PATIENT INTEREST CORE PARTICIPANTS - SUBMISSIONS FOR THE C2 TOPIC

Ambit of the topic

C2) The non-introduction in Scotland of surrogate testing for Non-A Non-B Hepatitis

Decision making systems in Scotland regarding surrogate testing for NANB hepatitis

1. The responsibility of (a) the Scottish National Blood Transfusion Service and (b) the government in Scotland for the decision making process in connection with the introduction of routine surrogate testing for markers for NANB hepatitis in Scotland

Evidence was heard by the Inquiry regarding the respective roles of the SNBTS and the SHHD in reaching decisions about the possible introduction of surrogate testing. The possibility of surrogate testing appears to have been considered in the United Kingdom from the early 1980s until the introduction of routine anti-HCV testing in 1991. Over this period the SNBTS was controlled and operated by the directors of each of the national blood transfusion centres, Professor Cash (the national medical director) and latterly also by a general manager (Mr David Macintosh). The SHHD was headed by the health minister within the Scottish Office. The department was run by both medical and administrative staff. The evidence heard by the Inquiry made it clear that the ultimate decision for matters such as the introduction of surrogate testing would require to have been taken by the SHHD through the medical and non-medical staff ultimately making a recommendation to the health minister and that recommendation being acted upon by the minister. The minister would be dependent on receiving "strong, clear, consistent and well argued advice".[1] The implementation of surrogate testing would have required funding to be found and allocated specifically for the purpose by the SHHD.[2] Funding was allocated for measures such as this in response to the submission by SNBTS of financial requests in the form of Public Expenditure Surveys ("PES") which prospectively nominated the purposes for which funding was to be used in the overall SNBTS budget. The amount of money which would have been required to implement routine surrogate testing for HCV markers

[1] Transcript for 15/11/11 (day 63); 133 (9 to 10) (Dr McClelland)
[2] Transcript for 15/11/11 (day 63); 132 (14 to 22) (Dr McClelland)

in Scotland could not have been found from the general SNBTS budget without such a specific allocation for this purpose. The PES documents to which the Inquiry has access make it clear that applications were made for funding to be allocated for this purpose in the budgets for the years commencing April 1987 and April 1988 (and subsequently). Funding could have been made available for the introduction of surrogate testing, had it been recommended and adopted in principle. In his statement to the Inquiry on this subject, Mr Duncan Macniven pointed that the reasons why surrogate testing was not introduced were "largely non-financial".[3] The reasons for the failure to introduce surrogate testing were, therefore, not rooted in the absence of funds but in the perception that it was not a worthwhile step, as is discussed in more detail below.

As far as medical expertise was concerned, there were medically qualified employees within the SHHD who would give advice to the administrative staff on the medical aspects of proposals such as surrogate testing. Ultimately it would be for the administrative officers to make recommendations to the minister, either independently of or as part of a funding allocation by way of the PES system. As far as the medical staff within SHHD was concerned, medical advice was available from the chief medical officer, deputy chief medical officers and principal medical officers. Although certain of these individuals had responsibility for dealing with transfusion matters (including the possibility of introducing surrogate testing) none of the medical staff at SHHD over this period had any specific experience of or training in transfusion matters. They were generalists and expected to deal with advising on matters arising across a number of different disciplines.[4] The experienced, internationally renowned experts in transfusion in Scotland were to be found within the SNBTS including Professor Cash, Dr McClelland and Dr Mitchell.

Knowledge about NANB hepatitis and surrogate testing

2. Awareness of the potential severity of NANB hepatitis from 1985 to the point at which anti HCV testing was introduced in Scotland in 1991

Two aspects require to be considered. The first is the likelihood that recipients of blood and blood products would contract NANB hepatitis on transfusion. The second is the known severity of the disease.

[3] PEN.017.2053 @ 2054
[4] Transcript for 21/11/11 (day 66); 94 (15 to 24) (Dr Iain Macdonald)

The likelihood of transmission

There was ample evidence to suggest a significant risk of transmission as a result of receiving blood or blood products in Scotland in the 1980s. This should have been clear to those responsible for deciding whether to introduce surrogate testing

As far as the recipients of blood products were concerned, it should have been clearly understood that NANB hepatitis would be highly likely to be transmitted on first infusion of a factor concentrate. The material available and the opinions held on this matter are covered in some detail in our submission relating to the C3A topic. We rely on those submissions for the state of knowledge which should have informed decision making relating to surrogate testing as well. However, we would point out that the introduction of surrogate testing would have been unlikely to have had much impact on patients with bleeding disorders whose treatment was or had been with concentrates. As is covered in detail in our submission in the C3A section, patients who had been previously treated with concentrates would be likely to have been infected with hepatitis C already. Also, in consideration of the period after April 1987 the SNBTS factor concentrates were heat treated so as to inactivate the hepatitis C virus. This viral inactivation process had a far greater effect on minimising the risk of transmission of hepatitis C to patients with bleeding disorders than surrogate testing would have been likely to have achieved. Further (as is covered in more detail below) the inherently non-specific nature of surrogate testing is unlikely, it would appear, to have reduced the prevalence of HCV in the donor pool used to make concentrates sufficiently to make it likely that patients treated with concentrates (made from large donor pools) would have escaped infection. This was Dr McClelland's evidence.[5]

In the C3A section, we have pointed to the evidence which suggests that even a patient treated with cryoprecipitate (which was not subjected to heat treatment) would eventually have been infected with NANB hepatitis on the basis that there would be a point at which the amount of treatment had exposed the patients to so many donors that the prevalence of the disease in the donor population would mean that the recipient would be likely to become infected. Such patients would have benefitted from surrogate testing on the basis that a certain number of positive donors' blood would be excluded from the plasma used to make the cryoprecipitate thus reducing the risk from it as a source of infection.

[5] Transcript for 16/11/11 (day 64); 35 (2 to 7) (Dr McClelland)

Recipients of blood transfusions would have benefitted as a group from surrogate testing which would have reduced the number of positive whole blood transfusions transfused into such patients. Dr McClelland did not agree with the proposition that by 1986 NANBH was rarely transmitted by the parenteral route.[6] He accepted the terms of the description of the standard textbook on blood transfusion by Professor Mollison (published January 1983, seventh edition) which is what most people would have read at the time.[7] He accepted the passage which stated that NANB hepatitis was deemed to be prevalent following transfusion.[8] The risk of transmission of NANB hepatitis through blood transfusions should have been well known in the 1980s both to the government in Scotland (in particular to the medical officers) and to the transfusion doctors working within SNBTS. Although many of the studies available were on people with haemophilia who had received blood products, there were also others which considered the transmission and progression of the disease in blood transfusion recipients.[9]

The contemporaneous understanding about the severity of the disease

It is clear, in our submission, that from 1978 and certainly from 1985, it was (or should have been) understood from the totality of the evidence which was emerging that NANB hepatitis was not a benign condition, as had been previously thought, but was a potentially severe and even fatal disease. As a result of this understanding, there should have been a significantly greater degree of urgency about doing something to protect patients exposed to potentially infected blood.

Professor Thomas stated that what was being discovered and reflected in the studies in the late 1970s up to 1982 (and certainly by the time of studies in 1985) was that NANB hepatitis was a progressive disease with more patients being found to have developed to the stage of chronic active hepatitis which has a worse prognosis than chronic persistent hepatitis.[10] This meant that one should have treated evidence of the numbers infected with some caution on the basis that (a) a certain number of patients would remain sub-clinical before being identified as sufferers and (b) the severity of symptoms could not be taken in the early stages as indicative of how the serious the symptoms might become. Professor Thomas also pointed out that this research answered the question of whether post transfusion hepatitis was a benign condition we did not have to worry

[6] Transcript for 15/11/11 (day 63); 23 (14 to 19) (Dr McClelland)
[7] Transcript for 15/11/11 (day 63); 30 (8 to 14) (Dr McClelland)
[8] Transcript for 15/11/11 (day 63); 27 (6 to 7) (Dr McClelland)
[9] Such as LIT.001.0759 and LIT.001.0528
[10] Transcript for 11/10/11; 128 (22 to 23) (Professor Thomas)

about.[11] It was not. Professor Ludlam also accepted that the evidence which emerged in 1985 (in particular the Sheffield paper by Preston & Ors) showed that one could no longer treat NANB hepatitis as something which "needn't concern me".[12] By 1986, the rates of progression amongst haemophiliac patients progressing to the chronic phase of the disease had been echoed by a West German paper by Schimpf and Ors.[13]

Dr Forrester was a medical officer within SHHD at the time when surrogate testing was being considered. In a memo dated 12 June 1986, he stated that the NANBH was not as a rule serious.[14] He described it in a note of a meeting held on 26 June 1986 as "generally mild (except in pregnant women)".[15] In minutes of joint meeting at which Dr Forrester reported on the WP TAH meeting in November 1986 and he reported again that NANB hepatitis was "relatively benign".[16] In a memo written by him to other staff within the department dated 26 January 1987, he described NANB hepatitis as "relatively benign".[17] After he gave evidence to the Inquiry, Dr Forrester saw fit to submit an email with testimony additional to his oral evidence on this matter.[18] He sought to draw a distinction between what one might describe as the normal meaning of the word benign and a specific medical meaning which applied "if one form of a fatal disease takes much longer to prove fatal and does so in fewer cases than another". We find this distinction hard to decipher and note that the phrase was used by Dr Forrester in material to which non-medical colleagues as well as medically qualified ones would be exposed. For example the manuscript annotations on SGH.003.1657 clearly show that this document was considered by non-medical SHHD staff. Used in isolation the phrase "relatively benign" without any detail would be likely, in our submission, to have been understood in the more ordinary sense.

We would refer to our submission in the C3A section regarding the evolution in the Sheila Sherlock textbook between the 6th and 8th editions (the latter one being published in 1989 but composed 2 or 3 years before that). Professor Thomas accepted that once the data from the studies up to 1985 started to become available, one would not take what comfort existed in the sixth edition of the Sherlock text.[19] In our submission, had Dr Forrester sought appropriate expert advice by 1986 he

[11] Transcript for 11/10/11; 137 (10 to 14) (Professor Thomas)
[12] Transcript for 13/11/11; 95 (15 to 17) (Professor Ludlam)
[13] LIT.001.0341 @ 0342 (The Lancet, 8 February 1986)
[14] SGH.002.8142
[15] SGH.001.6295 (30 June 1986)
[16] SGF.001.2261
[17] SGH.003.1657 (26 January 1987)
[18] PEN.018.1481
[19] Transcript for 11/10/11; 139 (4 to 9) (Professor Thomas)

would have been told that it was understood that NANB hepatitis was a progressive, potentially lethal disease. It was no longer considered to be "relatively benign". His failure to understand that and the impact of his assessment of the severity of the disease on decision making within SHHD is considered further below.

3. Whether account was taken of (a) knowledge and experience of hepatitis B and (b) knowledge and experience of the HIV crisis in assessing the public health risk posed by NANB hepatitis and in decisions concerning the introduction of surrogate testing

Professor Thomas agreed with the proposition put to him by Professor James that the approach of haemophilia clinicians was perhaps based on an underestimation of the severity of NANB hepatitis based on the fact that screening techniques minimised infections with hepatitis B by 1981[20]. We submit that such an approach was not sufficiently cautious and did not take account of the known potential risks associated with infection with NANB hepatitis. The issue of surrogate testing was considered in the aftermath of fatal hepatitis B outbreaks, including the infection of a number of recipients of blood in the renal unit of the RIE in 1979.[21] Decisions about surrogate testing were taken in the aftermath of infection of haemophiliac patients throughout Scotland with HIV. That was a virus with a long incubation period, similar to NANB hepatitis. The attitude generally (and specifically in connection of surrogate testing) was insufficiently urgent and demonstrates that little had been learned by the government in Scotland or the United Kingdom about the threats posed by viral contamination of blood and blood products. Surrogate testing, as its name would suggest, represented a non-specific detection method for the presence of HCV in donated blood and therefore would not eradicate the virus, prior to the widespread availability of more specific tests, in our submission, something needed to be done to prevent the spread of this sub-clinical virus.

