe so. The children were, I think, managed at Yorkhill at that time.

Q. Yes. Insofar as the Inquiry is interested at looking to see whether patients acquired HIV from commercial or NHS product, if we can go perhaps to the middle of the table more so that we are seeing all of the treatments. I think we can work down.

We have looked at patient number 1, who has the two entries. If we look then at number 2, there is quite a lot of use of PFC product. Then number 4 likewise, quite a lot of PFC product. Number 6, which is the row that we are seeing where there is humanate shown. It is the bottom row on the screen as we now see it. There is a reference to Belfast as well. This is patient number 6. Then number 11 and 12, if you go down to the bottom and then perhaps look along there, treatments.

These patients, we can see that they are shown as having had treatments, in the one case in Manchester and then in the other Basingstoke, but these were all individuals who looked to have had mostly -- or perhaps, in relation to the window in which they became infected,

entirely -- PFC material. So is it your impression having looked at these figure that certainly some of the 12 people in the table look to have been infected by NHS product?

A. Looking at the information in the table, I surmise that patients 5, 8 and 9, during their apparent window period between last negative and first positive test, according to the table, would only have received PFC products.

Q. I have exactly the same three. That, 5, 8 and 9 look to have been treated only with NHS product during the period, which must have been the period that contains the seroconversion. But you perhaps can't take it any further than that. It is simply surmise from the data that you have assembled?

A. Yes.

Q. On the other hand, patient number 3, if we look back up, we can see that that patient looks -- again doing the best one can -- to have been treated far more frequently with commercial product than with PFC product.

A. Correct.

Q. I think we also asked you in correspondence, Dr Tait, about patients 7 and 10. Can we go down to them? Go along, please, along to the right. There is a column which is showing the most likely centre. If we go down, we will be seeing 7 and 10. There has obviously been

a bit of debate between G and Y for both these individuals. I take it these are individuals who may have been infected at either Glasgow Royal Infirmary or Yorkhill?

A. That was the debate that I had with Dr Chalmers who was compiling the Yorkhill list. There were quite lot of patients on the Royal Infirmary treated list who had transferred at between 16 and 18 years of age to the adult hospital, and many of them quite clearly contracted HIV while treated at Yorkhill. There were a few patients -- and this is two of them -- where it was quite difficult to be certain and these are the two that we allocated to Royal.

Q. I don't know if you heard Professor Ludlum earlier?

A. Yes.

Q. Is the pattern of care in Glasgow similar to that in Edinburgh as far as the adult/child split is concerned?

A. I can't speak for the 1984 period but certainly now the adults are managed at the adult hospital and the children are managed at the children's hospital; and I do not see children at the adult hospital. I can't speak for what the treatment was in 1984 but I suspect all treatment of children took place at the children's hospital and all the product for that was supplied to the children's hospital.

Q. For your purposes, when does someone become an adult?
A. Currently, what we tend to do from a pragmatic point of view is transfer adolescents when they leave school. If we did it at 16 and then they leave school at 18 and go to university in Edinburgh, it would have been a move for us at 16 and then a move to Edinburgh at 18.

Most people will move geographically when they leave school. That seems the most logical time to transfer their care. I don't know what happened in 1984.

Q. What is the position in Glasgow about stored samples? We have heard Professor Ludlum describing what's the position in Edinburgh. What's the position in Glasgow?
A. It is difficult for me to answer that question dating back to 1984. From speaking to colleagues, I was led to believe there was very little retrospective testing of samples and therefore little storage of samples. However, it does appear from the HIV data supplied to us from UKHCDO that some stored samples must have been analysed in order to know when the last negative result was.
Q. Yes.
A. I suspect that was in the virology labs at the time it was common practice to store samples and then, when the HIV test became available, they could go back and retrospectively test those. I was unaware of those last

negative results until this information appeared from UKHCDO.

Q. Perhaps we should look down that column, if we might, please. We need to go back along to the left of the table. The date of the last negative test. We can see there dates ranging from May 1981, I think is the earliest, January 1982, May 1982, July 1982 and so on.

We know from our researches, Dr Tait, that testing wasn't possible until the autumn of 1984. Therefore, wherever a figure from 1981 or 1982 appears, that must by definition be some sort of retrospective testing of a stored sample?

A. I would agree.

Q. Yes. I wanted also to just record the numbers of patients cared for at the Glasgow Royal Infirmary centre. Could we look at the preliminary report, [PEN0131454]. It is page 574.

Just the same exercise as I carried out with Professor Ludlum. We can see that for 1980 at Glasgow Royal Infirmary there were 196 patients with haemophilia A and 52 patients with haemophilia B. 1985, 210 with haemophilia A and 56 with haemophilia B. Have you seen these tables before, Dr Tait?

A. I saw them this morning, yes.

Q. All right. I know you are not involved in working at

Yorkhill but just while we are looking at the table, the figures for Yorkhill would be: 1980, 55 patients with haemophilia A and 14 with haemophilia B. 1985, 73 with haemophilia A and 20 with haemophilia B.

Just while we are looking at the preliminary report, can we look also, please, look at 1460? On this page are shown the positive test results, as far as HIV is concerned, for both Glasgow centres: the Royal Hospital for Sick Children, also known as Yorkhill, and Glasgow Royal Infirmary.

The two spreadsheets that we are looking at today give us a total of 33 people. If we look here, we can see that the total for the two centres in this table is 34, which is actually not a big discrepancy at all. But what is very different is the breakdown that only 11 people were shown by UKHCDO as having been infected at Yorkhill, whereas, according to the spreadsheet we now have, that figure has risen to 21. That, I take it, reflects the discussions that you alluded to a moment ago, with your colleague at Yorkhill. Is that correct?

A. Obviously, when we prepared the recent data, I was unaware of these historical figures, and clearly they are different, although the totals are similar. To my mind, this is the first time we have looked at data to try and determine at which centre an individual may have

contracted a virus infection.

The methodology is laid out in the methodology statement. The people were assigned to the centre based on knowing when the first positive test was, and largely the majority who were assigned to Yorkhill had all their treatment at Yorkhill prior to becoming HIV antibody positive. So I'm surprised that this figure of 11 appears. It seems remarkably low.

Q. But there has been obviously -- and this is just common sense -- a corresponding diminution in the Royal Infirmary's figure?

A. Yes. Most children at Yorkhill would transfer to Glasgow Royal when they become adults.

Q. You have referred, Dr Tait, to your methodology. I should, for the record, display your methodology on the screen. Yours is [PEN0120152].

The terms of this, sir, are very similar to the methodologies at which we have already looked, and I should say that the terms of the Yorkhill methodology, which we can look at in a moment, it is word for word the same apart from one or two differences at the bottom. In broad outline, Dr Tait, just to look through it, you too started with data provided by UKHCDO. You added in local information, such as you had; discussions were held with other directors -- this is paragraph 3 --

and then you tried, paragraph 4, to make a judgment as to where, on the balance of probability, infection had occurred.

You then answered a question that the team had posed about partners, and you are not aware in Glasgow of any partners who acquired HIV. Is that correct?

A. Correct.

Q. Then you refer to person number 1, who, as you said a moment ago, is thought to have had a lot of treatment at the Western rather than the Royal. Then in an addendum, you tell us what has happened as recently as last week. You have added in the last negative test, the date of diagnosis and comment on whether the primary or secondary cause of death was HIV/AIDS-related.

Can we look, please, also, at the Yorkhill methodology just to see that it is almost entirely the same. It's [PEN0120155]. Dr Elizabeth Chalmers is the director of the haemophilia centre at Yorkhill. Is that correct?

A. Yes.

Q. Presumably, on a day-to-day basis, the two of you have quite bit of contact. Yes.

If we just look down that, we can see that the text is really the same, apart from the addendum. Dr Chalmers also refers to the inclusion of the last

negative test. She doesn't have the date of diagnosis and then she also says she includes a comment on whether primary or secondary cause of death was HIV or AIDS-related.

To look at the Yorkhill spreadsheet, [PEN0120160], we see that these patients, following the same numbering convention, are numbered with a "Y" prefix in the spreadsheet, of which there are hard copies. It is really best read if all the pages are placed side by side.

Sir, I was just suggesting that actually for those who are following the hard copies, the Yorkhill spreadsheet is better read if the pages are placed side by side, right across the table or the desk, as it were.

We can see that with one exception, all of these children -- I expect they are all boys, are they, Dr Tait?

A. I would imagine so, yes.

Q. All these boys, apart from number 7, were under 16 when they first tested positive for HIV. In very general terms it does look as though the shape of this cluster is that some of the infections are really quite early in the whole AIDS story. Is that a reasonable comment? We can see, for example, person number 2 had a negative test in January 1980 and a positive test in

January 1981. Person number 3, the interval, April 1981 to May 1982. Number 5, June 1981 to October 1981. Indeed, for all of those.