In his evidence to the Inquiry, Dr McClelland made it clear that the AIDS experience had made him more conscious that there could be something in the Scottish donor population which was there for years before they realised with the result that, in his own practice, he realised the need to be more proactive. The need to be proactive was, in his view, more pressing as (a) they knew there was something there and (b) they had known for quite a long time that something bad was happening.[22] Whilst this experience had clearly influenced Dr McClelland who was a keen advocate of surrogate

[20] Transcript for 11/10/11; 143 (18) to 144 (2) (Professor Thomas)
[21] Transcript for 12/05/11 (day 24); 30 (16) to 31 (3) (Dr Boulton)
[22] Transcript for 16/11/11 (day 64); 26 (19) to 27 (6) (Dr McClelland)

testing, in our submission, lessons had not been learned by others, including those in government in Scotland, who had a far from proactive approach.

4. Whether sufficient account was taken of the fact of and opinions about the introduction of surrogate testing in other countries

The German and Italian blood services introduced ALT testing in 1965 and 1970 respectively. In Germany, one estimate of its likely effectiveness was that it had reduced NANB hepatitis by around 29% with 1.2% of donors being lost.[23] In the USA and France surrogate testing (ALT and anti-HBc) was introduced in 1986 and 1988. US and some French studies carried out by May 1987 indicated that a significant proportion of transfusion related NANB hepatitis should be prevented. It was further observed at a Council of Europe European Health Committee meeting that the evidence already published rendered the ethics of further randomised studies questionable.[24] Surrogate testing was instituted in other countries as well, as recorded by Burton J in the case of A v National Blood Authority.[25]

It was noted by the SNBTS directors at their meeting on 25 June 1986 that surrogate testing was being introduced in the US and several European countries at that time and that Professor Cash was concerned that pressure would be forthcoming from clinicians for such a regime to be introduced in Scotland.[26] The only response at that time was to note the possibility of a "limited" study into donors in Edinburgh, a possible study involving the gastroenterology unit in Aberdeen and that a study into the "feasibility and practicability" of such a testing regime was to be conducted in England. The limitations on the Edinburgh study, given its scale and focus on donors is discussed in more detail below. The prospect of the Aberdeen study happening seems remote. The English study was not local and it was restricted to matters of practicality. No positive action was taken and no consideration noted of the reasons why these other countries were taking this step at this time, including the local data available for these places which justified such a move and the applicability of that data to Scotland. There is no note here of any real consideration having been given to the likely benefits of surrogate testing for Scottish blood recipients. One would have expected the SNBTS directors to have considered the matter fully long before clinicians started to call for the move.

[23] SNB.001.9445 @ 9446 (Professor Weise)
[24] SNB.001.9445 @ 9447 (Dr Habibi)
[25] PEN.017.0302 @ 0369
[26] SGH.001.6286 @ 6290

However, no such consideration is noted though Professor Cash seemed to consider such calls to be imminent.

The introduction of testing in America seems to have had some influence on the SNBTS directors' position by the time of the meeting on 3 March 1987 (see below). However, that influence is not minuted as due to anything other than the fact that fractionators in the USA were now undertaking surrogate testing.[27] This is despite the fact that Professor Cash made it clear in his evidence that the positive attitude of some of his other European colleagues (such as the Dutch) had indicated to him that testing needed to be instituted and that the UK "had gone to sleep" on the issue.[28] This, in our submission, suggests that international opinion was moving more quickly on this issue and that the UK (and Scotland in particular) was being left behind as far as safety was concerned.

Research into the prevalence of NANB hepatitis and the potential effectiveness of surrogate testing

5. **The reasons why a large scale prospective study involving both donors and recipients into (a) the prevalence of HCV in the donor population and (b) the likely effectiveness of surrogate testing in reducing the transmission of Hepatitis C was never undertaken in Scotland or the UK**

The purpose of such a study

The importance of such a study was, in the first place, that it would have given insight at the time into the likely prevalence of the disease in the donor population and therefore the likely number of infections (particularly in the recipients of whole blood and single donor components like cryoprecipitate) which could be prevented by instituting testing of donor samples (the likely incidence of PT NANBH). In the second place, it would have been able to provide an assessment of the likely usefulness of surrogate testing in the prevention of the spread of PT NANBH. It was particularly important that such a study be undertaken in the local population in order to ascertain

[27] SGH.001.6653 @ 6657
[28] Transcript for 29/11/11 (day 70); 172 (5) to 175 (13) (Professor Cash)

answers to these prospective queries for the local population. Further, it was important, as Dr McClelland pointed out that the study would be prospective rather than observational in nature.[29]

In the United States, such large scale prospective studies had been underway for a number of years by the start of the 1980s. The Transfusion-transmitted virus study ("TTVS")[30] and a similar study by the National Institute of Health ("NIH") in Maryland reported in 1981.[31] The TTVS had been carried out between 1974 and 1979. The attack rate for PT NANBH was 10%. The incidence of NANB transmission was linked to the ALT levels of donors. At lower ALT levels the transmission rate was 6% and at higher levels the attack rate was 45%. It was concluded that around 40% of cases of post transfusion NANB hepatitis observed in the study could have been avoided if donations with raised ALT had been discarded. It was thought that this would have resulted in 3% of total blood donations being rejected.[32] The NIH study found that ALT testing of donors could prevent 29% of PTH at a loss of blood to the donor system of 1.6%.[33] They continued into the mid 1980s. An updated version of the NIH study was published in 1985 and included details of the prevalence of NANB hepatitis in studies for both volunteer and non-volunteer blood transfusions.[34] Further papers from the NIH which tended to favour the introduction of surrogate testing and which considered the position in a volunteer donor population appeared in 1986.[35]

The attempts made to institute such a study

Dr McClelland gave evidence about efforts he had made dating back to 1981 to instigate a large scale prospective study into the prevalence of NANB hepatitis. In 1981, he had proposed to the MRC working party on Post-Transfusion Hepatitis that a large scale prospective study (along the lines of the TTVS), including the follow up of recipients, be carried out into PT NANBH in the UK. His proposal did not receive particular support from the other members of the Working Party which, in any event, was disbanded in 1981, after its second meeting. It seemed that certain members of the group, in particular Professor Zuckermann, thought that there was no need for the study as these matters had been looked at in earlier studies.[36] However, as Dr McClelland pointed out when he looked at the earlier MRC study it did not tell him what he needed to know at all as it had been done over the

[29] Transcript for 15/11/11 (day 63); 3 (15) to 4 (23) (Dr McClelland)
[30] LIT.001.0753
[31] LIT.001.1817
[32] LIT.001.0753 @ 0757
[33] LIT.001.1817 @ 1821
[34] LIT.001.0811
[35] LIT.001.1675 and LIT.001.1869
[36] Transcript for 15/11/11 (day 63); 64 to 67 (Dr McClelland)

period of hepatitis B screening being introduced.[37] In 1982/1983 Dr McClelland proposed to the joint BTS working party on Transfusion Associated Hepatitis that a (more modest) prospective study be carried out, again including the follow-up of recipients. The WP TAH met on 27 September 1983 (when most of the discussion concerned AIDS) and did not meet again until late 1986. The proposal was not taken forward. The disbanding of the WP TAH may have had a part to play in that. As Dr McClelland stated in evidence, in the period after this things were taken over by the need to deal with the AIDS crisis.[38]

It was a mistake that the very worthy proposals of Dr McClelland to institute a large scale prospective study were not accepted. It is not clear why this happened, although it appears that a lack of concern about the severity of PT NANBH and the lack of clarity about the appropriate body to permit such a study appear to have played a role. The lack of interest in this proposal seems hard to understand when similar US studies had been done into this subject since around 1974. It may be the case that it was considered, as had been the case with the emergence of HTLV III, that the transmission of NANB hepatitis was a predominantly a foreign problem, of concern in countries which relied on blood from paid donors. It was particularly short-sighted, in our submission, not to have realised that such a study, to have any value, would take a number of years to complete. Further, there appears to have been a lack of consideration about NANBH due to attention being focussed on AIDS between 1983 and 1985. In our submission, there was little anticipation of the possibility that NANB hepatitis would become a major concern. This was despite the fact that there was emerging evidence in the late 1970s and early 1980s that it could be a chronic condition in a significant number of recipients of blood products. This was spoken to in the evidence of Professor Thomas and is covered in more detail in our submission on the C3A topic.

It is possible that such a study could have been instituted with the right backing in Scotland. This would have given particularly local data. However, what is clear is that such a study would been required to be done on a multi-centre basis in order to ensure the kind of enrolment necessary to maximise the study's value (like the US studies). It would have required time and significant financial input and therefore government support to achieve useful answers.[39]

<u>Small studies</u>

[37] Transcript for 15/11/11 (day 63); 71 (3 to 7) (Dr McClelland)
[38] Transcript for 15/11/11 (day 63); 89 (18) (Dr McClelland)
[39] Transcript for 16/11/11 (day 64); 41 (25) to 43 (12) (Dr McClelland)

It should be noted that there were a number of small studies done (in Scotland and in England) relating to the issues of the prevalence of NANB hepatitis in the local population and the possible usefulness of NANB hepatitis. In our submission, though these were local, they were not particularly useful on the basis that they were too small to tell us anything of any general significance.

One was reported in an article in the Lancet by Anderson & Ors on 18 April 1987.[40] In this article it was pointed out that the combined surrogate testing had been required for accreditation to the American Association of Blood Banks from 30 November 1986. That requirement had been instituted on the basis of information that 7% of recipients of volunteer donor blood contracted post transfusion NANB hepatitis and that around half of those went on to develop to the chronic stage of the disease.[41] This was based on the ongoing study by Alter and Ors, the latest part of which had been published in 1985. The Anderson study assessed only 186 cardiac surgery patients (recipients) for signs of PT NANBH between 1981 and 1983. As was noted in the Anderson paper, a further US study by Korzoi and Holland expressed the view that the incidence of PT NANBH could be reduced by around 40% in the US by the introduction of testing for the presence of anti-HBc (although there had been no prospective study to confirm that figure).[42] That study also suggested that a further 30% of PT NANBH cases could be prevented by excluding donors with a raised ALT. The study also noted a very low number of reports of PT NANBH from hospitals where the blood which the authors collected had been used (a low incidence) since 1974. There had been no reports of cirrhosis having resulted from transfusion.

In our submission, little reliance can be placed on a system based on reporting of cases of past transfusion hepatitis where no detail is given of the robustness of the obligation to report and one is dealing with a disease whose symptoms are sub-clinical for some time. The Anderson study proposed that a large domestic trial was needed in the UK in order to assess the likely incidence of PT NANBH in the different regions of the UK and the severity of the sequelae and consequently whether surrogate testing would be cost effective. Two Scottish studies were reported in the Lancet on 13 June 1987.[43] The first (Dow & Ors) was based on a study of reports of PT hepatitis in the west of Scotland (23 such reports). In our submission, the usefulness of this data is limited in the same way as the reported data in the Anderson paper. The report itself suggests that 99% of hepatitis

[40] LIT.001.1854
[41] LIT.001.0811
[42] LIT.001.1869
[43] LIT.001.0346 (one by Dow and Ors and the other by Gillon & Ors)

cases are not reported. Further, it is interesting to judge the likely accuracy of the reporting system by the fact that only 5 of the reported 23 cases were users of Scottish factor concentrates. It is widely accepted that all recipients of Scottish factor VIII concentrate would have been infected with NANB hepatitis on first infusion and so the fact that there had only been 5 reported cases shows that those reported cases in this population represented only a tiny proportion of those actually infected in that group. An assessment is done of the donors who had given the blood transfused into the 15 patients for whom a report of PT NANBH had been made and who had not been excluded from the study as having other risk factors for infection (drug use and concentrate exposure). 51 donors had given blood to which these patients had been exposed. Only 5 would have been excluded by surrogate testing and so 5 cases would have been prevented. The reliance in this study on reporting to identify patients whose donors could be studied means that this analysis is really of little value, as was accepted in evidence by the expert in this area, Dr McClelland. The study also recommends a large scale domestic trial. Like the Anderson letter, it analyses the value of surrogate testing in terms of its cost effectiveness. It is of interest to note that one of the signatories to this letter, Dr Mitchell, was also a signatory to the letter (discussed below) dated 4 July 1987 which recommended the introduction of surrogate testing.

The second of the June 1987 letters (Gillon & Ors) details a study of blood donors only in the east of Scotland. It had no recipient component. The conclusion of the study was to raise doubts as to the prevalence of PT NANBH in the donor population and the link between positive surrogate tests and NANBH infection. Only 33 of the 42 donors with a raised ALT returned to allow further tests and analysis to be done on them (circa 21% did not return). One might think that those who did not return may have been more likely to have risk factors for NANBH infection, explaining their reluctance to participate further. It is not clear what proportion of the donor population the number of donors involved in the study represents. A significant number of the donors who tested positive on the ALT test in the trial had other risk factors for raised ALT (such as obesity or alcohol ingestion). The study seems to have assumed that where there were other risk factors, these (and not NANB hepatitis infection) were the reason for the raised levels of ALT. The conclusion that "most of the excluded donors would not be NANB hepatitis carriers" (indicating a low specificity) is therefore of dubious accuracy. Once again, value for money appears to be the test used.