THE CHAIRMAN: We just notice one is January 1980.

MS DUNLOP: Yes. Two are January 1980. Number 13 is a January 1980 as well in the sense of that being the last negative test.

Just looking at that table, does that seem a reasonable comment, Dr Tait?

A. I agree that many of the -- well, some of the patients appear to seroconvert in 1980 or 1981/82.

Q. Yes. If we look along the spreadsheet -- which is easier on the screen than it is for those of us with hard copies -- we see that really far and away the majority of the treatments are with Factorate -- well, Factorate or PFC material -- but I think we have seen from other tables that, certainly in the early years, there was a very high use of Factorate at Yorkhill, although it changed in 1983. But Factorate is a commercial product made by Armour. Is that correct?

A. I believe so.

I think it is difficult from this table -- I mean, it looks as if in 1980 and 1981 many patients received both commercial and PFC Factor VIII.

Q. Certainly we are not given a breakdown of how much of

each --

A. Correct.

Q. Yes. We also note, Dr Tait, from the table, if we go right along to the right-hand side, that the 21 boys in this table, eight are shown as having died. Why is it that in relation to the adult tables, primarily Glasgow Royal Infirmary and Edinburgh, most people have died but there is a much better survival among those who were infected as children? I don't need a long academic answer but in broad outline --

A. I should point out that I'm not an expert in HIV natural history or its management, but one might perceive that this relates to a better prognosis in children who contract HIV compared to older patients who contract HIV. But I'm not an HIV expert, so that could be incorrect.

Q. Right. Well, in general terms are you aware that there is material to support that as a proposition?

A. I could not cite you specific material to that effect.

Q. Right. I was really just meaning: do you have a general understanding that that is so?

A. I'm led to believe that.

Q. Right. Dr Tait, I would like to ask you now some questions about Hepatitis C in patients with haemophilia.

We do have a really enormous spreadsheet on Hepatitis C, sir, but I haven't planned to go through it. It really would be a very lengthy exercise to go through the spreadsheet. I'm not sure the extent to which it is very easily displayed on screen but there are --

THE CHAIRMAN: Perhaps you know what you are going to take from it, when --

MS DUNLOP: Yes.

THE CHAIRMAN: Perhaps to give an example before you go on to that with one question about the HIV data.

Doctor, I think if we look at the 1980 figures for the number of haemophilia A patients in care in Glasgow, we can see that there were 55 at Yorkhill, 196 at Glasgow Royal Infirmary and we know there is 156 at Edinburgh. And the data shows now that 21 of the 55 at Yorkhill became infected with HIV and that's 35 per cent roughly. 12 of the Glasgow Royal Infirmary 196 became infected, about 6 per cent, and 15 per cent in Edinburgh, if we apply the same figures. Do you have any comment on these ratios?

A. In terms of the total numbers of patients, they seem plausible, in that the haemophilia centres in the west of the country tend to deal with a slightly larger catchment population than in the east of the country.

In terms of the percentage of that patient group who became HIV positive, the numbers don't sound -- if you put the west coast figures against the east coast figure, they don't seem dramatically different.

THE CHAIRMAN: But the west coast figures internally, Glasgow Royal Infirmary against Yorkhill; what about them?

A. I can't explain that, no.

THE CHAIRMAN: Well, we are taking down everything you say, doctor, but it won't necessarily be used in evidence against you. Can you hazard an explanation?

Really I need your help and simply to say, "I don't know" or, "I can't work it out" is less than helpful.

A. I really don't know. Were patients at the children's hospital treated more aggressively than the adult hospital in terms of factor replacement therapy? I don't know. Were a lot of the adult patients milder -- these 196, were they milder haemophilia therefore requiring less factor treatment? I don't know.

THE CHAIRMAN: Yes. Perhaps that didn't help terribly much Ms Dunlop.

MS DUNLOP: One thing we can see from the Yorkhill table, because it tells us, is that of the 21, 19 had severe haemophilia A and two had moderate haemophilia A.

Well, we are certainly going to come back to try to find out a little more about the different patterns disclosed by these figures, Dr Tait, and with those who we hope were around at the time or close to being around at the time, rather than yourself.

Are you content, sir, that I look at Hepatitis C as well?

THE CHAIRMAN: Yes.

MS DUNLOP: Rather than looking at the spreadsheet, I wanted to look at two other documents. If we look first of all at [PEN0010057]. This is another methodology but this tells us in step by step stages what it is you have done in your attempt to furnish us with data relating to Hepatitis C. I think, doctor, to assist our understanding we need to go through it pretty slowly. So if you will humour me.

Paragraph 1 we can see that you started again with the data from the UKHCDO database and this was really a pretty comprehensive exercise because you have got the names of all patients registered or treated in Scotland before 1990 going back to about 1970. So pretty nearly the beginning of the database, in fact. You used a working assumption, which was that coagulation factor treatment from 1990 onwards wouldn't have caused Hepatitis C but such treatment before 1988 was almost

uniformly associated with Hepatitis C infection.

You explain that a little bit further on. So we will not take up time with that just now. But you say also in relation to cryoprecipitate:

"Based on previous observations it was known that patients treated with cryo also commonly became infected with HCV."

So patients who had received cryoprecipitate prior to 1990 were also assumed to have contracted HCV. So your starting number was 715?

A. Approximately.

Q. Right. Approximately. But it didn't identify which patients were known to be HCV-positive because that information is not recorded on the database.

A. Correct.

Q. Then paragraph 2 you were trying to identify all patients who have become, or possibly become, infected with HCV due to coagulation component treatment administered by NHS Scotland. You assume that the earliest treatment with factor concentrate or cryoprecipitate or plasma could possibly have transmitted HCV. That is really because of the data from certainly the early 1980s and even perhaps before, that many people acquired non-A non-B hepatitis on first exposure to concentrates. Is that correct?

A. That's correct, although I have to admit, in retrospect it is perhaps not an assumption that's 100 per cent accurate or reliable --

Q. Well --

A. -- as we demonstrated ourselves.

Q. Well, we know because you have told us, that you then did some further work with the data, and this is from paragraph 4, but that you took out patients whose first treatment was outwith Scotland and I think we can understand that because it is consistent with what you have already told us about the likelihood of infection. If a patient's earliest year of treatment had treatment both within and beyond Scotland, you kept them on the list, because you didn't know which came first, as it were?

A. Correct.

Q. That took you down to 544. Then paragraph b; you then took out -- and again we can follow that -- those who had had a Hepatitis C test and had been found to be negative; that was 76 people. So that's taking you down to 468. You tell us that the explanation for those people being HCV-negative, you think, was in most cases that they were infrequently treated patients who had received cryo, although some had received factor concentrate. "A small number" -- I take it it is

a small number of 76, I think is what's meant when you say "a small number":

"... had more severe disease but had received their first treatments between 1987 and 1989."

You explain, I think, you think that the logic of this is that between 1987 and 1989 concentrate which was successfully treated against Hepatitis C was available. Is that correct?

A. Yes.

Q. Yes. But you say on the next page:

"Small amounts of concentrate already distributed may have been used after this time, resulting in a very small number of patients possibly becoming infected in the timeframe July 1987 to 1989."

You also took out eight patients whose sole treatment was non-plasma-based products, for example synthetic haemostatic agents, such as desmopressin or tranexamic acid. So the logic of that is that they couldn't have got Hepatitis C from desmopressin or tranexamic acid. Is that correct?

A. Correct.

Q. That takes you down to 460 but then you say that there were another 13 patients who weren't on the list and that, no doubt by definition, it is impossible to explain that completely but you suggest it might have

been incomplete data collection, errors in transcription or whatever. So you added the 13 people back and were at 473. They were then assigned a centre where they most likely contracted Hepatitis C.

A. Can I maybe just interrupt. I'm not convinced this is the most up-to-date methodology sheet.

Q. Oh.

A. Is there a footer that has a file name?

Q. Not on my copy.

A. It should have that. It should be dated with my signature at the end, 23 February 2011 --

Q. I'm sorry, Dr Tait. We have had so much material in within the past week that I'm plainly working from the wrong one.

A. Up until now the data, I think they are very consistent. It is just when we go into more detail with the numbers, the more up-to-date one is slightly different.

Q. Right. Allow me a moment, please, sir. (Pause)

I'm being told it is [PEN0130016]. Have I missed anything so far, Dr Tait?

A. I believe the text up until this point, up to and including item 5, are more or less identical. It is when we get to item 6, we actually added in 15 rather than 13.

Q. Actually that's very comforting, Dr Tait, because I had

been worried about the differences of two. The spreadsheet now has 475 on it and not 473. And certainly the old methodology only referred to 473. So at least in that respect we have caught up. Your coding is following the same methodology as we have seen in relation to HIV, that you take the first letter of the centre and then patients are given a number. Is that correct?