In our submission, as these studies themselves accept given that they tend to recommend a larger study, the findings of these small studies are limited and were of little value in reaching conclusions about the likely prevalence of PT NANBH in the UK, its likely severity or the likely utility of surrogate

testing in preventing it. The value of the studies is also extremely limited for the reasons listed above.

It is clear that a good deal of the thinking within SHHD, in particular on the part of Dr Forrester, was based on these limited studies and, in particular, the work led by Dr Brian Dow in the west of Scotland. Dr Forrester's Note of 12 June 1986 on the subject of surrogate testing is derived mostly from the Dow PhD thesis of 1985.[44] It contains a reference to information which he had from Dr Dan Reid to the effect that cases of NANBH were probably under-reported by clinicians and hence he had little confidence in his figures. He states (on the basis on the Dow work) that in association with blood transfusion NANBH is very uncommon in the west of Scotland. This comment is not qualified by limitations on reporting or the known sub-clinical nature of the early stages of the disease. He states that Dr Dow found no evidence of any substantial NANB hepatitis problem in haemophiliacs. This would appear to be very much contrary to contemporary evidence on both the incidence and the severity of the disease in that population (see our submissions on this in the C3A section). Dr Forrester's note on the meeting of 26 June 1986 is clearly once again based on the reasoning in the Dow PhD thesis [45]. By the time of this note, Dr Forrester appears to have forgotten the advice given to him by Dr Reid that the condition is probably underreported meaning that one could not have confidence in figures about incidence, whether as a result of transfusion or not. Further, even Dr Dow expressed surprise that his research was being used by the SHHD in decision making on the issue of surrogate testing.[46]

Conclusion

The question remains as to whether the absence of a large scale prospective study was a necessary pre-requisite to the introduction of surrogate testing for NANB hepatitis. Like Dr McClelland, we submit that it would have been a useful indicator of the likely utility of surrogate testing and the scale of infection which it could have prevented. However, as time progressed into the second half of the 1980s, the utility and hence the need for such a large scale study was superseded by the emergence of other relevant information and the non-appearance of any political appetite for such a study to be undertaken. This is discussed in more detail below. It should be realised, however, that the absence of such a study did not leave transfusionists with no information relevant to the

[44] SGH.002.8142
[45] SGH.001.6295 (30 June 1986)
[46] Transcript for 22/11/11 (day 67); 65 (19) to 66 (4) (Dr Dow)

question of the likely prevalence of NANB hepatitis in the local population. Some assistance could be gleaned from foreign studies (discussed further below) and there was the fact that it was considered highly likely that the recipients of unheated locally produced factor concentrates would contract the disease. Although those individuals were being exposed, some deductions could be made about the prevalence of the disease in the local donor population from the near certainty of their infection on first infusion. The smaller studies referred to above could not be relied upon to give an accurate picture to assist with the issue of surrogate testing. They themselves indicated that a larger prospective study would be needed for any local conclusions based on research to be able to be drawn with confidence.

6. The reasons behind and the likely usefulness of the research proposed by the Working Party on Transfusion Associated Hepatitis in November 1986 in assessing the likely effectiveness of surrogate testing in reducing the transmission of Hepatitis C

Dr McClelland also gave evidence about the meeting of the WP TAH in November 1986. He was a member of that group. One of the difficulties with this issue is that there is no available minute of this meeting and so there is some difficulty with understanding the nature of the discussion and the outcome. The reasons for the recommendation of research made at this meeting therefore need to be pieced together from other sources.

The paradox of the November 1986 meeting appears to be that it was (a) the meeting at which Dr Gunson presented material which formed the basis of the Lancet letter from the SNBTS directors of July 1987 (see below) about the likely benefits of surrogate testing as well as being one of the reasons why Dr McClelland became convinced that the time had come to recommend that testing be instituted in Scotland and at the same time (b) the meeting which recommended further research involving looking at donors only. The material presented by Dr Gunson is considered in more detail below. Dr Gunson had other pressure on him as he was the principal advisor to the DHSS on blood transfusion matters and (as will be seen from elsewhere in this submission) there was no great appetite for surrogate testing in England and Wales at that time.

<u>The reasons for the research proposal</u>

As for the outcome of the meeting is concerned, it was clear, in our submission, from the evidence heard by the Inquiry that the proposed research would have added little to the discussion about

whether surrogate testing should be introduced on the basis that it looked at donors only. Any study into the likely transmission of NANB hepatitis and the usefulness of surrogate tests as markers to prevent the possible spread of the disease would have had to have considered the position of recipients as well, in particular the number who appeared to contract the disease and whether the fact of infection would have been avoided had the donor in question been excluded on the basis of positive surrogate testing. It is clear that though Dr McClelland participated in the meeting, he did not concur in principle with either the likely usefulness of such research or any further delay in introducing surrogate testing. It is interesting that Dr Forrester's memo (considered in more detail below) refers to speaking to Dr Gunson as if that were the same as reflecting the view of the group.[47]

In our submission, it is clear that the preference for this limited research was a means of delaying a decision having to be made about surrogate testing. Such a delay, according to Dr McClelland, was not justified. The approach of this committee and its preference for research are important as they subsequently formed a significant part of the basis upon which administrative staff within SHHD did not recommend surrogate testing be introduced in Scotland. The attitude that this matter could be kicked into the long grass was, however, an attitude whose time had passed, in our submission. As Dr McClelland pointed out, the proposed research came too late given what was happening in other countries, the diminished value of research anyway due to the increased relevance of the US material in the UK and the fact that the research which was being proposed here was actually research which would not solved the conundrum of surrogate testing anyway due to its limited scope.

The report of the meeting prepared by Dr Forrester[48]

Dr Forrester reported on this meeting to his colleagues within SHHD (Dr McIntyre, Dr Scott and Mr Murray and others whose names can be seen in manuscript) in a memo. There are a number of difficulties with his report, in our submission. As will be seen below, the preference at the meeting for there to be further research was later relied upon heavily by the administrative staff within SHHD in not recommending surrogate testing. Dr Macdonald made it clear that the account given by Dr Macdonald of the reasons why the SHHD rejected the March 1987 recommendation by the SNBTS directors was heavily influenced by the report by Dr Forrester of this meeting.[49]

[47] PEN.017.1554 @ 1555
[48] PEN.017.1554
[49] Transcript for 21/11/11 (day 66); 74 (21 to 25) (Dr Macdonald)

In the first place, on the first page, he refers to anti-HBc testing as having "some association with the risk of transmitting NANBH". This is hardly very informative about the potential effectiveness of this form of surrogate test. Secondly, he clearly states that the US experience of a 40% reduction in PT NANBH would not be replicated here based on "such [unspecified] evidence as exists". This recognises the limitations on the current UK evidence, without giving any detail of it. The fourth paragraph recognises that a large scale prospective study would be needed to reach similar conclusions. However, this was not going to be done and instead a small scale donor study was proposed. No comment is made on the likely usefulness of such a limited study on assessing the benefits of surrogate testing or on the advances on the current evidence which this new study is likely to make, if any.

On the second page, Dr Forrester indicated that he had asked Dr Gunson as to whether he would introduce surrogate testing of it were free of cost and that he replied that he would not. In our submission, this must be inaccurate reporting of Dr Gunson's position, in particular in light of the material which he presented to the meeting upon which some reliance was placed by Dr McClelland. If it is not, then Dr Gunson was wrong to have said it. This would be tantamount to saying that no benefit would be offered by surrogate testing at all, which simply was not the case. This statement must, however, have been a powerful indictment of the benefits of surrogate testing for the readership within SHHD. In light of this and the consistent focus on the determination of this meeting in subsequent correspondence, we can only assume that this inaccurate statement must have influenced views within SHHD considerably. Further, we cannot accept that it is at all likely that the membership of this group would have recommended research which they accepted was "of no great significance or scientific interest". In any event it is interesting to note that the research was supported by the staff of SHHD despite this comment. The final sentences try to downplay the significance of the disease and fail to appreciate that the disease is sub-clinical in its early stages. As is addressed elsewhere in this submission, this was not in accordance with the current understanding about the disease.

It is worthy of note that Dr McClelland (who arrived late at the meeting) was quite surprised by the content of the note, in particular the point about recommending research to "shut people up".[50] However, he did agree that research on donors would not have added very much to their ability to

[50] Transcript for 15/11/11 (day 63); 118 (21) to 119 (6) (Dr McClelland)

make a rational decision on what to do.[51] Dr Dow (who attended the meeting in place of Dr Mitchell) did not recognise the business detailed in the memo to the point that he wondered in his evidence whether this was in fact the meeting which he had attended.[52] He also expressed surprise at the report that Dr Gunson said that he would not have introduced surrogate testing for free.[53] It is important to note that though the outcome of the meeting is noted, the detailed material presented to the meeting by Dr Gunson which had an impact on Dr McClelland's thinking was not reproduced with the memo.

Evidence of the incidence of PT NANBH (blood transfusions)

There is one further matter about the discussions at the meeting which is, in our submission, worthy of note. At a joint meeting of the transfusion directors and haemophilia directors on 9 February 1987, Dr Forrester reported on what had been discussed at the meeting. In particular, he pointed out that NANBH was transmitted in between 5% and 25% of blood transfusions in the US. Further, he pointed out that in the UK the transmission rate with blood transfusions was 2.5%. It is interesting to note that the material provided by Dr Gunson at the meeting suggests that he had stated under the subject of "Incidence of transfusion associated NANB hepatitis in the UK" that "the best estimate of incidence from published data is 3%"[54], a little higher than Dr Forrester's commentary suggests. Little commentary is given in the minutes as to the source of this figure on the incidence of blood transfusion associated NANBH. In our submission, it appears that little account was taken of this figure which suggests that the incidence of PT NANBH is really quite high, although not in relative terms. As will be seen below, Dr McClelland (the main advocate of surrogate testing) appears to have taken the figures discussed at that meeting as being indicative of the need for routine surrogate testing to be introduced based on the number of cases of PT NANBH which he thought could have been prevented by it. In our submission, he was right. In calculations done by him for the assistance of the Inquiry, he used recent data to suggest that one might expect there to be around 36,875 patients receiving one or more blood components in a year. The application of a transmission rate of 2.5% to that figure would suggest that around 922 (at 2.5%) and around 1,106 (at 3%) would contract PT NANBH. In our submission, as Dr McClelland stated in his evidence, this estimate of incidence was far from an ideal of reliability. However, in circumstances where (a) this was a best estimate provided by the UK national medical advisor on transfusion matters (b) it would

[51] Transcript for 15/11/11 (day 63); 119 (7 to 12) (Dr McClelland)
[52] Transcript for 22/11/11 (day 67); 71 (14 to 15) (Dr Dow)
[53] Transcript for 22/11/11 (day 67); 72 (5 to 10) (Dr Dow)
[54] See PEN.017.0754 @ 0764 (the Dr McClelland statement which reproduces the text of the note by Dr Gunson)

take several years for a full scale prospective study to be done to give a better figure than this best estimate and (c) no such study as being proposed as the meeting had resolved to recommend a study on donors only, more weight should have been given to this figure as a starting point for the consideration of the introduction of surrogate testing.

Scottish participation in the proposed research

The extent to which Scottish participation in the proposed research was planned is an interesting question as it would be likely to affect the usefulness of its results in Scotland. April 1987, Dr Gunson wrote to Dr Cash about the recommendation made by the SNBTS directors that surrogate testing should be introduced (discussed below).[55] There had been some suggestion at the SNBTS directors' meeting on 3 March that Scottish centres would not be included in the research proposed by the WP TAH in November 1986[56]. Dr Gunson pointed out that Edinburgh was to be involved although the involvement of Glasgow had been cancelled. He pointed out his dismay at the possibility that testing might be introduced before the study which had been proposed had been completed. It was later noted, however, that the Scottish component would require to be abandoned.[57] Despite this, it seemed to be the case that the directors still thought that Edinburgh would participate[58] though Dr Forrester had pointed out that the necessary funding application was "lame".[59] It appears to have been refused by 13 November 1987.[60] Despite this, there did not seem to be any alternation of the thinking within SHHD of the value of the study (this is considered more fully below).