A. Yes.

Q. We see we have Aberdeen, 1 to 65; Edinburgh, 1 to 122; Inverness, I1 to I24; Dundee, D1 to D34; GRI, G1 to G166 and Glasgow Yorkhill, Y1 to Y64.

You then explain -- this is paragraph 8 -- that details were added to the table regarding severity of bleeding disorder:

"HCV antibody status and whether people were ever HCV PCR positive and current status."

You say the data remain incomplete. You said that during that exercise a further eight cases were found to be Hepatitis C negative. So the 76 figure actually, that we referred to earlier, should have been 84, should it?

A. Correct.

Q. Yes. And an additional 8 had received extensive treatment outwith the UK prior to arriving in Scotland.

The maximum number of 459. At present 314 of these people were either HCV positive or likely had NANB hepatitis.

Then we can see that you then liaised with Health Protection Scotland and you have added some extra pieces of information to the final table based on information you obtained from them, and in paragraph 10 you make a point which I think we have encountered before in relation to the exercise of trying to acquire statistical material, that some patients are dead and therefore there is nothing that can be tested.

You say:

"It's the intention of the Scottish haemophilia centres to, where possible, trace the unknown patients and suggest testing where appropriate."

Would it be the case, Dr Tait, that if a patient was regularly attending a haemophilia centre and was known to have been treated with concentrates in the 1980s or possibly even the 1970s, even if they didn't have any symptoms of liver disease, would they be tested for Hepatitis C? Or was that not a routine practice?

A. I believe so, yes.

Q. So where you say that you would suggest hepatitis CV testing where appropriate, in many cases that would already have been done, you would expect?

A. For patients still attending centres, correct, but many of the unknowns are patients who appear to have been treated at a centre maybe just one year, could have been a visitor and we no longer have any records for them in Scotland. They may have been visitors from England. We need to go through the process of trying to identify those individuals.

Q. I see. Then, if we move on to paragraph 12, you say that the final list is the estimated maximum number of bleeding disorder patients who contracted Hepatitis C from treatment in Scotland.

Then in paragraph 13 you explain the position about partners. We understand from other material, Dr Tait, that the chances of sexual transmission with Hepatitis C are quite low. Is that correct?

A. I believe so, yes.

Q. What do you tell your patients when they ask?

A. I have not been in the position of having to advise patients on this because these patients were all diagnosed before I started in haemophilia but I would quote the evidence, which is that the transmission rate is low, I think in the region of 1 or 2 per cent over many exposures.

Q. I see. You have discovered from conversations with colleagues that there is one person who is known about

who acquired Hepatitis C apparently in a transmission from their partner. Is that correct?

A. I don't know if that's, strictly speaking, true. We know of one partner who is Hepatitis C positive. I don't know if we have speculated that that was through sexual intercourse.

Q. I see. In relation to the questions posed to you by the Inquiry team, against the background of the introduction we have just looked at you have given more specific answers that all you can provide is the Excel spreadsheet detailing treatment details of 459 people, and you say you think that this is a cautious over estimate. Would it be fair, though, to say, doctor, that the minimum number must be around the 295 -- or 293?

A. I think 314. I quoted 314, which represents the numbers that we know who are or have been Hepatitis C antibody positive, plus a small number who were never tested but we have evidence that they clinically suffered an episode of non-A non-B hepatitis.

Q. Right. So when you say that 459 is an over estimate, we do know that the lower level, below which a correct final figure would not drop, is, what, about 320?

A. 314 at the moment.

Q. 314, right. Then question 2 was the number of such

patients suffering different types of bleeding disorder, and we can see that you have broken that down for us -- and we can read it for ourselves. As we would expect, the largest number of people by quite a long way is those with haemophilia A.

Then dates of first diagnosis and first HCV positive sample. You say that the information is not readily available. I think we can understand why not. But you take us back to the assumption about first exposure being in very many cases the occasion on which someone would acquire the virus. Is that correct?

A. I take you back to that assumption but we now know, having excluded 76 plus 8 patients, that that's not entirely accurate; there are some patients who would have been exposed to cryoprecipitate and indeed factor concentrate who did not become Hepatitis C antibody positive. But as a generalisation, it is an approximate rule.

Q. Then, in response to question 4, the types of blood products, you have again given details of that on the spreadsheet -- treatment by year, product type, location -- and you say it is impossible to draw a reliable conclusion as to likely source of Hepatitis C infection. So that means, as between commercial and NHS product, it's impossible to say?

A. I think that's probably what I was alluding to. Is that in section 4?
Q. Yes.
A. Yes, type of product, yes, that's correct.
Q. And the same would be true where a patient had been treated with different kinds of commercial product? It would be difficult, if not impossible, to say which --
A. Yes, unlike the data we have for HIV, we don't have data for last negative test.
Q. Yes.
A. So it is not possible to divine a two-month or six-month or five-year period when the patient would have seroconverted and that's what makes assigning a infection to a particular product impossible in most cases.
Q. Then the last question you were asked was the number of patients who have died and if Hepatitis C was a major contributor to death, and you say that, of the 314 cases, 88 are known to be no longer alive. From the 88, you only have cause of death details for 65 and out of the 65 you say liver disease was a major contributor in 29 out of the 65?
A. That's correct. Could I maybe just clarify the text of paragraph 5 there?
Q. Yes.

A. These data are actually generated after the cross-referencing exercise with Health Protection Scotland. This is following information from them in relation to causes of death. It reads as if these data could be altered following that but in fact these data are after I was given information from Health Protection Scotland.

Q. I see. You then move on to tell us that a further document will follow and I think we have what looks like an abstract of that document. Is that correct?

A. That's correct. This is work that was led by Dr Watson in Aberdeen.

Q. Yes.

A. Which all haemophilia centres in Scotland contributed to, I think, during 2006/2007.

Q. I don't imagine that that has changed in the past couple of weeks.

A. No.

Q. So, with some trepidation, can we look at [PEN0130008]? This is something that you are planning to publish. Is that right?

A. It is an exercise which already is published in this abstract form. It had been the intention, I think, to improve the data and then consider publishing it but getting the extra information to improve the quality of

the data has taken a long time.

Q. Right. So when you say it already is published, where is it published?

A. This was, I think, presented at a British Society of Haematology meeting and most abstracts from these meetings are published in a supplement to the British Journal of Haematology. So I would assume it has been published in that journal.

Q. So if we found that, like all the medical articles that we have looked at, it would be a much fuller text, explaining the exercise, would it?

A. No, that would be the extent of it.

Q. Right. Okay. We are not losing anything by not having the supplement in that case.

Can we perhaps have the questions back, please? That would be [PEN0130016], page 5.

We can see the questions there and -- sorry, I meant to keep the answers: [PEN0130008]. Can I have that beside?

In fact, Dr Tait, it is interesting to us to see in the list of authors that really all the directors in Scotland are there, aren't they?

A. Yes.

Q. Dr Chalmers from Yorkhill, Dr Kerr from Dundee, Professor Lowe from Glasgow, although I think he has

retired, Professor Ludlum from Edinburgh, then yourself, Glasgow, Dr Thomas -- I think she's a paediatric haematologist in Edinburgh. Is that right?

A. Correct.

Q. And Dr Walker we have seen in another context as a haematologist in Glasgow, and Dr Watson from Aberdeen. And all the hospitals are shown there?

A. Yes.

Q. And the Khan who is listed first is an another haematologist?

A. I believe he was a trainee haematologist in Aberdeen and I suspect he did a lot of the number crunching to produce this piece of work.

Q. If we can look at the first part of the abstract, we are told that:

"infection with Hepatitis C was almost universal in UK haemophiliacs treated with concentrates manufactured before 1987."

Then you say you're reporting data from the five Scottish haemophilia centres. It should really be six, should it?

A. Yes, I would agree.

Q. Yes. And then we have 293 but you say that in fact it is now 295. Is that right?

A. I think one has to be careful that these are two

separate exercises.

Q. All right.

A. And this exercise, I believe, did not differentiate patients who may have contracted Hepatitis C in England and those in Scotland.

Q. Yes.

A. So it is difficult to compare the numbers precisely. It is interesting that they are in the same ballpark but the methodology was different.

Q. I'm sorry, you are looking at this group of people, who are people who have acquired Hepatitis C, without so much concern about where that might have happened?

A. Correct.

Q. Right. The Inquiry team had asked you the number of patients who had ever been HCV-infected as a result of coagulation factor, concentrates or cryoprecipitate for the treatment of an inherited bleeding disorder or acquired haemophilia, and it looks then as though that question is answered by the data that we are looking at in the first paragraph, that in this group there were 293 infected, 241 of whom had at some point been PCR-positive and indicating natural clearance in 52. So 52 people managed to get rid of virus themselves out of this group?

A. Yes, and I believe that's consistent with

epidemiological data on other groups of patients exposed to Hepatitis C.

Q. 33 of the 293 also had HIV. Then you tell us about the different genotypes and far and away the highest representation is type 1. Having spent some time already at the Inquiry looking at 1, 2 and 3, we can see that 4 and 5 were also represented, but they look to be a very small representation in Scotland so far. Is that right?

A. That would appear to be the case, yes.

Q. Yes. 63 people didn't have their genotype ascertained. You tell us also that in this group eight people had developed hepatocellular carcinoma but none of that group was infected with HIV.

You asked in question 3 the number of patients who had received anti-HCV monotherapy with alpha interferon and the rate of success of the treatment -- and again this is not particularly news to us -- that for monotherapy you had a 15 per cent response rate for interferon, whereas with combination therapy the rate was 35 to 40 per cent. It is really considerably better for the two drugs than for interferon alone.

A. Yes.

Q. In your cohort the response rate was 14.4 and 35.8, which compares very favourably with 15 per cent in

non-haemophiliac patients and 35 to 40 in such patients who are on combination therapy.

Then you also give us data on liver biopsy, that 34 individuals had had a liver biopsy, five individuals had had transplants and three were still alive. Then, of your 291 group, 85 per cent were still alive in summer 2007. Do you have any information about how that figure has changed since then?

A. No, we have not updated this Scottish exercise since 2007.

Q. Right. And your conclusion, based on the study of this group of people, was that, insofar as natural clearance rate, frequency of genotypes and responses to treatment were concerned, it was very similar to the group of people who don't have haemophilia, who have Hepatitis C?

A. That was the main conclusion, yes.

Q. Where you said, Dr Tait, a further document will follow, is this it?

A. No, I think that refers to perhaps our actual database from which this abstract was compiled, that Dr Watson perhaps was going to submit.

Q. Is this the actual spreadsheet, you mean?

A. There would be a spreadsheet that goes along with this piece of work. I assume it has been submitted. I can't be certain.

Q. Yes. So, in short, Dr Tait, you are giving us information about two different exercises, the exercise which you have carried out as a group of haemophilia centre directors to try and work out how many patients with haemophilia acquired Hepatitis C in Scotland through the treatment with coagulation factors --

A. Just to be pedantic about the wording, it wasn't an exercise to determine how many contracted Hepatitis C from treatment in Scotland, it was to identify how many patients we had in Scotland who were Hepatitis C-positive and how they were treated and their response to treatment.

Q. That was my understanding of the second exercise that we have just been looking at.

A. I would agree, I'm describing the second exercise.

Q. Yes. The first exercise was really in response to the queries from the Inquiry?

A. Correct.

Q. To try to find those who have become or possibly become infected with Hepatitis C due to coagulation component treatment by the NHS in Scotland?

A. Correct.

Q. And the second exercise is really more of an academic exercise, to look at this group of people, who may or

may not in all cases have been infected in Scotland but to see how the disease was progressing, had affected them and various other barometers of Hepatitis C in this cohort. Is that correct? So that is your evidence, to describe the two different exercises?

A. Yes. I think, strictly speaking, the Inquiry did not ask for this second piece of work.

Q. No.

A. But I think it was felt that, since we had this information, you may be interested in it and therefore we provided it.

Q. Yes. Yes, and plainly some of the statistics which you have ascertained are highly relevant to the sort of general picture we are trying to build up of Hepatitis C and its progression.

Thanks very much, Dr Tait.

THE CHAIRMAN: Mr Dawson?

Questions by MR DAWSON

MR DAWSON: I do have a number of questions for this witness, sir. I think in the time available I might be able to deal with questions in relation to HIV and take it in the same order as Ms Dunlop did.

I do have a number of questions and had intended to make reference to the spreadsheet. Obviously, I'll try and keep to a minimum the references to the spreadsheet

but it does seem to me that this is, in relation to HCV, a particularly complicated exercise.

THE CHAIRMAN: Mr Dawson, I will accommodate you as far as is sensible. Would you rather we stopped now and started a quarter of an hour earlier --

MR DAWSON: I think it might be easiest because there are a number of points which I would quite like to clarify with Ms Dunlop before going forward, and that may have the result of minimising the questions that I need to ask --

THE CHAIRMAN: If that means you can't start before 2 o'clock, make sure I know, but we will aim to start a quarter of an hour early and rise now.

MR DAWSON: I'm obliged, sir.

(12.52 pm)

(The short adjournment)

(1.45 pm)

MR DAWSON: If we could start off, Dr Tait, with questions on HIV and then move on to Hepatitis C in the way in which I asked questions by Inquiry counsel earlier. If we could have up on the screen, please, your methodology document for HIV, which I think is [PEN0120152]. Thank you very much.

Could I just ask you a very brief preliminary question: this document is signed by you and relates

predominantly to Glasgow Royal Infirmary. There is another document which relates to Yorkhill that is not signed by you. I know you have been asked questions about both but I just wanted to clarify whether you are actually responsible for both.

A. Dr Chalmers and I discussed the separate tables we were provided by UKHCDO and the relative names that appeared in both tables, and we agreed which ones should be assigned to the Royal and which ones should be assigned to Yorkhill.

In terms of the final tables that were submitted to the Inquiry, I produced the Royal one, Dr Chalmers produced the Yorkhill one. We agreed in common the text of the methodology because we used the same methodology, but in fact the table submitted from Yorkhill was produced by Dr Charmers.

Q. Thank you.

My understanding from the evidence given by Professor Ludlum was that the way in which these tables and methodologies were compiled was that initially you were provided with a list from UKHCDO data of all patients who had received treatment from you at Glasgow Royal Infirmary and then a process of discarding from that list went on. Is that correct?

A. Correct.

Q. Can you explain to me first of all how you went about discarding individuals from that original list on the basis that they were non-Scottish infections, if you like. I think that's described broadly at paragraph 6 of your statement but if you could just explain it to me, I would be very grateful.

A. We had the date of fist positive HIV test and if a patient's treatment -- the table we were provided with from UKHCDO did include all treatments received by that patient, including treatments received by that patient at another centre, potentially outwith Scotland. So if all their treatments prior to the first positive HIV test happened outwith Scotland, then one assumed they were not infected from treatment in Scotland, therefore they were discarded from that table.

Q. Were there patients who might fall into a slightly more complicated category than that?

A. We came across that both in terms of treatment between the Royal and Yorkhill but also between treatment in England and in Scotland, and two of the people who remain on the table fell into that latter category, where it was difficult to be certain where they contracted HIV, whether it was in Scotland or England, and because we didn't know, included in the Scottish list.

There were some where -- to be honest I can't remember whether there were any where it appeared that the vast majority of their treatment was in England with maybe one year's treatment in Scotland, and were they assigned to an infection in England? I can't remember that offhand at the moment. I believe in total, from the Royal Infirmary list, there were perhaps four or five patients that were discarded because it would appear their treatment prior to HIV seropositivity was in England. There were also two patients we know probably contracted HIV outwith the UK.

Q. Right. So am I correct in understanding that if the position was that a patient had been treated entirely outwith Scotland before the date of seropositivity, they would be excluded from any list on the basis they were not Scottish infections?

A. Correct.

Q. And if there were patients who had had a mixture of treatment in Scotland and in England before the date of seropositivity, what happened was that they were kept within Scotland if the majority of their treatment had been in Scotland. Is that correct?

A. It is difficult to know whether the majority of their treatment was -- we know that in one year they may have been treated in Glasgow or in Manchester. We don't know

whether that treatment was one dose or was lots of doses. When I say "majority of treatment", it is difficult actually for me to know if that's one episode, but if a patient is treated on sequential years, let's say in Manchester, and on less frequent years in Glasgow, I interpreted that as the majority of their treatment being outwith Scotland.

THE CHAIRMAN: I had understood that the two-centre problem was dealt with where in the transitional year you are treated in Scotland and in England, for example, and then I had understood that because you couldn't divide them that was treated as a Scottish --

A. That was definitely the case in how I treated Hepatitis C data. With the HIV data, I can't be specific in applying that rule religiously.

THE CHAIRMAN: I see.

A. In other words, there may be some patients who, prior to the seroconversion date, had a lot of treatment in England or a lot of years of treatment in England and maybe one year's treatment in Scotland that I perhaps might have excluded.

THE CHAIRMAN: That may have been, on Mr Dawson's approach, on a sort of majority basis?

A. Yes.

THE CHAIRMAN: I see, right.

MR DAWSON: I wondered whether it might be possible for you to give us an explanation as to whether there is an epidemiological basis for that majority/minority approach, and I ask that question in light of the fact that there was some evidence that we heard from Dr Hay to the effect that there is epidemiological evidence that heavy users of factor concentrates were more likely to contract HIV than those who used smaller amounts of factor concentrate. Was that the rationale behind that approach?