SNBTS and surrogate testing

7. **Why the SNBTS directors recommended in March 1987 that surrogate testing for markers for NANB hepatitis should be introduced in Scotland and whether such a recommendation should have been made earlier**

At a meeting of the SNBTS directors on 3 March 1987, a decision was taken to make a unanimous recommendation in the following terms:

[55] SGH.001.6628
[56] SGH.001.6653 @ 6657
[57] SGH.002.8119 (14 May 1987)
[58] SGF.001.0127 @ 0132 (10 June 1987)
[59] SGH.001.6575 @ 6576 (12 June 1987)
[60] PEN.016.0152

"to recommend to the SHHD that surrogate testing for NANBH should be implemented with effect from 1 April 1988 as a national development requiring strictly new funding. Each Director should let Dr Cash know what funds would be required in his/her region, assuming that both core testing and ALT would be undertaken in the Transfusion Centres."[61]

The meeting was attended by all of the then directors and Dr Forrester from the SHHD. It is clearly anticipated in the minutes that separate funding would be required for this initiative. Directors are asked to provide costings for their region. Little explanation is given in the minutes as to the reason why this unanimous recommendation was made at this time, apart from the mention of surrogate testing having been started by plasma collectors in the USA and pressure possibly coming from the Haemophilia Society for it to be instituted here. To the extent that any explanation is given, it relates to the possible pressure to have surrogate testing of plasma used for the production of fractionated blood products.

Dr McClelland took the lead on the issue of surrogate testing within SNBTS. Professor Cash referred to his "leadership" on this issue[62] and the fact that he very much left Dr McClelland to get on with this issue[63]. This was also acknowledged by Dr Mitchell.[64] He gave evidence to the effect that he had become convinced by March 1987 that the time had come for surrogate testing to be introduced in Scotland. The factors which had persuaded him that the time for this measure had arrived were as follows:

- The decision was all about the safety of the blood. It was "the factor" in his consideration.[65] We deduce from this evidence that he was convinced by this time that blood would have been materially safer as a result of surrogate testing.

- The early studies from the US had, in his view, been based on a donation system too different from the one in Scotland for the conclusions about prevalence of NANB hepatitis in the donor pool and the likely effectiveness of surrogate testing in preventing its transmission to be of any persuasive value here. However, by 1987, Dr McClelland had become convinced that greater regulation in the blood donor system (meaning changes in the profile of the

[61] SGH.001.6653 @ 6657
[62] Transcript for 16/11/11 (day 64); 169 (22) (Professor Cash)
[63] Transcript for 29/11/11 (day 70); 164 (22 to 25) (Professor Cash)
[64] Transcript for 17/11/11 (day 65); 62 (1 to 5) (Dr Mitchell)
[65] Transcript for 15/11/11 (day 63); 143 (23 to 25) (Dr McClelland)

donors[66]) made more recent US data more persuasive in Scotland in the absence of large scale prospective studies here.[67] It was confirmed in the evidence of Professor Leikola that by the mid-1980s the US blood banks were generally collecting blood for transfusion from voluntary donors only.[68] The US studies published in the mid-1980s are considered above. It was this material which, in an article in Nature regarding the introduction of surrogate testing in the US, had led the President of the American Association of Blood Banks to say that the tests were "essential to increase the safety of the blood supply".[69]

- The smaller UK studies (referred to above) which did not concur with that recommendation were not really studies which he found to be very convincing in the general argument on this subject.[70]
- The figures presented by Harold Gunson at the WP TAH meeting in November 1986 based on the information which was available at the time made an impression on him as to what the benefits would be for patients in introducing surrogate testing.[71] The material which was presented by Dr Gunson is reproduced by Dr McClelland in his statement.[72]

Had the SHHD thought to ask the SNBTS for further specification as to the reasons why the recommendation had been made and why surrogate testing was now necessary, we suggest that it would have been Dr McClelland whom they would have asked given that it was he who was taking the lead in this area. These are likely to have been the reasons he would have given them. Indeed, in response to questioning about negative responses to the position taken by the SNBTS directors, Dr McClelland considered the approach of others who favoured delay to be inconsistent with the precautionary principle and unscientific.[73]

<u>The Lancet letter</u>

Subsequent to the recommendation having been made to the SHHD by the SNBTS directors at the meeting in March 1987, the directors wrote a letter to the Lancet relating to the need for surrogate

[66] Regulations designed to exclude high risk donors in the US had been initiated in March 1983 by the FDA - see DHF.001.4718
[67] Transcript for 15/11/11 (day 63); 141 (16) to 142 (10) (Dr McClelland)
[68] Transcript for 30/11/11 (day 71); 14 (15 to 22) (Professor Leikola)
[69] SGF.001.2108 (4 September 1986)
[70] Transcript for 15/11/11 (day 63); 147 (2 to 8) (Dr McClelland)
[71] Transcript for 16/11/11 (day 64); 116 (15) to 117 (22) (Dr McClelland)
[72] PEN.017.0754 @ 0764
[73] Transcript for 15/11/11 (day 63); 145 (16) to 146 (21) (Dr McClelland)

testing to be introduced in Scotland.[74] The letter was drafted by Dr McClelland[75] and was entitled "Testing blood donors for NANB hepatitis - irrational, perhaps, but inescapable", though a rationale for its introduction was set out in the article and further explanation of the reasoning was given by Dr McClelland in his evidence, as detailed above. In the article it was argued:

- Despite the value which would be gained by a large scale UK prospective study, the time for that had passed as it would take 3 - 4 years for such a study to be carried out. This time period is not a matter which is considered in any of the small scale study letters, discussed above.
- The strict liability provisions of the impending consumer protection legislation is considered and it is argued that the producer of a product would be liable to a consumer who had contracted NANB hepatitis unless it could be shown that all measures were taken to avoid the risk of the disease being contracted. This nature and extent of the strict liability obligations and the resultant cost implications of a breach are not matters which are considered in any of the small scale study letters, discussed above.
- Though advanced specifically in the context of blood products, it is argued that some improvement in the quality of the product (which surrogate testing would afford) is better than none. This is not a point which is considered in any of the small scale study letters, discussed above.
- The argument is made that products from abroad were subjected to surrogate testing and that would put the UK products at a competitive disadvantage in the eyes of the consumer (testing having been instituted in Germany, France and the USA). Though this seems to relate predominantly to the production of blood products it recognises (a) the number of large countries which had adopted surrogate testing and (b) the requirement to look at safety from the point of view of the consumer, which was at the heart of the new legislation. The number of countries which used surrogate testing and the requirement to view products from the points of view of the consumer are not points which are considered in any of the small scale study letters, discussed above.
- It is also argued (using, it would seem, figures derived from the material presented to the WP TAH meeting by Dr Gunson) that the value for money which surrogate testing would represent would be better than the value offered by other blood testing regimes. Such a

[74] LIT.001.0328
[75] SNB.004.0672 @ 0674 (16 June 1987)

comparative assessment of the value for money argument is not considered in any of the small scale study letters, discussed above.

The reasons set out here are not exactly the same reasons as were given for the recommendation of surrogate testing by Dr McClelland in his evidence. Dr McClelland stated that this was because he thought that the arguments in the letter might work.[76] There appears to be an emphasis in this letter on blood products, though in the tables it produces relating to cost effectiveness it recognises that transmission in fractionated plasma products may be irrelevant to this debate due to the impending arrival of heat treatment. There is no reference to the relevance of the US data. The source of the assumptions used to calculate the cost effectiveness of testing (it would appear the US data, as used by Dr Gunson at the WP TAH meeting) is not referenced. This apparent discrepancy, he explained, was due to the fact that the article (which he drafted) was intended to put forward the kind of argument which it was thought would be most effective in persuading the government that this was the correct way forward. The fact that the full range of arguments was not put clearly to the SHHD is considered elsewhere in this submission. It appears that the lack of communication between the SNBTS directors and the SHHD on this issue played a part in the failure to introduce surrogate testing.

The timing of the recommendation

It should be noted that certain of these arguments could have been made considerably earlier than this. The fact that surrogate testing would have at least some safety benefit had been known for many years. Testing had been introduced abroad many years previously (as set out above) and in the US from November 1986. If consideration of what consumers of the product would want had only been initiated by the introduction of the impending legislation, we would argue that this should have been the predominant attitude for many years in any event. Further, the impending products liability legislation had been on the radar since 1985, the date of the EC Directive. The fact that a large scale study was unlikely to happen and the fact that it would be likely to take several years to be completed had been the position for some time before the publication of this letter. The US studies indicating the likely benefits of surrogate testing there had been available since 1985/86. The small scale studies done in the UK over previous years were always known to have been too small to have made any real impact on the argument. On this basis, we would argue that the recommendation to introduce surrogate testing should have been made at least a year before this.

[76] Transcript for 15/11/11 (day 63); 144 (6 to 8) (Dr McClelland)

That this could have happened is also suggested by the fact that in 1986, in their budget request to the Scottish Office, the SNBTS sought £810k to introduce surrogate testing for NANBH in 1987/88. In our submission, there is no basis upon which to suggest that a recommendation made in 1986 could not have been implemented by 1987.

The actual prospect of surrogate testing being introduced in Scotland in 1987/1988

Despite the title of the Lancet letter published in July 1987, there was a clear reasoning behind the recommendation that surrogate testing be introduced. However, the likelihood that it would be introduced (as far as the SNBTS directors were concerned) was another matter. In the aftermath of the meeting on 3 March 1987, Dr Gunson wrote to Professor Cash expressing some concern that surrogate testing would be introduced in Scotland where there was no intention to do so in England at that time and without waiting for the outcome of the donor study which had been agreed upon wt the WP TAH meeting (of which Dr Gunson was the Chairman) in November 1986 (referred to above).[77] Professor Cash replied on 27 April 1987 to the effect that he should not take the recommendation too seriously at this stage and that it was made principally for the purpose of securing funding.[78] It is interesting to note that he suggests that the outcome of the research is unlikely to have an effect on future operational practice anyway. This would appear to reflect an attitude that the government would be unlikely to introduce surrogate testing in any event. In his evidence, Professor Cash confirmed that it was his attitude that Dr Gunson need not worry as he did not think that the SHHD would approve anything which was not going to be done in England anyway.[79] We take this (along with the fact that directors saw fit to write a letter to the Lancet in the terms that it was written on this subject) as an indication that the directors thought that there would be little likelihood that surrogate testing would be acceptable to the government. This, in our submission, is likely to be the reason why little effort was made to communicate the precise reasons for the recommendation to the SHHD and little effort was made in preparing practically for surrogate testing (see submission below, for example, about no algorithm having been worked up). In our submission, this was a mistake. It meant that the officials within SHHD did not have access to the full information and reasoning which they would have needed to make the recommendation to the minister that surrogate testing be introduced in Scotland. It gave them the impression that, despite the recommendation, the directors did not have clear reasoning or did not really support the idea. Dr Macdonald gave evidence to the effect that the medical officers within SHHD tended to

[77] SGH.001.6628 (21 April 1987)
[78] SGH.001.6627
[79] Transcript for 29/11/11 (day 70); 184 (25) to 185 (14) (Professor Cash)

have problems knowing whether the directors were going to hold their position.[80] As the evidence of Dr McClelland shows, there were good reasons for this measure to be introduced and their reasoning should have been explained clearly and the implementation of testing pursued vigorously by the SNBTS directors. If anything, the position adopted by Professor Cash in his correspondence with Dr Gunson demonstrates that the anticipated resistance within SHHD to surrogate testing would mean that all the more clarity was required in the recommendation. Further, as subsequent correspondence written by administrative staff within SHHD indicated, the removal of the research option would have made pressure to introduce surrogate testing "irresistible".[81] This suggests, that a clear argument as to the utility of the proposed research would have resulted in surrogate testing being introduced in accordance with the March 1987 recommendation as such a proposal would have become politically irresistible.

8. The extent to which (a) current understanding of the potential severity of Hepatitis C and (b) the reasoning for the attractiveness of introducing surrogate testing for NANB hepatitis was communicated effectively by the SNBTS to the decision makers within SHHD

One major reason for the non-introduction of surrogate testing in Scotland was a failure in communication between the SNBTS and the SHHD as to the reasons why the directors considered it appropriate for such a testing regime to be instituted. These reasons are discussed above. The reasoning adopted by the officials within SHHD are discussed below. There is a clear incongruity between the two. The responsibility for that state of affairs rests on both sides.

<u>Current understanding of the severity of the disease</u>

By 1985 at the latest the accumulation of material relating to infection with NANB hepatitis indicated that it was not, as had previously been thought, a benign disease. In our submission, the actions and documents of Dr Forrester around this period make it clear that he maintained the view that this was predominantly a benign disease. This was communicated to his colleagues in numerous places (see above). We do not feel that the severity of the disease was understood over this period within SHHD as it should have been and in accordance with the contemporaneous, well known literature. That he was under the impression that it was a benign disease should have been known to the SNBTS directors. At a joint meeting on 9 February 1987, Dr Forrester reported on the WP TAH

[80] Transcript for 21/11/11 (day 66); 144 (3 to 7) (Dr Macdonald)
[81] SGH.002.8076

meeting which he had attended in November 1987. He reported his impression that NANBH was "relatively benign".[82] This was an opportunity for the SNBTS directors (and indeed the haemophilia directors in attendance) to communicate to him that the literature was not in accordance with his understanding and that his impression from the WP TAH meeting in November 1986 was not accurate. The emphasis on the benign nature of the disease will have tended to lessen the likelihood that steps would be required to prevent it, such as the institution of surrogate testing. However, in our submission, the responsibility for the misunderstanding of the potential severity of the condition cannot be said to lie entirely with the SNBTS. Although we would have expected them to have brought this to his attention, it is clear that Dr Forrester had access to and used other sources of information to gain an insight into the severity of the disease. His memos show that he consulted Dr Dan Reid who had an infectious diseases background *inter alia* on the severity of the disease. There is reference in one memo to this individual consulting a textbook about the current thinking on the disease.[83] The shortcomings of this approach and the limitations on the research upon the understanding of the disease are indicative, in our submission, of a substandard effort having been made to fully understand fully the severity of the disease. This resulted in incomplete information being used as a basis for decision making on prevention options, such as surrogate testing, within the SHHD.

The reasons for the recommendation to institute surrogate testing

As we have stated above, the SNBTS directors were experts in matters relating to blood transfusion, including the current international practice and the risks of viral transmission. In particular, the fact that the position and therefore the attractiveness of surrogate testing had moved on was not communicated effectively. As will be discussed in more detail below, the government maintained the general position that more research was needed, which had been the position of the directors before March 1987.

Prior to the meeting on 3 March 1987, the position within SHHD is set out in certain evidence available to the Inquiry. At the SNBTS directors meeting on 26 March 1986 it was noted that the FDA advisory panel had published its recommendations on surrogate testing in February and that it looked likely that surrogate testing would be introduced in the US. Dr Forrester pointed out that he considered it to be highly unlikely that the UK departments of health would introduce testing based

[82] SGF.001.2261 @ 2263
[83] SGH.002.8142 (12 June 1986)

on the US data.[84] This remained Dr Forrester's position in February 1987 when he explained in an internal memo that UK evidence (by which he must have meant the small UK studies considered elsewhere in this submission) did not concur with the US data and advised not to adopt US practice blindly.[85] Against this background, it should have been appreciated that a change in the directors' stance on this issue would require clear explanation to the SHHD, in particular where any reliance was being placed on the US data (as Dr McClelland had done).

As outlined above, the recommendation was made by the directors at their meeting on 3 March 1987. There is little detail of the full extent of the real reasons (as outlined by the expert Dr McClelland) for the recommendation having been made at that time. Dr Forrester was present and reported back to his colleagues, both medical and non-medical, within SHHD. There is no evidence of any further communication having been made either informally or formally by the directors to the SHHD as to their reasons for the recommendation.

Professor Cash accepted in his evidence that more could and should have been done to communicate clearly the reasons for the recommendation to SHHD.[86] In particular, the increasing relevance of the study material from the US (as referred to by Dr McClelland) and the limited value of (a) the small local studies and (b) the research proposed by the WP TAH did not appear to have been explained as the directors' position either in the minutes of the meeting on 3 March or the Lancet article on 4 July 1987. Equally, and in light of the scant reasoning in the minutes of the 3 March meeting, there is no evidence of any further request for any greater specification of the reasons for the recommendation having been made by anyone within SHHD. Dr Forrester indicated in his evidence that he thought that the reasons for the recommendation would be passed to the government through a channel other than himself and that he did not think that any further action on his part was required.[87] Dr McClelland gave evidence to the effect that communication of these matters would have been the responsibility of Professor Cash and through the documents produced surrounding the meetings.[88] Taken at its height, this evidence appears to indicate a significant lack of clarity as to what procedure should be followed. The result of that lack of clarity was a clear communication failure on this issue of central significance to patient safety.

[84] SNF.001.0135 @ 0142 (26 March 1986)
[85] SGF.001.2100 (10 February 1987)
[86] Transcript for 29/11/11 (day 70); 178 (10 to 19) (Professor Cash)
[87] Transcript for 21/11/11 (day 66); 32 (1) to 33 (14) (Dr Forrester)
[88] Transcript for 15/11/11 (day 64); 105 (8 to 20) (Dr McClelland)

What there is clear evidence of, in our submission, is the fact that the working relationship between these two groups had deteriorated significantly by this point. This may well be the reason for the limited communication, the effect of which, in our submission, was the compromising of the safety of the recipients. Dr Macdonald, the chief medical officer, accepted that the working relationship between SHHD and the SNBTS directors had become strained by late 1986 into 1987.[89] The very fact that the directors saw fit to send a letter with their views on surrogate testing to the Lancet when they had not explained their reasoning for the recommendation clearly to the SHHD is indicative of a strained relationship. The correspondence from Professor Cash relating to his perception of the competence of Dr Forrester as the link between the two departments appears to suggest a serious problem[90], as does the refusal of the SHHD to comply with his suggestion as to what to do about it.[91] In particular (a) the reference by Professor Cash to the need for him to raise the issue "once again" suggests that this was an ongoing problem (b) the generality of his comment about lack of confidence suggests that his view does not relate to the specific matter which prompted this letter (c) the recommendation that Dr Forrester should no longer deal with the SNBTS demonstrates Professor Cash's strength of feeling and (d) the letter refers to a previous failure on the part of Dr Forrester to communicate information to Mr Morison properly. Professor Cash's own evidence throughout the Inquiry made it clear, in our submission, that he and the staff of SHHD did not work well together and took very different views as to how best to run the transfusion service. He resigned as consultant advisor to the SHHD in March 1986.[92] He referred to "an almost complete disruption in professional relations between some important and senior members of SHHD's medical team and me. which I suspect lasted for more than a decade".[93]

The difficulties in the relationship between the experts and the decision makers in Scotland, was not conducive towards maximising the interests of patients. Further, it is of interest to note that Mr David McIntosh was keen to change the structure within SNBTS and clarify its working relationship with SHHD. He accepted in his evidence in the C4 section that it was the responsibility of the SNBTS to give advice to the government, to be clear about it and to be clear about the consequences of not accepting it and these things did not happen with anti-HCV testing.[94] We would submit that a there was a failure on the part of the SNBTS in connection with the issue of surrogate testing where no

[89] Transcript for 21/11/11 (day 66); 143 (20) to 144 (9) (Dr Macdonald)
[90] SNB.005.9240
[91] SNB.013.2880

[92] SNB.011.2544
[93] PEN.017.2767
[94] Transcript for 29/11/11 (day 70); 85 (3) to 86 (6) (Mr David McIntosh)

such clear advice was ever properly communicated to the SHHD. The correspondence with Dr Gunson indicates that a recommendation had been made in a half-hearted way on the basis that, despite the fact that it was deemed right that it should be made, it was assumed that it would never be acted upon.

9. Why no testing algorithm (similar to that developed by SNBTS in connection with the introduction of anti HTLV III testing) was developed for NANB surrogate testing by the SNBTS

In the course of preparations for the introduction of anti-HTLV III testing in 1985, the SNBTS prepared an algorithm detailing the way in which the testing programme was to operate when a positive sample was detected.[95] This was clearly the standard method by which the testing process was thought through and depicted graphically to ensure that careful planning was out into consistent practice. It was confirmed in the evidence of Dr McClelland that at the time of the recommendation that surrogate testing be introduced in March 1987 no similar testing algorithm had been devised. This is, again indicative of the attitude described above within SNBTS that surrogate testing would not actually be introduced.

The kinds of details which might have been included in such an algorithm and the importance of advice on these matters being given to the SHHD by SNBTS is considered in more detail below.

10. Whether the SNBTS would have been able to cope with the loss of blood to the transfusion system resulting from the introduction of surrogate testing

It is clear that any measures such to minimise the risks of viral transmission from blood or blood products, such as surrogate testing, would have resulted in a loss of blood to the donor system. It is also clear that the non-specific nature of the testing would have resulted in a degree of false positivity with the result that blood which was not contaminated with NANB hepatitis would be lost to the system. The Inquiry heard evidence from Dr McClelland[96] and Dr Mitchell[97] to the effect that the system could have coped with the loss of blood caused by the introduction of surrogate testing. Dr McClelland expressed the view that the combination of ALT and anti-HBc testing would have

[95] SNB.014.3070 @ 3086
[96] Transcript for 16/11/11 (day 64); 51 (23) to 52 (2) (Dr McClelland)
[97] Transcript for 17/11/11 (day 65); 48 (3 to 22) (Dr Mitchell)

resulted in a loss of blood of around 4.5%.[98] He pointed out that there was usually a surplus of red cells.[99] As is noted above the main population which would have benefited from surrogate testing were blood transfusion recipients of red cells. Given the surplus of these, it seems inherently unreasonable that blood transfusion recipients would not get the benefit of surrogate testing in order to maintain the needs of plasma for fractionation. Of course, these are total amounts and it must be borne in mind that only a proportion of that total would have been "innocent blood" (false positives). As far as the Crawford paper referred to below is concerned, on ALT testing alone it was estimated that around 59% of the blood which tested positive was positive in anti-HCV testing.

It is of interest to note that the possible loss of blood to the donor system was something upon which Dr Forrester commented in an internal memo dated 12 June 1986. In that memo he stated that "rejection of donations might reach 3 percent, a grave loss" if surrogate testing were to be introduced.[100] He had earlier described his role as being one in which he did not express his own opinions but in which he gathered information from others and passed it on.[101] He did not recall having asked the transfusion directors about their views on this. Despite this he felt able to express a view that the rejection of donations would constitute a "grave loss" in this memo. As indicated above, neither of the two main directors thought that the loss of blood to the system could not be overcome.

Given that it would appear that temporary donor deferral was not considered, these estimates must have been based on permanent loss of donor with raised ALT to the system. A temporary deferral system to cope with the possibility of transient rises in ALT in non-infected donors would have eased this burden. Further, the predominance of the evidence given to the Inquiry as that the main pressure on the blood transfusion service in Scotland as far as volume was concerned was due to the need for plasma for fractionation. Given that the main groups for whom surrogate testing would have been of assistance would have been the recipients of blood other than the plasma product recipients, there may not have been such a supply issue for these groups even after a loss of blood due to surrogate testing as might have been expected. In any event, efforts could and should have been made to recruit new donors based on the need for testing due to the risk of viral infection in non-tested blood. Given that donors may themselves be recipients, at least of whole blood, one would have hoped that such effort would have led to an increase in supply. It is interesting to note

[98] Transcript for 16/11/11 (day 64); 35 (24) to 36 (4) (Dr McClelland)
[99] Transcript for 16/11/11 (day 64); 51 (23) to 52 (2) (Dr McClelland)
[100] SGH.002.8142
[101] Transcript for 21/11/11 (day 66); 11 (13 to 15) (Dr Forrester)

that at the very meeting where the directors recommended that surrogate testing should be introduced, it was minuted that donors were not accepted under the age of 18 but that the directors appeared receptive to the possibility of younger donors being allowed. This would have been a method of increasing the blood coming into the system.[102]

The accuracy of the testing mechanisms

11. The likely sensitivity and specificity of surrogate tests (a) as tests in their own right and (b) as markers for NANB hepatitis and the appropriateness of the weight accorded to these factors

The surrogate testing mechanisms which were considered in Scotland were testing for (a) raised ALT levels and/or (b) the presence of anti-HBc. There are two aspects to the question of whether these tests were specific enough to be used as a means of excluding blood which had been donated by NANB hepatitis positive donors. The first is whether the available tests were accurate in detecting the presence of a raised ALT and anti-HBc themselves. The second is whether these tests, no matter how accurate for detecting a raised ALT and the presence of anti-HBc, were accurate in marking the presence of NANB hepatitis.