A. Yes. In short, yes. I think it is logical that if you receive lots of treatment, you are more likely to have been exposed to a batch of treatment that could transmit HIV.

Q. That's the position in relation to HIV. For fear of complicating matters too far, if I could just clarify with you that that approach differs from the methodology applied to HCV?

A. Correct.

Q. On the basis that there is an assumption made there that it is not as a result of a majority of treatment that one can work out where and when one was infected, but on the basis of first treatment. Is that correct?

A. That was the methodology we adopted.

Q. So there are different assumptions applied -- but for

good epidemiological reasons -- to the two different infections?

A. Yes, although, as I mentioned earlier, I think the assumption made by Hepatitis C, that it was contracted from the first exposure, is not 100 per cent reliable.

Q. Thank you.

You have made reference to the date of seroconversion and we have looked at the two tables, one for Glasgow Royal Infirmary and one for Yorkhill, and in those tables a number of dates which were very early in the HIV history were identified. Can you confirm for me how it is that you are able, with Glasgow patients, to ascertain the precise date of seroconversion, when, as I understand the position there, a limited amount of retrospective samples are available?

A. I mean, obviously the virology labs did retain some samples. Otherwise, we would not have these last negative results. It would appear that maybe the number of stored samples in virology was not as excessive in Glasgow as it was in Edinburgh, but clearly I was supplied from UKHCDO with these last negative dates and therefore these were used in trying to ascertain where a patient most likely contracted their HIV infection.

Q. Thank you very much.

Could we have up the table for

Glasgow Royal Infirmary, which is attached to the back of that statement, I think. What I was wanting to ask you about was the details appearing in the far right-hand column, which is to do with HIV/AIDS-related cause of death.

My understanding from Professor Ludlum's evidence was that each individual centre director worked out his own approach to this. Is that correct? And I really just wanted to ask you about the terminology that's used there.

A. Okay.

Q. In particular where you say "probably" in connection with patient number 5 and "apparently not" in connection with patient number 1.

A. Yes. The data that I used to fill in that column was really almost wholly provided by Health Protection Scotland which basically provided death certificate codes for these patients. So all the ones where I have answered "yes" had on their death certificate a diagnosis of this cell-mediated immunity or actually HIV/AIDS.

I think the one where I have said "probably" might perhaps constitute an overinterpretation of things by myself. We were told by HPS that this patient had a diagnosis of AIDS, and the death certificate did not

include that diagnosis but did say that the patient died from a pneumonia. I perhaps read too much into that and said that was probably an AIDS-related pneumonia and maybe that should be downscaled to a "possibly". It was just how I interpreted the information on the death certificate.

Q. Right. And there are three -- actually perhaps more than that, as there are some blanks there as well. So there are thee "not knowns", and two blanks, that's ten and 11. I assume that is on the basis that the information was not provided to you by Health Protection Scotland. Is that correct?

A. If I could give you more specific details.

Q. That would be helpful, thank you.

A. So there were five certificate details which included AIDS or cell-mediated immunity. There was the one where the cause of death was pneumonia that we have talked about, two patients are still alive, which leaves four. Two of these four had liver disease cirrhosis as their cause of death and did not mention an AIDS or HIV type illness, and two certificates did not mention either HIV or cirrhosis, and in fact the top one, I believe, perhaps was a haemorrhagic death, and not mentioning any HIV or liver disease causality. I think that's why I firmly labelled that one as "most likely not", or

I can't remember the exact words.

Q. "Apparently not"?

A. "Apparently not", yes.

Q. I think it was Professor Ludlum's position that he had tried to work out, given the sensitivities that applied -- including details of HIV or AIDS on death certificates -- to whether or not in reality, on the basis of the limited information he had, AIDS would likely have been a material contributor to the death. It seems that you have done that to a certain extent. Would that be fair?

A. Not really. Unlike Professor Ludlum, I doubt if I ever met any of these patients. So I did not have that personal knowledge of the patient. And I think that's why I have put down where the death certificate included no details that related to HIV or -- I put "not known", simply because of the explanation that Professor Ludlum provided, that maybe in some patients the death certificates aren't 100 per cent reliable. And that's why I chose to put "not known" rather than "no".

Q. The final thing I wanted to ask you about is just a couple of questions on paragraph 5.

You give us some information there about the issue of partners of haemophilia patients. Can I just ask you first of all why it is that you included that section

within your methodology?
A. In the remit from the Inquiry we were asked to provide a statement to that particular topic.
Q. Right. The position to summarise, as I understand it -- please correct me if I am wrong -- is that in Glasgow there was no policy of contacting partners of individuals who had tested positive. Is that correct?
A. I don't know if that's -- there are obviously confidentiality issues about directly contacting partners.
Q. Indeed.
A. I was not there at the time but my understanding from speaking to some staff who were, was that patients were encouraged to discuss this with their partners and suggest that partners could be tested or should be tested, but the options of where partners could be tested were several and didn't always mean that partners would come to the haemophilia centre to be tested, and that's why I'm rather vague on numbers there. But as I say, myself and my colleagues who were treating patients at the time were not aware of any partners who tested HIV positive.
Q. But obviously, as you express in the last sentence of paragraph 5, with the limited amount of direct contact with partners, it would be difficult to give a precise

or even any kind of estimate on that?

A. Quite correct.

Q. Thank you very much.

Could I move on to the HCV section. I have a number of questions for you in connection with this. I think the methodology document that we should have up is [PEN0130016], please.

As I understand it, what this document attempts to do is to explain the methodology which you have adopted in compiling another document, which is the lengthy spreadsheet to which reference has been made but we have not seen. Is that correct?

A. Yes.

Q. That is an exercise which you have carried out no -- doubt with some assistance from other people -- for the purposes of this Inquiry. Is that right?

A. Yes.

Q. We have looked at some other evidence, in particular an article I think you were involved in compiling, a one page article. That was a separate exercise. Is that correct?

A. Yes.

Q. Is the purpose of this exercise, ie the methodology and the lengthy spreadsheet, to work out figures and information relating to the calculation of numbers of

individuals with bleeding disorders infected in Scotland?

A. Yes. Basically we undertook this exercise primarily because we were asked this information from the Inquiry.

Q. But what you were looking for here is to try and get figures and information relating to people who, as far as you can make out based on certain assumptions and analysis of the data, were infected in Scotland?

A. Correct.

Q. Rather than simply patients who are being treated in Scotland who happen to have been infected without any reference being made to where they were infected?

A. That's very important when comparing numbers from this exercise to numbers generated from other exercises.

Q. Indeed. So if we just focus on this exercise, I would like to take you through the statement and just ask you a few questions about the methodology that was employed.

I think we have already made reference to the assumption which one starts with in connection with Hepatitis C, and that's a different assumption from that with HIV. Perhaps you could explain to me what the assumption is that you start with, with this methodology.

A. I think the assumption based on the knowledge of my more senior colleagues and to an extent some of the

literatures, that patients, particularly in the 1970s and early 1980s, perhaps developed hepatitis often following their first exposure to factor concentrate and sometimes following their first exposure to cryoprecipitate.

We had to have a mechanism of narrowing down the database that we were given -- which I think included 10,500 rows to start with -- to try and get to the information that was requested by the Inquiry. The assumption, I think, has been that Hepatitis C has perhaps been in the population for many years, you know, perhaps even preceding 1970, whereas we know HIV only appeared in the population at a later stage. And I think that's one of the reasons we could adopt a different initial assumption.

Q. There are a number of questions I have arising out of that. The first is, is that assumption one which is generally applied only in relation to the first treatment with factor concentrates or is it an assumption which can safely be applied in connection with any treatment for blood disorders?

A. I'm not quite sure.

Q. Perhaps I could rephrase the question. My understanding of the assumption is that you are assuming that someone will have contracted Hepatitis C on the basis of having

been treated within a certain infectivity window, that's between 1970 and 1989, as a result of having had a treatment which one assumes carried the infection. Is that correct so far?

A. Yes, but that's basically the assumption we start with, yes.

Q. There are within the spreadsheet -- and I'm trying not to go to the spreadsheet in too much detail -- a number of people who obviously have ended up in your final reckoning but who have never received any factor concentrate treatment. I'm asking you how reliable that assumption is for people who have not received factor concentrate treatment. So if, for example, a patient has received only cryoprecipitate, can one assume, as you have done for this exercise, as I understand it, that that person will have been infected by the first treatment or not?

A. That was the assumption we made at the beginning of the methodology. It was quite clear from the data that we find patients who have been treated with cryoprecipitate and are Hepatitis C antibody negative. So as I have alluded to earlier, the initial assumption is not 100 per cent accurate.

Q. I should say that I'm not in any way trying to be critical, doctor, I'm just trying to understand the

assumptions that have been applied, and obviously one has to apply some assumptions but the position is that that assumption has been applied to every patient who appears on the list. There is an assumption that first treatment in the infectivity window was the infecting treatment.

A. Yes, in terms of identifying people who may have been infected in Scotland.

Q. Indeed.

A. If that assumption is wrong, we may have a patient whose first treatment was in England and whose subsequent treatment was all in Scotland and they would have been excluded from the list.

Q. Well, indeed. We will get on to that in a moment, I think, when we talk about the way in which the numbers have been calculated. But you have mentioned on more than one occasion that that assumption is not 100 per cent. Is the assumption less safe in relation to patients who have not received factor concentrates than it would be in relation to those who have?

A. I would reckon so, yes. I think the risk of getting Hepatitis C from your first exposure to cryoprecipitate is probably less than to your first exposure of coagulation factor concentrate.

Q. I assume that is based on the way in which the products

are created and the pooling which goes on with factor concentrates that doesn't go on with cryoprecipitates.

A. A treatment with cryoprecipitate might mean exposure to ten or 20 donors, whereas an exposure to coagulation factor concentrate may mean exposure to a thousand donors. SNBTS will tell you the numbers that went into different batches, but that's the sort of scale of difference, I believe.

Q. I have made reference to a phrase which I'm not sure whether you use or not or whether it is one that I just use for my own reference: the infectivity window. The period that you examined here is between 1970 and 1989. Could you tell me why it is that the period starts in 1970 and why it finishes in 1989?

A. Primarily because that's the period of the database that we were provided by UKHCDO covers.

Q. That would be for the start date but presumably it goes beyond 1989?

A. The database I was provided with ran to 1988 and did not include treatment in 1989.

Q. So the infectivity window is actually 1970 to 1988; is that correct?

A. That's the material I had to work with.

Q. Yes. That was the timeframe for material you had?

A. Yes.

Q. Was there any reason why those dates were selected?
A. I really don't know. The table arrived with me. I didn't ask for it. It was a table provided by UKHCDO. I think there must be a perception -- I think perhaps correctly -- that after 1988 there were perhaps no patients in the UK who developed Hepatitis C.
Q. Is that because of the advent of heat treatment?
A. I suspect so, yes.
Q. I think your position was that the start date of 1970 was because that's just when the data starts. Is that correct?
A. Yes.
Q. I think there has been evidence that perhaps the computerised system started in 1968 but would it be fair to say that there may be people who were infected before 1970?
A. Yes.
Q. Thank you. Could I just ask you one general question before we get into the specifics of it. There is reference later in this document to the fact that a further document will follow and you have been asked about that already. Am I correct in understanding that the compilation of this very complex database, which is embodied within the spreadsheet, is an ongoing process?
A. You are asking a question not about the document to

follow but about the database --

Q. I wanted to know whether we can exact more information than that which we have already, or not?

A. So the document which was to follow, which I believe Dr Watson has submitted, certainly to the CLO -- I hope it has gone to the Inquiry -- was a database produced in 2007 for the purpose of that exercise. And that database has not been updated since then.

The large database which we have talked about, first of all starting with the data provided by UKHCDO, is very useful because one of the things as clinicians we feel empowered to do is to identify people who may have received or who have received plasma or factor concentrate on maybe one or two occasions but who are lost to haemophilia centres and may well have Hepatitis C that is undiagnosed. And it is our intention to try and identify such individuals, offer testing and if necessary, then offer treatment.

Q. Okay. I think reference to people who fall into that category was made by Dr Hay during the course of his evidence. So that the starting figure you have is reliant upon what's within the UKHCDO data?

A. Quite correct.

Q. That, for various reasons, may not be a complete picture. Is that correct?

A. Yes, and it is evidenced by the fact that we identified within Scotland 15 patients not on that list that we believe most likely contracted Hepatitis C from treatment in Scotland.

Q. Could we just flip over to the next page, 0017, please. You can see there, at paragraph 6, that you talk about a number of 15 patients who were not on the UKHCDO list but came to your attention from the haemophilia centres. These are the ones that you have just referred to. Is that correct?

A. Yes.

Q. Can you say with any confidence as to whether there will be any more such patients arising out of the information held at the haemophilia centres or are you quite satisfied that that has been a thorough search?

A. I suspect that number would not increase. Or if it did, it might be one or two. These are people that we know are Hepatitis C-positive. So I would not expect that number to increase further.

Q. Because you have said subsequently in this document that the final number you have produced, you consider to be a maximum number, and therefore one has to exclude any routes by which that number might increase and this, of course, could be such a route but your position is you are satisfied there will be no one else who comes out of

that route?

A. Yes.

Q. Thank you very much.

Could we just turn back to the first page, which is 0016, please? The process that you went through after the list was provided to you on the basis of the assumption which is identified at paragraph 3, is identified in the subsequent paragraphs, and I think in paragraph 4 we see the process you went through, the thought process, of discarding a number of people from the total number with which you started, which I think was 750?

A. That was an approximate figure, yes.

Q. So you start with roughly 715 and you work through it applying a certain methodology to discard a number from the list?

A. Hm-mm.

Q. At 4(a) could you just describe who it is that you are discarding in that paragraph?

A. So these are looking down the list of patients and looking at their first treatment episode or their first year of treatment. If that whole first year of treatment was treatment outwith Scotland, they were discarded at that point. So this was a process of eliminating people who subsequently were treated in

Scotland but their first year of treatment was outwith Scotland.

Q. Is the position that the list of 715 which you received included everyone who had received any treatment as far as UKHCDO was aware in Scotland within the relevant period?

A. That's my understanding.

Q. Right. So that would mean, I think, that the possibility of someone being within the English system and then having to be discarded to Scotland in this way would be excluded. Is that correct?

A. I need to think that one through.

THE CHAIRMAN: I didn't follow it either, Mr Dawson.

MR DAWSON: I think the position is that if you start with a list of everyone who has ever received treatment in Scotland, that's 715, and you work out on the basis of this assumption relating to first treatment who should be on the English list effectively, what I'm interested in exploring is whether there could be anyone that would appear on an original English list that would have to be discarded, if you like, into Scotland. But I think that that possibility is excluded on the basis that all Scottish-treated individuals are in front of you at the beginning.

A. Correct.

Q. Thank you.
A. I would agree with that.
Q. In 4(b) who are you excluding there?
A. Okay. So once we had whittled down the list to 544, that reduced list was shared with the haemophilia centres in Scotland and they were able to look through it and identify individuals they already knew had been tested for Hepatitis C and found to be negative or positive, and that process identified 76 patients who had been tested and found to be negative.
Q. Right. Something I would like to ask you about in more detail is the issue of positive or negative testing?
A. Okay.
Q. There is within the database or the spreadsheet which has been provided, a column in which is indicated usually "yes" or "no" as to whether an individual has tested antibody positive for HCV. On my assessment every single person in the list had tested antibody positive. Is that your recollection?
A. In the final submitted table?
Q. Yes.
A. No. That's not correct because there is a large number that we don't know Hepatitis C antibody results for. So they are probably down as "NK".
Q. So for those who are known, is the position as you

recall that they are all antibody positive?
A. If it says "yes" in that that column we know they have had a positive Hepatitis C antibody test, yes.
Q. There is also a column which appears beside that in relation to PCR testing, and again there are a large number in relation to that, I think, which are unknown, but there are a number of no's in that as well. What I'm trying to understand is there was obviously, at this initial stage, some exclusion on the basis of people who had tested negative for Hepatitis C. Is that correct?
A. Based on an antibody result.
Q. Based on an antibody result, okay. So on that assessment, as I understand it, everyone who went into the list or whoever is not discarded at this stage, should have been antibody positive. Is that right?
A. Or not known.
Q. Or not known. The testing which is applied both at this stage and at a later statement in relation to PCR testing, do you know when the testing on any given individual was done?
A. For some patients, from haemophilia records at the centres we had dates of positive testing, but most of the dates to testing actually were generated from the Health Protection Scotland cross-referencing exercise, where they obviously had a database that included

details from a variety of virology labs in Scotland. So many of the dates of positive antibody test actually are data provided by HPS.

Q. The reason why I asked that question is, as I understand it, information about testing is being looked into in order to try and provide a more reliable database as to whether or not individuals have or have not been infected with Hepatitis C. Is that correct?

A. Yes, obviously if one has a positive antibody test, one can be sure that a patient has been exposed to Hepatitis C.

Q. Indeed. But the purpose of carrying out this exercise at all in relation to HCV is to try and provide a more reliable guide as to whether people have contracted Hepatitis C or not, rather than simply assuming that they have?

A. Yes.

Q. So we start off with assumptions and the exercise had either been carried out by this stage or was carried out later and was to try to get at who had actually been infected?

A. Correct.

Q. Can you tell me whether or not the result of that exercise will tell us whether or not any individual on the list has ever been infected with Hepatitis C or

whether it would simply tell you at the date of the testing whether they are PCR-positive?