As far as the first of these elements is concerned, there does not seem to be much evidence available to the Inquiry expressing concern. ALT tests had been conducted on people with bleeding disorders for many years by the second half of the 1980s. No weight appears to have been attached to this factor by the opponents of surrogate testing in the literature. It did not prevent surrogate testing being introduced in other countries (as outlined above).

As far as the sensitivity of the testing as an indicator of NANB hepatitis was concerned, Professor Thomas gave evidence to the effect that the antibody remains in those who have recovered from the disease as well as those who are chronically infected.[103] It is only the presence of antibody and RNA which means that we know that the person is infected. In fact, the person who has recovered has a higher level antibody than the person who is chronically infected. This demonstrates, in our submission, that even anti-HCV testing is really only a surrogate test but it is a surrogate test for infectivity. In our submission, the sensitivity and specificity of surrogate testing needs to be understood against the background (a) that no other form of testing was available (b) that testing

[102] SGH.001.6653 @ 6661
[103] Transcript for 11/10/11 (day 52); 40 (19) to 76 (6) (Professor Thomas)

(even for antibodies to the specific virus in question) would not be a complete answer to the problem.

The presence of antibodies to the hepatitis B core antigen did not indicate the presence of NANB hepatitis antibodies. Instead, their presence demonstrated that the individual concerned had been exposed to the hepatitis B virus in the past. Professor Thomas gave evidence regarding the differences and similarities between HCV and HBV.[104] He noted that both were parenterally transmitted viruses. The rationale behind using anti-HBc as a surrogate marker for the presence of NANB hepatitis was that persons who had been exposed to the hepatitis B virus in the past were likely to have a high risk of having been exposed, and therefore possibly being infected, with NANB hepatitis. This was on the basis that, as both were parenterally transmitted viruses, those who had been exposed to hepatitis B through certain activities may also have been exposed to NANB hepatitis through the same activities.

Raised ALT was known to be caused by the presence of NANB hepatitis. Measurement of ALT levels was used as a means of determining whether haemophiliacs who had received blood products may be infected with hepatitis. Professor Thomas indicated in his evidence that the ALT level would be found to be raised above the upper limit of normal in those with acute infection and that that level would not go down under the upper limit of normal in patients who progressed to the chronic phase of the disease. However, raised ALT is simply an indicator of liver damage and not a specific indicator of the cause of that liver damage.[105] The Inquiry heard oral evidence to the effect that a raised ALT level could be caused by alcohol use, drug abuse, exercise and medical conditions such as coronary heart disease. This might have rendered the use of a raised ALT level as an unsuitable test for the presence of NANB hepatitis. This risk is not something which rendered ALT testing an unsuitable method of donor exclusion for the protection of recipients against NANB transmission. This is because the loss of the donor who had a raised ALT but was not infected with NANB hepatitis (a false positive result) should not be deemed to be a great loss to the system where the causes of that raised ALT were predominately things which rendered the donor unsuitable for other reasons. It is clear from the practice of donor screening that blood was seen of variable quality and that certain types of donors were deemed to be too risky on the basis of certain traits to be allowed to give blood. Amongst these were practices which could have been the cause of a raised ALT level, including drug and alcohol use. This, combined with the system of temporary donor deferral

[104] Transcript for 11/10/11 (day 52) (Professor Thomas)
[105] Transcript for 11/10/11 (day 52); 73 (13 to 21) (Professor Thomas)

advocated below, should, in our view, have meant that using ALT testing for the sake of safety should not have been deemed to be too inspecific a method of rendering blood safer.

A number of the witnesses who gave evidence at the Inquiry seemed keen to stress that ALT and ant-HBc tests were not specific tests for the presence of NANB hepatitis. In his evidence, Dr Macdonald stated that one of the reasons that he was against the introduction of surrogate testing was the fact that it was not a complete solution to the problem.[106] This is inherent in the nature of a surrogate test (and, as outlined above, even a specific antibody test). There can be no suggestion that the introduction of surrogate testing could ever or could have been expected to eradicate the transmission of hepatitis C through blood in Scotland. However, until a more specific test was introduced, surrogate testing would have made a significant contribution to that aim. The importance of doing something to minimise the spread of this potentially lethal disease was all the more pressing, given the fact that there were, during the 1980s, serious doubts about when the virus which caused NANB hepatitis would be found, if ever, enabling a more specific test to be developed. In the first paragraph of his statement to the Inquiry on this topic, Dr Mitchell noted that Dr Harvey Alter had entertained serious doubts as to whether the virus would ever be found.[107] By May 1987, there was clearly no expectation that a specific test would be available any time soon.[108]

12. Whether deferral of donors with raised ALT levels for a limited time period was considered and if not should have been considered

To our knowledge, no evidence was available to the Inquiry to suggest that the deferral of donors for a certain period was ever considered. In his PhD thesis in 1985, Dr Dow had suggested that raised levels of ALT are normally transient and that therefore there would be a strong argument based on his data against permanent donor deferral.[109] In our submission, a donation should not have been accepted from a donor with a raised ALT level on a particular day at a particular donor session. However, consideration should have been given to temporary deferral to deal with the possibility that the raised ALT level was merely transient, which was a possibility recognised by a number of witnesses. Such a donor would not be one who should be lost forever to the system, whilst recognising the immediate risk posed by the raised ALT level.

[106] Transcript for 21/11/11 (day 66); 65 (9 to 12) (Dr Macdonald)
[107] WIT.003.0116
[108] SNB.001.9445 @ 9449 (Council of Europe European Health Committee)
[109] LIT.001.3300 @ 3436

The role of the government in Scotland in the failure to introduce routine surrogate testing

13. The factors influencing the decision making process within SHHD relating to the proposal to introduce surrogate testing for NANB hepatitis in Scotland

Surrogate testing was never introduced in Scotland by the government. There appear to have been a number of reasons for this.

Communication failure

As we have submitted above, the working relationship between SHHD and SNBTS resulted in their being a communication failure surrounding the issue of the introduction of surrogate testing. Whilst the communication of their reasoning on this issue was part of the SNBTS directors' responsibility, we take the view that there were also errors in the way in which this matter was handled within the SHHD. Mr Macniven gave evidence to the effect that it was regularly necessary for the SHHD staff to approach the SNBTS directors for clarification of their reasoning in support of their financial applications.[110] No such approach appears to have been made in connection with the recommendation to implement surrogate testing which was, in effect, a financial application as the minute of the 3 March 1987 meeting makes it clear that separate funding would be necessary.[111] This was despite the fact that Mr Macniven understood his department's representative at the meeting, Dr Forrester, to have been very surprised at the recommendation having been made and that it represented a change of the directors' previous position on this issue.[112]

Following the meeting there was a series of memos exchanged within SHHD. There was no evidence that any of the authors of these memos sought further advice from the SNBTS directors as to their reasoning for the recommendation. The authors seem quite content to express their views as generalists on a recommendation made by experts in transfusion.

The first of these is a Memo by Dr McIntyre dated 6 April 1987.[113] In the Memo he suggests that surrogate testing was to be introduced soon in the USA. It had been introduced in the previous November. The reason for surrogate testing being introduced there is said to be "fear of litigation",

[110] Transcript for 17/11/11 (day 65); 152 (8 to 21) (Mr Macniven)
[111] SGH.001.6653 @ 6658
[112] Transcript for 17/11/11 (day 65); 142 (11 to 13) (Mr Macniven)
[113] SGH.002.8127

as if that were an unjustified basis upon which to institute testing in Scotland and despite the advice received from Professor Cash about the impeding consumer protection legislation (see below). He points out that the main causes of infectious hepatitis were hepatitis A and hepatitis B. Dr McClelland described the content of this memo as "dismissive".[114] Dr McIntyre failed, in our view, to appreciate the increasing concerns about the severity of NANBH which had been clear in the domestic medical literature since 1985 (see our submission on the C3A topic under reference to the evidence of Professor Thomas). Further, the draft points out that the funding request for £810,000 which had been submitted by the SNBTS to introduce surrogate testing was refused as (a) a west of Scotland study (the study reports by Dow & Ors in the Lancet) had shown a low incidence of PT NANBH (b) the paper had suggested that surrogate testing would be expensive and (c) the paper had suggested that there would be false positivity and that testing would not eradicate PT NANBH. The limitations of the Dow paper are shown elsewhere in this submission. The cost effectiveness of surrogate testing is dealt with in the July 1987 Lancet letter from the SNBTS directors where it is argued that surrogate testing would, in fact, be a more cost effective disease prevention measure than other existing forms of testing. The final argument is, in our submission, entirely misplaced. Surrogate testing was a non-specific form of testing which, by its nature, would involve a degree of false positivity. This does not, in our submission, rule it out as a useful interim measure aimed at achieving some prevention pending the arrival of a more specific test. If compete eradication were the standard by which testing measures were judged, no testing would ever be instituted. Dr McIntyre points out that they wished to await DHSS thinking on the subject. This demonstrates a clear preference for following the English on this matter which is also addressed elsewhere in this submission. The memo concludes that it would be "logical" to participate in the research being proposed by the WP TAH before embarking on a surrogate testing programme. In our submission, as discussed above, this was not a logical step as that research involved donors only and so would have given little, if any, insight into the likely effectiveness of surrogate testing in preventing PT NANBH.

Dr Scott agreed with this approach in a memo dated 7 April 1987.[115] He stated that they should do whatever they could to prevent the introduction of surrogate testing and that the SNBTS should not be allowed to blackamail them into providing funds. The reasons for this are perhaps not clear but he had indicated concern in an earlier memo about co-ordination with the English BTS on this issue.[116] It is hard to understand why a measure proposed in the interests of patient safety should

[114] Transcript for 15/11/11 (day 64); 109 (5 to 7) (Dr McClelland)
[115] SGH.002.8126

[116] SGH.002.8146 (16 October 1986)

require any "blackmail" for funding to be provided for it. Mr Macniven agreed that research was the way to go in a memo dated 9 April 1987 [117] as did Mr Moir by memo of 23 April 1987.[118]

None of these memos demonstrates an understanding of the reasoning why Dr McClelland, the leader on this issue within SNBTS, had made the recommendation that surrogate testing be implemented.

Proposed research

In February 1987, Dr Forrester showed that he understood there to be a divergence between UK evidence (by which he must have meant the small UK studies considered elsewhere in this submission) and the US data and advised not to adopt US practice blindly.[119] The usefulness of of the small scale local studies as a basis for decision making in this area is addressed elsewhere in this submission. The exchange of memos referred to above suggests that the position within SHHD in 1987 was (a) that small local studies had demonstrated the limited incidence of PT NANBH in Scotland and the limited utility of surrogate testing in its prevention and (b) that the research proposed by the WP TAH was the way to go at this stage. This attitude is further exemplified by a memo from Mr Duncan Macniven (the assistant secretary with responsibility for blood transfusion in SHHD) dated 2 October 1987.[120] In this memo to Dr Forrester, Mr Macniven reiterates his preference for research by saying that "the worst of all worlds is that research cannot get off the ground." In those circumstances he feared that they would come under increasingly irresistible pressure to spend the money and introduce surrogate testing for the sake of improving the safety of blood and blood products (at any price). It should be borne in mind that it was known within SHHD that HBsAg and anti-HTLV III testing had been introduced in Scotland without any prior research. Further, it was also known within SHHD that certain haematologists and other clinicians had thought that the introduction of anti-HTLV III testing was slow (even without a delay for research) and that they felt the same way towards delay surrounding surrogate testing.[121] This shows that the prevalent attitude within SHHD was that research should be undertaken so that a decision about the introduction of surrogate testing could be delayed. But for the research, the political pressure for testing would be "irresistible" according to Mr Macniven. As we have stated above the limited

[117] SGH.002.8125
[118] SGH.002.8122

[119] SGF.001.2100 (10 February 1987)
[120] SGH.002.8076
[121] See comments of Dr Forrester notes in SNF.001.0135 @ 0142 (26 March 1986)

likely utility of the research proposed by the WP TAH had not been appreciated by SHHD. This preference for unnecessary delay was entirely consistent with their desire not to do anything before England (see below).