A. I'm sorry, I don't understand the question.

Q. What I'm trying to get at here is: is it possible for someone to be tested and be PCR negative but actually have had Hepatitis C before the date of the test?

A. Yes. We know from data that about 15 to 20 per cent of patients who are exposed to Hepatitis C will presumably mount an antibody response but ultimately clear the virus, so at a later date will be PCR negative.

Q. So I think your position was that the purpose of this exercise in general was to find out those people who fell within your cohort, if you like, who had ever been infected with Hepatitis C. Is that correct?

A. Yes. So in that sense the antibody test is the most important one and the PCR result for this particular exercise is perhaps irrelevant.

Q. So we can't necessarily draw any strong conclusions from PCR-positivity or negativity other than that was the position at the date of the test?

A. Correct.

Q. For example, as I understand it, the position may be that if somebody has undergone interferon treatment, that they might, obviously at the beginning of the process have been PCR positive but be PCR negative by

the end of it?
A. That would be a good outcome, yes.
Q. So therefore, the date of the testing would be important in order to ascertain how useful the data actually is. Is that correct?
A. When it comes to PCR data, yes.
Q. Thank you very much. Moving on through the methodology, then we get to section C, and again you discard a number of patients. Who are you discarding in section C?
A. So the UKHCDO database recorded any treatment that was given to a patient and obviously submitted to them, and some patients were treated with non-plasma-based agents with enhanced haemostasis, and the two main ones there, desmopressin, sometimes referred to as DDAVP, and also tranexamic acid, and there were a few patients on the database provided by UKHCDO whose only ever treatment was those agents and therefore, as far as I could tell, had never been exposed to plasma products or plasma. And therefore they should not have contracted Hepatitis C.
Q. Right. So those people -- I think there are eight of those --
A. Yes, A small number --
Q. -- they should never appear on the spreadsheet at all. Is that correct?

A. The spreadsheet submitted to the Inquiry, they should have been deleted, yes.
Q. So if there were any individuals on the list who had only been treated with these treatments, that would be a mistake. Is that right?
A. Yes.
Q. That process, I think, gives you a total of 475. That, I think, correlates with the final number reference within the database that we currently have.
A. After the eight were removed, who hadn't received any plasma treatments, I added in 15; that took us up to 475.
Q. So we have a base figure of 475. There are then deducted from that, as is described in paragraph 8, a further 16. Is that correct?
A. Correct, yes.
Q. Can you tell me why those 16 were deducted?
A. Maybe just to put this into context, this exercise up until the end of item 7, was conducted over a very short period of time, primarily because we believed there was a deadline, for want of a better word, for submitting information to the Inquiry by around about 2 or 3 February.

So we did submit what data we had at the time. We subsequently then continued to work on the data looking

at our own records that we still held in haemophilia centres, and some centres were able to identify individuals in the table who were perhaps in the not known category and in fact the centre had discovered results which showed they were Hepatitis C negative; or in the case of another eight of them the centre was able to identify that their Hepatitis C was undoubtedly contracted outwith Scotland or indeed outwith the UK, and I think eight fell into each of those two categories.

Q. So the first category would be HCV negative. So antibody negative then?

A. Yes.

Q. So that's consistent with what you said earlier about the importance of that particular classification, and secondly there were a number that had been treated outside the UK. You said another eight?

A. Yes.

Q. They should probably have been excluded at an earlier stage, is that right?

A. The trouble is the database from UKHCDO was just treatment within the UK. So at that stage we knew they had received treatment in the UK before the end of 1988. So at the earlier stage they should have been retained in the database. It was only when the centre then

looked at their records in detail, they showed that in fact the patients had received a lot of treatment or all their treatment outwith the UK before coming to the UK.

None of those eight were from my centre so I can't give you specific details about them.

Q. Just to understand why they have been deducted. Again, without going to it for logistical reasons, the database we have appears, if one looks at the last page, to have 475 entries. It actually has 16 less than that on the basis that the original numbers have been retained for each individual but 16 have been deleted.

A. Correct.

Q. These are the 16 identified in paragraph 8?

A. Correct.

Q. Thank you.

A. So the other implication of that is in paragraph 7 -- where we have Aberdeen numbers, A1 to 65, Glasgow, 1 to 166 -- those total numbers of 166 in Glasgow in fact are correct but let's say the Edinburgh number of 122 is in fact now 112, but we had already assigned numbers to individual patients so I didn't want to then change them.

Q. It is just that if one were to flick to the last page and look at the last number, it is 475 but there are not 475 on the list, there are 459; is that right?

A. Correct.
Q. If I could just skip over to page number 5, please, which is 0020, and I'm going to come back to paragraph 5 there but I would like to take you just to the section at the bottom. This is the section entitled "Scottish haemophilia directors 2007 review of HCV and its treatment in Scotland". You will see that there is a reference there to "a further document will follow" and we have discussed that already. Is it correct to say that this section identifies a number of additional questions, most of which are not answered by the database that has been provided to this point?
A. It's asking different questions.
Q. Yes. I mean, really what I'm getting at is: are you able to provide answers to these interesting questions?
A. These ones listed 1 to 5 on this page?
Q. Yes.
A. That was the intention of this exercise undertaken in 2006/2007, to try and answer those questions, and the data provided some answers in those respects, I think.
Q. Well, if we just work through the questions. In relation to question number 1, these are numbers of patients, and I think that's really what we have been discussing, and there is an answer given to that in the data that we have.

Numbers 2 to 4 relate to what one might describe as the progression of Hepatitis C within this cohort. Number 2 relates to numbers for whom there has been spontaneous clearance. Number 3, in relation to those who have received monotherapy. Number 4, in relation to those who have received anti-HCV combination therapy. I'm not aware of any such information having been provided to the Inquiry on these questions. Is that a correct statement of fact?

A. The abstract which follows provides some information and the table that's alluded to that is to follow is actually a database with specific details on the 293 patients in this study.

Q. As we said earlier, those patients are really being looked at for slightly different purposes and obviously 293 is not the number that you have identified in this.

A. No. This is a separate exercise taken many years ago with the remits described there, with the intention of answering these questions there, and it is an entirely separate exercise. Maybe it would have been easier if we hadn't submitted this to the Inquiry; it might have caused less confusion.

Q. For my own part I have to say that these are a number of very interesting questions, and it would be very useful to have answers to them. For example, in connection

with number 2, certain evidence was given about spontaneous clearance rates in the generality by Dr Hay when he gave his evidence. I think in response to a question by the chairman, he was not in a position to provide specific data for this cohort, if you like. Is such information about spontaneous clearance available?

A. I think from this particular study now, I don't think PCR data was available in all patients but for those it was on, I think the abstracts suggest that -- was it 17 per cent maybe? 17.7 per cent remitted spontaneously?

Q. That was from your other paper. Is that right?

A. That was from this 2007 exercise.

Q. Yes. Okay. In relation to the other two again, information is provided in the separate paper but in relation to the numbers that you have identified through this exercise, you don't have an answer to those questions. Is that right?

A. When you say this exercise.

Q. I mean the exercise you have done for the Inquiry we are discussing today.

A. No, correct.

Q. Could that be done?

A. It was not -- I mean, the recent exercise was purely undertaken to provide information for the Inquiry and

that was not a question posed to us. As you quite rightly pointed out, we have included a column that says "PCR result". So you know, if that is completed as best can be, we would be in a position to give an estimate of -- well, now, we can't because you are quite right in pointing out that when it says "PCR negative" we don't know whether that's prior to or following antiviral therapy.

Q. What I'm trying to get at is whether these questions, which seems to me to be very relevant to the Inquiry's remit, can be answered. I'm not trying in any way to be critical of the fact that they have not been answered to this point but I'm just trying to get to whether or not they could be. If it is impossible, then please say so.

A. I mean, to an extent the 2007 exercise has partly answered this to the best of its ability. If we extended the data collection which we have recently undertaken for the benefit of the Inquiry, then it may be possible to come to another answer, but I doubt whether it will be much different from the one given from the 2007 exercise.

Q. Okay. So your position is that you think that the percentages that are applied to these various things in that paper could legitimately be transposed to be used here even though we don't have precise data?

A. In general, yes. We know that this cohort of 293 are not the same cohort in the current exercise, but I think in general there is a lot of overlap and one could assume that those figures would be a reasonable approximation.

Q. Thank you.

There are a number of further questions about genotype, liver biopsy, hepatocellular carcinoma, liver transplant and number 9 I will come to in a moment, but would the position be the same in connection with those questions, that information is not available for this cohort but any data given in the other paper about the 293 patients might be useful?

A. I think that's reasonable. I think the overlap in the two cohorts is considerable but not complete.

Q. Thank you.

I would like to ask you some questions -- if we could jump back to the previous page, 0020 -- in connection with what I think is information you have provided to this Inquiry in connection with that last topic of deaths. You are asked a question: the number of such patients who have died and if HCV was a major contributor to death, and you say there that:

"To date we have not been able to establish with certainty, the current status alive or deceased for many

patients on the list."

Again, I'll ask you the same question I have asked you: is that an ongoing exercise?

A. Yes.

Q. So a fuller attempt at answering in relation to this cohort will be forthcoming in due course?

A. The driver for this is identifying people who may have contracted Hepatitis C and be unaware of it, and as clinicians I think we are keen to try and identify these people and if they are alive offer them testing. The trouble is that many of the not knowns on the database are people who may be treated once or twice or were perhaps visitors to Scotland and tracing them will actually be very difficult, particularly for centres who do not have health records for patients who were treated before 1995.

Q. Right. So you say in the final few lines:

"Thus, at present we can only determine that of 314 cases known to be HCV positive or likely to have had non-A non-B hepatitis, 88 are known to be no longer alive, and of these 88 liver disease was a major contributor to death in 29 out of the 65 for which we currently have cause of death details."

Obviously you are analysing there only 314. Is that correct?

A. I could find that analysis to 314 that we are fairly content were either Hepatitis C-positive or had a non-A non-B hepatitis clinical episode.
Q. So the exercise has been done in relation to 314 out of the 459. Could the exercise be done for all the 459?
A. Yes.
Q. In relation to the question of whether Hepatitis C infection was a major contributor to the death, you say there, in 29 of the 65 for which we currently have cause of death details -- I suppose I should ask you first of all what you mean by HCV being a major contributor to the death?
A. So again, cause of death data here was largely contributed to by information provided by Health Protection Scotland who provided death certificate information, and basically if liver disease appeared as primary or secondary cause of death, this then we answered that column "yes". So that was the criteria used.
Q. So no further probing, if you like, into any individual circumstances was done other than looking at the Health Protection Scotland data?
A. Correct.
Q. And as I understand it, that data basically comes from the death certificates; is that right?

A. Yes.
Q. Okay, thank you.
A. There may have been some data that came across with UKHCDO. I think they recently provided us with a list of patients in whom they believed the cause of death was liver disease related.
Q. Right. Okay, thank you.
If I could ask you just a few final questions and that's perhaps a combination of the two capacities in which you have come, both in relation to HIV and HCV. Is it possible to provide statistics in connection with the number of people who fall within this cohort, who are co-infected?
A. I think we have not gathered that information but it would be possible. Basically we have two lists now, one for HIV and one for Hepatitis C, and although you have been provided with non-identifiable data, each haemophilia centre has identifiable data so it would be possible to provide that information.
Q. I think the position is that the data is not anonymised within UKHCDO to the extent that there are numbers attached to them which can be used to work that answer out. Is that correct?
A. Each centre could, I think, relatively easily give you that answer.

Q. Would I be correct in the following statement: given the assumptions that are applied in relation to HIV and in relation to Hepatitis C, would it be fair to say, as we assume -- that if one has been exposed to blood treatment within a certain infectivity window, one will have contracted Hepatitis C -- that most of the people with HIV will have Hepatitis C as well?

A. I think that's a very reasonable assumption.

Q. Right.

A. As we know, unfortunately some of the HIV patients would have died before Hepatitis C testing became available but I think it's a fairly reasonable assumption that virtually all HIV positive patients would also have been Hepatitis C-positive.

Q. Right. That brings with it certain medical problems, as we discussed with Professor Ludlum earlier, given the immuno-suppressant qualities of HIV?

A. Yes.

Q. And hence we find a number of people who are co-infected having as a cause of death liver failure?

A. Yes.

Q. Thank you very much indeed. No further questions.

THE CHAIRMAN: Dr Tait, these ongoing exercises, that could deal with all Mr Dawson's questions as well as your own; is there a timescale attached to them?

A. I think it could well be a lifetime's work.
THE CHAIRMAN: That may apply to me sooner than to others and I assure you I don't want the Inquiry to go on for ever. Can you do better.
A. I think our attention at a centre level is to work through the not knowns over the coming year. I already know that the centre in Dundee has no historical records virtually. So they are left with a reasonable number of not knowns that they will never be able to answer the question on.

Glasgow does have rooms full of notes. So in time, looking through those, we may be able to come to a view as to whether a patient had a episode of hepatitis or not. It is a lot of work.
THE CHAIRMAN: It sounds as if you need a research assistant with a six-month grant and a pay on delivery obligation.
A. My driver is very much from a clinical point of view, but I appreciate that the data would be valuable to the Inquiry.
THE CHAIRMAN: Thank you very much.

Any follow-up questions from you?
MS DUNLOP: No, thank you, sir.
THE CHAIRMAN: That's all, thank you very much, doctor.

I'm sorry. Oh dear, wishful thinking on my part.

Mr Anderson?

MR ANDERSON: Your wish may be fulfilled, sir. I have no questions.

MR SHELDON: And I have no questions, sir.

THE CHAIRMAN: Doubly fulfilled then. Thank you very much.

MS DUNLOP: Sir, there are no further witnesses who are to be called during block 1 of our hearings.

There have been one or two loose ends along the way, more statistics are coming from Professor Goldberg and Health Protection Scotland, also from UKHCDO, who, as we heard from Dr Hay, are engaged in trying to reconcile information that they have received back from the Scottish haemophilia centre directors who have in turn been working on the figures originally supplied by UKHCDO. So some further information is no doubt in the pipeline on these areas.

I should also draw to your attention, sir, that in relation to the death of the Reverend David Black, there are two further matters. The first is that Professor Lowe has sought to clarify certain issues which arose in connection with Mrs Black's statement. He has provided a letter which I'm not going to read out. Its reference is [PEN0120162]. Perhaps we could have a brief look at it.

In short, Professor Lowe has clarified firstly when he became involved as a haemophilia consultant in caring

for Mr Black. There may have been some confusion given a reference in the statement to the 1960s. He has also charted a meeting in 1987 and there was some discussion with Mr Black about the hepatitis from which he was then suffering and over the page he has also provided further details of a meeting with Mr and Mrs Black in January 1994. That's the first matter which I should draw to your attention, sir.

THE CHAIRMAN: Has Mr Di Rollo seen this?

MS DUNLOP: Mr Di Rollo has seen this.

THE CHAIRMAN: Are you content that I have regard to this information?

MR DI ROLLO: Yes, I'm content that you have regard to the information. I would obviously wish an opportunity of just conferring with the relevant core participant but I suspect nothing much will arise as a result.

THE CHAIRMAN: We will reserve an opportunity for you to raise anything that you wish to raise at a later stage.

MR DI ROLLO: Thank you.

THE CHAIRMAN: Yes, Ms Dunlop?

MS DUNLOP: The other thing, sir, is that Mr Black's son has raised a point which he would wish to draw to the attention of the Inquiry, in essence to your attention, sir.

It is in relation to the evidence which was given

about Mr Black and his family being unaware in 1996 that the explanted liver was cancerous. You will recall, sir, that there was quite a bit of evidence about the possibility of antiviral therapy after the transplant in 1996 and the effect, if any, which that might have had on either recurrence -- if what developed in 2002/2003 was recurrence -- or on the development of a new tumour.

The point that Mr Black would like to make is that he thinks that if his father had known that the explanted liver was cancerous, that would have coloured his whole response to the question of antiviral therapy, whether seen as something taken to prevent a recurrence or something taken in the knowledge that hepatitis had caused cancer once and then in theory could do so again.

So he simply wants to make that point: that the knowledge could have affected the decisions which his father made.

THE CHAIRMAN: The decisions were negative --

MS DUNLOP: Yes.

THE CHAIRMAN: -- and the implication is that his father might have reviewed that and might indeed have been prepared to have treatment.

MS DUNLOP: Yes. I accept, sir, that this is all speculation but it does come from a member of the family who is perhaps much better placed to offer insight, and

the speculation is that it could have altered the whole attitude to the suggestion of antiviral therapy.

THE CHAIRMAN: Mr Di Rollo on that. Again, I take it that you would have no objection to my having regard to that information?

MR DI ROLLO: Not at all.

THE CHAIRMAN: Yes.

MS DUNLOP: That, sir, concludes block 1. It's our intention to resume hearings, to begin block 2, on 26 April. Our first witness will be addressing topic B2, that is Dr Mark Winter, who is a retired haemophilia clinician. It is also our intention on that day to watch the two episodes of World in Action which have already been referred to. If I can simply offer that as a bit of a preview of what lies ahead.

THE CHAIRMAN: I suspect it is the thin edge of a very substantial wedge, but we will see.

Well, ladies and gentlemen, we are going to break at that stage and come back, and I hope you all come back refreshed.

(2.52 pm)

(The Inquiry adjourned until Tuesday 26 April 2011 at 9.30 am)