SHHD was partly responsible for its failure of understanding of the SNBTS directors' reasoning on the surrogate testing issue. It did not ask. It was its responsibility to take all of the advice it could and inform the minister about the advantages and disadvantages of the proposal. In our submission, the memo by Mr Macniven demonstrates that the overwhelming desire within SHHD was to kick the issue of surrogate testing into the long grass, irrespective of the advice from the experts in the SNBTS directors group that the time had come for its introduction. Indeed, in a letter to Dr Smithies at the DHSS, Dr Forrester expressed the hope that the message both north and south of the border would be "research first, action later" on this issue.[122] In his written evidence to the Inquiry, Dr McClelland pointed out that the multi-centre study into donors (originally proposed at the November 1986 WP TAH) and which was not reported until 1988 was, in his view, an "irrelevance". However, he made it clear that it was the focus of many, including those within SHHD. The time could have been better spent analysing what evidence there was which challenged the belief that NANBH was a non-serious condition rarely transmitted by transfusion.[123]

The understanding within SHHD of the likely severity of NANB hepatitis

The understanding of the government in Scotland of the potential severity of NANB hepatitis influenced decision making regarding surrogate testing for NANB hepatitis in Scotland. As is examined in detail above, it appears that the understanding of the generalist medical advisors of the current understanding on the severity and progressive nature of the disease in the second half of the 1980s was inaccurate. This misguided understanding is likely, in our view, to have been a contributory factor in the non-introduction of surrogate testing in Scotland.

Financial considerations

As pointed out in the opening pages of this submission, funding does not seem to have been a major impediment to the introduction of surrogate testing. Further, little, if any, consideration appears to have been given within SHHD to potential savings in care costs resulting from prevention of infection. The discussion of the issue was all about the annual budget and not the longer term

[122] SGH.002.8145 (17 October 1986)
[123] Transcript for 16/11/11 (day 64); 27 (20) to 28 (7) (Dr McClelland)

picture. Internationally, more consideration was given the potential effectiveness of surrogate testing in the reduction of costs involved in the treatment of chronic hepatitis and the importance of balancing this factor in decision making about incurring the cost of testing.[124] Further, the relative cost effectiveness of surrogate testing compared to existing forms of testing in disease prevention was specifically addressed by the authors of the letter to the Lancet on 4 July 1987. This does not seem to have been considered in any detail either within SHHD.

The delaying of a decision on surrogate testing

The SHHD's approach was to delay making a decision about the introduction of surrogate testing by favouring research as proposed by the WP TAH in November 1986. The desire within SHHD was not to take steps not being taken in England. Professor Cash pointed out that he had learned from Dr Gunson that there was no real appetite for surrogate testing within the DHSS.[125] In light of this political stance, one can more easily understand the paradox of the November 1986 at which Dr Gunson presented information which assisted in persuading Dr McClelland that surrogate testing should be implemented whilst also recommending research which Dr McClelland described as "irrelevant" to the surrogate testing question. Dr Macdonald suggested that the introduction of surrogate testing in Scotland but not in England would be "extremely difficult to explain" when different approaches were being taken within the same government.[126] He later added that the DHHS would have taken the lead on major matters and SHHD would have been required to fit its policy around the DHSS view.[127] This appears to be what happened with surrogate testing. Mr Macniven suggested that there was a degree of hesitation in accepting the recommendation of the SNBTS directors in March 1987 because there were a great many finger posts pointing in different directions, including people within SNBTS.[128] This failed to recognise that the recommendation made by the SNBTS directors, the local blood transfusion experts, in March 1987 was unanimous. To the extent that there were others within SNBTS (such as Dr Gillon and Dr Dow) whose studies did not square with the recommendation precisely, the limitations of their studies as a basis for decision making are addressed elsewhere in this submission. Instead, it appears that SHHD were keen to appease the concerns of colleagues within the DHSS.[129] Rather than listening to the unanimous

[124] SNB.001.9445 @ 9447 (Dr Habibi)
[125] Transcript for 16/11/11 (day 64); 151 (2 to 3) (Professor Cash)
[126] Transcript for 21/11/11 (day 66); 66 (3) to 67 (1) (Dr Macdonald)
[127] Transcript for 21/11/11 (day 66); 80 (22 to 25) (Dr Macdonald)
[128][128] Transcript for 17/11/11 (day 65); 141 (7 to 9) (Mr Macniven)
[129] SGF.001.2085 (21 July 1987)

advice of the SNBTS directors, as Mr Macniven stated "we were conscious of the fact that the view of the BTS directors south of the border was against the introduction of surrogate testing".[130]

In his evidence, Dr McClelland indicated that he would not have had any compunction about recommending surrogate testing even if the English transfusion directors had no plans to do the same.[131] More attention should have been paid within SHHD to the transfusion directors whose concern was the safety of patients and less to political pressure from Westminster.

The identity of those for whom surrogate testing may have been of benefit

We contend that surrogate testing would have been of benefit to blood transfusion recipients and patients treated for bleeding disorders with cryoprecipitate.

In his evidence, Dr Macdonald (then CMO) stated that he thought that the recommendation had been made by the SNBTS directors in March 1987 due to the need to be able to compete on a level playing field with the US producers of blood products who subjected their plasma to surrogate testing.[132] From this, we take it that the SHHD viewed surrogate testing at this as an issue relating to blood products and what you could say in the package insert as against the commercial products which could say that they had been made from plasma which had been subjected to surrogate testing. This misses the point completely. It was all about the non-concentrate recipients of blood and blood products who are most likely to be uninfected on receipt of their transfusions and who were not protected after 1987 by heat treatment.

Further, the Inquiry heard no evidence that any consideration was given to addressing any concerns about efforts which would be required for routine surrogate testing to be implemented by subjecting only the blood which was due to be used in blood transfusion and in plasma used in the production of cryoprecipitate to surrogate testing. This approach would have maximised the chances of benefitting those who stood to benefit from surrogate testing without requiring a process to be scaled up and paid for to test every blood donation given in Scotland. Dr McClelland did not appear to support this as an option.[133] However, we note that Dr Mitchell recorded in his note of the fifth meeting of the ACVSB that FDA would recommend testing single donor blood but not the blood for

[130] Transcript for 17/11/11 (day 65); 180 (14 to 16) (Mr Macniven)
[131] Transcript for 15/11/11 (day 63); 132 (6 to 11) (Dr McClelland)
[132] Transcript for 21/11/11 (day 66); 129 (3) to 130 (16) and 141 (15 to 20) (Dr Macdonald)
[133] Transcript for 16/11/11 (day 64); 99 (21) (Dr McClelland)

fractionated products and so this approach to testing some of the blood seems to have found some favour there.[134]

Conclusion

Though we have stated above that there was a clear failure on the part of SNBTS to communicate effectively to the decision makers within SHHD the reasoning for their support for surrogate testing in March 1987, it is also our submission that the staff within SHHD failed properly to clarify their reasoning and reached decisions in connection with this issue based upon misunderstandings of key issues and a desire to delay a final decision being taken on this matter. The possibility of surrogate testing had been raised by the SNBTS directors many months before their recommendation in March 1987. It was raised a meeting on 26 June 1986. In his note of the meeting, Dr Forrester was dismissive of the concept of surrogate testing and, in response to Professor Cash's views on product liability, he merely commented that all of this was just his way trying to get more money.[135] In our submission, this remained the position of the SHHD throughout the period during which surrogate testing was being considered. It was this dismissive attitude which led Dr McClelland to draft the letter to the Lancet (eventually published on 4 July 1987) as, in an uncharacteristic move, he felt the need to "stir the pot a little".[136] The attitude of the SHHD, in our submission, was conditioned by a political desire not to introduce surrogate testing before England did. Its limited consideration of the severity of the disease and the likely benefits of research involving donors only (which they supported) led to a view being taken which was consistent with this political aim. It was not, in the best interests of patients.

14. The reasons for the decision of administrative staff in the SHHD not to refer the specific question of surrogate testing for the consideration of the appropriate minister within SHHD

Evidence was heard from staff of the SHHD at the time when the introduction of surrogate testing was being considered, both on the medical and the administrative side. The matter was not referred to the health minister within SHHD as a specific matter being recommended for the minister's consideration[137] but it was referred to him as part of the budget proposals referred to above. The

[134] SNF.001.1491 @ 1500
[135] SGH.001.6295 (30 June 1986)
[136] Transcript for 16/11/11 (day 64); 111 (12 to 23) Dr McClelland)
[137] Transcript for 17/11/11 (day 65); 139 (14 to 16) (Mr Macniven)

member of the administrative staff who has responsible for dealing with this matter and making the decision not to make such a specific referral was Mr Duncan Macniven, the assistant secretary with responsibility for blood transfusion matters within SHHD at the time of the SNBTS directors' recommendation. In his evidence, Mr Macniven said that it would have been impracticable for all matters to be referred to the minister for his attention and that he and other staff required to exercise their judgement as to which matters would be referred to the minister.[138]

Mr Macniven's successor in office, Mr George Tucker, said in a statement which he provided to the Inquiry on the C4 topic that "if we had contradictory Scottish expert advice then ministers would have been consulted first".[139] This policy, in our submission, seemed to recognise that ultimate responsibility lay with the minister for making decisions, that the medical advisors within SHHD were not experts and that expert advice needed to be accorded the appropriate weight and put to the minister. In connection with surrogate testing, there was a dispute amongst the experts as to whether it should be introduced. The SNBTS directors had taken one view. Others, like Dr Gunson and Drs Gillon and Dow (as indicated in their letters of June 1987 to the Lancet) had taken another. Given the fact that surrogate testing was an important safety issue about which there had been considerable debate within the transfusion services and the wider medical profession, we would submit that the matter should have been referred for the minister's consideration in line with the policy later adopted by Mr Tucker.

15. The balancing exercise carried out between the rights of donors and the rights of recipients of blood and blood products in decision making about surrogate testing

It was a commonly held position amongst the witnesses who gave evidence to the Inquiry in this section (both from the SNBTS and from the government) that the decision whether or not to instigate surrogate testing in Scotland required there to be a balancing between the rights and interests of blood donors and those of recipients of blood and blood products. In his evidence, Dr Macdonald stated that one of the reasons that he was against the introduction of surrogate testing was the fact that it would have had repercussions on the donors.[140] There is no doubt that it was proper for the interests of both of these groups to weigh in the balance in making decisions like this. However, in our submission, the interests of donors weighed too heavily in the balance. This was clearly demonstrated by the attitude of Dr Macdonald, the CMO, to surrogate testing. Even when

[138] Transcript for 17/11/11 (day 65); 140 (13 to 25) (Mr Macniven)
[139] PEN.017.2060 @ PEN.017.2063
[140] Transcript for 21/11/11 (day 66); 65 (12) to 66 (2) (Dr Macdonald)

faced with the hypothesis that surrogate testing could reduce PT NANBH by 30 to 40%, he still said he would have opposed it as he would have "put considerable weight on the possibility that donors would find it disturbing". He said that the interests of the donors required to be protected "almost at any cost".[141]

The issue of the counselling of donors who had been found to have positive results on one or both of the surrogate tests was one which appeared to have had a significant impact on the decision making process both from the point of view of (a) the efforts which would be needed to institute a system of counselling and (b) the problems associated with having to break the news of a positive test to a donor, who had only volunteered to give blood. In our submission, these considerations weighed too heavily in the decision not to introduce surrogate testing. As far as the practicality of introducing counselling was concerned, it is clear that staff within SNBTS had experience of counselling and had been trained in counselling techniques in connection with other testing programmes.[142] Therefore, it does not seem that the introduction of counselling in connection with a positive surrogate test would have caused too many logistical problems. From the point of view of the requirement to break the news of a positive test to the donor, Dr Mitchell talked in his evidence about the importance of not turning donors into patients.[143] This, in our submission, was entirely the wrong approach. It is based on an assumption that a donor would not want to know if there was something which might be wrong with him. It is based on a desire not to impose a practical burden on the health service in the short term (as such a patient may require some form of of care) but ignores the fact that that short term care, which could only be offered if the patient were informed of the potential medical problem, could avoid longer term complications for the patient. Further, the premise appears to be based on the assumption that the news of a raised ALT or the presence of anti-HBc would be bad news and would necessitate further medical treatment. Given that the presence of the latter in conjunction with a negative hepatitis B test would indicate that the individual had been in contact with hepatitis B but was not infected with the disease, this does not appear to be bad news. It was argued by a number of the opponents of surrogate testing that it was too non-specific to be of use. It would seem illogical for those people to argue at the same time that a positive ALT test would necessarily indicate bad news on the basis that, as was pointed out, the test is a non-specific marker for the presence of NANB hepatitis. In any event, whatever the cause of the raised ALT level, informing the donor would enable them to do something about it if it was

[141] Transcript for 21/11/11 (day 66); 77 (8 to 20) (Dr Macdonald)
[142] See SGH.001.6286 @ 6289 (25 June 1986) and the reference to the successful counselling training which had taken place in May 1986
[143] Transcript for 17/11/11 (day 65); 48 (21 to 22) (Dr Mitchell)

indicative of an underlying medical problem. We do not see that as a negative consequence of the raised ALT test result. If the patient were infected with NANB hepatitis, it would be more likely that early treatment would be effective than it would be likely to be if one waited potentially many years for the symptoms to manifest themselves. Internationally, it was thought in some quarters that ALT testing might represent a valuable contribution by the blood transfusion services to public health as donors would be identified and counselled.[144]

Further, it must be borne in mind that blood donors were also potential recipients of blood transfusions. It would be wrong, therefore, to have assumed that they would not want blood to be excluded from the system which might cause infection with NANB hepatitis.

In our submission, the arguments of transfusionists and government officials that surrogate testing would have been too detrimental to the interests of donors represent a confusion between the interests of donors and their own interests. As outlined above, we are not of the view that informing donors would not have been detrimental to their interests at all. It may have caused practical problems for the government and/or the transfusion doctors in having to devise and institute a system for this to be achieved and to break what might be perceived as "bad news" to donors but this should not, in our view, have been an impediment to the introduction of surrogate testing.

On a more general point, the evidence given by certain the transfusion doctors gave the impression that their principal concern as with the donors rather than the recipients of blood and blood products. We have referred to the evidence of Dr Mitchell above as an example of this. It is true to say that the donors only had the transfusion doctors to look out for their interests. Recipients had their clinician who was prescribing the transfusion or product. In our submission, it was the responsibility of the transfusion doctors to balance carefully the interests of the donors and the recipients of the blood equally in the discharge of their responsibilities. Further, it seems that the government in Scotland also saw the interests of the donors as weighing more heavily in the exercise of their public health function. Equally, the proper discharge of that obligation required a careful balancing of the proper functioning of the highly valued national blood transfusion system (and hence of the interests of donors) and the prevention of the spread of disease through that system (and hence the interests of recipients).

[144] SNB.001.9445 @ 9447 (Dr Habibi)

16. Whether the SNBTS gave sufficient clear advice on practical arrangements relating to surrogate testing to SHHD and whether any lack of such advice affected SHHD thinking regarding the introduction of surrogate testing

The introduction of surrogate testing would have required there to be decisions made and action taken on the following practical matters:

- New equipment would have been required for the testing to be carried out on a national scale.
- Training would have been required for the staff responsible for carrying out the testing.
- A decision would have been required about ALT level which would result in a positive donation being excluded. The lower the ALT level the greater the likelihood of false positivity. The higher the ALT level, the greater the possibility of false negativity.
- The requirement for donor counselling, including training of staff required to carry this out.
- Donor recruitment measures would have been required for making up any loss of blood to the transfusion system which the introduction of surrogate testing would have created.

There is no evidence of clear advice on these matters having been communicated to SHHD by the SNBTS. It is clear that the analysis which SHHD required to carry out was a cost/benefit analysis involving "substantial patient safety/expenditure issues" as Mr Macniven phrased it in one communication.[145] The application for funding was done via the normal PES application route. An initial application was made in the 1986 Public Expenditure Survey document for an initial sum of £810,000 for the year 1987/88.[146] The application contained little detail about the reasoning for such testing to be introduced.[147] Mr Murray pointed out in an internal note that they were not putting in a funding application for the year 87/88 for surrogate testing, despite the application.[148] A further such application was made the following year with little if any additional information. [149] These applications contained no detail about how the figures sought were arrived at and therefore, did not form a coherent basis upon which it could be assessed whether the sums sought represented reasonable estimates of actual likely expenditure or not. Given the delicate cost/benefit analysis which SHHD required to carry out, it is likely that the failure of SNBTS to communicate their position on these practical aspects (and the failure of SHHD to clarify in more detail the position in this

[145] SGH.002.8076 (2 October 1987)
[146] SNB.0011.2637 @ 2640
[147] SNB.0011.2637 @ 2649
[148] SGF.001.2261 (21 October 1986)
[149] SNB.011.3743 @ 3750 & 3755

regard) influenced the decision making process regarding the introduction of surrogate testing and the final decision that it should not be introduced.

Blood was being subjected to other testing in any event during the 1980s, including testing for HBsAg and anti-HTLV-III (the latter from October 1985). It seems reasonable to assume that the fact that donated blood required to undergo this testing anyway would have resulted in surrogate testing being able to be introduced relatively easily alongside the existing testing processes. It is interesting to note that the analysis of the likely effectiveness of surrogate testing done by various commentators in the Lancet between April and July 1987 (referred to in detail above) was done in terms of the cost effectiveness of the testing regime. In our submission, it is clear that the statutory regime which was being implemented at around this time indicated that there required to be a move away from such a cost based approach towards a regime of strict liability based on the needs and interests of the consumer. None of the smaller studies referred to the impending legislation or to the cost effectiveness of having to care for those patients who were infected with PT NANBH as a result of the absence of surrogate testing or the cost of a breach of obligations under the Act. The requirements of the Act were, however, considered in the letter written by the Scottish transfusion directors published on 4 July 1987.

Evidence was heard in the oral hearings that it was considered within SNBTS that they would be able to make decisions about these matters quickly after the introduction of surrogate testing, on the basis that they had experience of introducing testing previously. This attitude did not take account of the fact that it would be reasonable to expect that SHHD would require to be given the details of the proposal both from the point of view of deciding whether the regime was likely to be beneficial and from the point of view of trying to cost the proposal accurately.

17. When surrogate testing for NANB hepatitis in Scotland could practically have been introduced

Dr McClelland gave evidence to the effect that the SNBTS were experienced in rolling out testing programmes by the second half of the 1980s, having been responsible for instituting systems to test for both HBsAg and anti-HIV. These systems were up and running. Introducing a new testing system alongside would have been relatively straightforward. Dr McClelland was certainly of this view. He suggested that surrogate testing could have been started without a full counselling system in place and that it would have taken "a few months" to get all the practical matters in place, such as

equipment and staff training.[150] This suggests that the testing regime could have been rolled out fairly quickly after funding was secured and the wheels were set in motion.

18. Whether consideration was, or should have been, given to the introduction of surrogate testing after the isolation and identification of the Hepatitis C virus

The virus which caused NANB hepatitis was identified by the spring of 1988. As is discussed in more detail in our submission relating to the C4 section, this was merely the first step in progress towards a routine specific anti-HCV test being introduced in Scotland. The evidence heard by the Inquiry was that consideration of surrogate testing faded into the background after this time. In our submission, given the fact that it was clear from the isolation of the virus that it would take a considerable amount of time before routine anti-HCV testing could be implemented in Scotland, it was a mistake for the possible use of surrogate tests to have been disregarded. As was pointed out by the Lancet letter written by the SNBTS directors dated 4 July 1987, surrogate testing would be of value in preventing a certain number of cases of post transfusion hepatitis. Given that it took around 3 and a half years for routine anti-HCV testing to be introduced in Scotland, the arguments in favour of surrogate testing remained valid over that period. ALT testing appears to have been introduced in Switzerland after the isolation of the hepatitis C virus and in France an anti-HBc testing regime was added to the existing ALT testing regime on 3 October 1988. ALT testing was introduced in Queensland in April 1989. [151] Further, there is evidence that certain countries continued to carry out surrogate testing even after anti-HCV testing was introduced.[152]

Professor Leikola indicated that he did not think that surrogate testing required to be introduced, given that anti-HCV testing was available in 1990. However, anti-HCV testing was not introduced in Scotland until September 1991. Therefore, the period during which there was no testing at all in Scotland was significantly longer than his experience in Finland (which was one of the first countries to introduce anti-HCV screening, it being fully implemented in April 1990[153]). Finland was not a member of the EEC at this time and so was not subject to the Council Directive which gave rise to the enactment of the Consumer Protection Act 1987 in the UK.

[150] Transcript for 16/11/11 (day 64); 20 (4) to 21 (5) (Dr McClelland)
[151] PEN.017.0302 @ 0369 (judgement of Burton J in A v National Blood authority)
[152] SNB.001.8678 @ 8680
[153] PEN.017.0302 @ 0387 (judgement of Burton J in A v National Blood authority)

It is clear that the issue of surrogate testing did not disappear completely from the agenda after the isolation of the virus. However, even by the time of their meeting on 10 June 1987, the directors had noted the need for synchrony with England and Wales over surrogate testing.[154] At the SNBTS directors meeting of 12 April 1988, it was confirmed that surrogate testing would not be introduced until it was UK policy.[155] By the time of the SNBTS directors meeting on 13 December 1988, Professor Cash announced that surrogate testing would not be introduced by the directors until SHHD and the DHSS supported and funded the project.[156] In a memo from Mr David McIntosh to Dr McIntyre dated 12 March 1990, the issue of ALT testing was still being considered. The former was seeking from the latter a confirmation that ALT testing was not being introduced and that the SHHD and the DHSS still opposed it.[157] As will be addressed more fully in our C4 submission, by this time, it appears that the SNBTS directors (and Professor Cash in particular) had retreated from their previous policy of trying to persuade the SHHD into taking steps, like testing, to improve the safety of the blood supply, instead leaving matters entirely within the responsibility of the SHHD.

In our submission, it is clear from this correspondence that surrogate testing remained theoretically an option for some time after the virus was isolated. However, there appears to have been little, if any, real attempt to develop the current understanding of the likely benefits which such a testing regime would bring. As Dr McClelland pointed out, the focus within SHHD was, for some time, on the multi centre study which he considered to be an "irrelevance" as it focussed only on donors.[158] This is most unfortunate, in our submission, given that surrogate testing would, if it had been introduced at any time over this period, have been of benefit to the safety of blood and blood products.

19. The significance of the obligations owed by SNBTS to consumers of its products under the Consumer Protection Act 1987 both before and after its enactment and the extent to which proper cognisance was taken by the government/the NHS in Scotland of information and guidance on the nature and extent of those obligations in reaching decisions about surrogate testing

[154] SGF.001.0127 @ 0132
[155] SNB.002.7321 @ 7324
[156] SNB.002.7350 @ 7353
[157] SNB.002.7350
[158] Transcript for 16/11/11 (day 64); 27 (20) to 28 (7) (Dr McClelland)

The legislation which was eventually enacted as the Consumer Protection Act 1987 forms, an important part of the backdrop to the consideration of surrogate testing. The issue of product liability in the context of blood transfusion was raised as early as November 1985 at a BTS meeting which was attended by Professor Cash[159] and certainly one which was discussed within the SHHD and was regularly an agenda item at meetings of the SNBTS directors in the second half of the 1980s.[160] It is clear from the material to which the Inquiry has access that Professor Cash raised certain concerns about the inclusion of blood and blood products in the definition of products to which the provisions of the legislation, in particular the strict liability provisions of the legislation, would apply. When he did so, it appears that his anxiety was considered by Dr Forrester to be a means by which he could obtain unlimited funds or seek to excuse even the most negligent or careless act.[161] It is noteworthy that on the previous page of his note, Dr Forrester had dismissed the US introduction of surrogate testing as have been done understandably "to restrict their legal liabilities". Dr Forrester seems equally dismissive of Professor Cash's anxiety that similar legal liabilities may arise in Scotland. We consider this to be a most misguided dismissal of the view expressed by Professor Cash on this issue.

The intended wording of the legislation was explained to the SHHD by the DTI in February 1987 in response to concerns raised by Professor Cash about the inclusion of blood and blood products within the statutory ambit.[162] In particular, efforts were made to address the concerns which had been raised previously that there were viruses which were undetectable in blood and blood products and the concerns that liability would stem from that. It was pointed out that the Act would include a "state of the art" defence which would enable the transfusion services to escape liability if the virus causing infection were beyond the extent of contemporaneous medical knowledge. In our submission, the government in Scotland failed to appreciate the nature of the argument being made by the SNBTS directors in the Lancet article concerning the impact of the legislation and the consequent need for action and also the comments made by Professor Cash surrounding the wording of the new legislation. When Professor Cash raised his initial objection to blood products being included within the definition of products to which the legislation applied, he was, in our submission, effectively offering an expert opinion as to how the then current practices of the might be interpreted if judged against the standards of the proposed legislation. He had made it clear that he thought that there would be no defence if blood and blood products were included within the

[159] SGH.001.8259 @ 8261
[160] eg SGH.001.6653 @ 6657 (3 March 1987)
[161] SGH.001.6295 @ 5296 (30 June 1986)
[162] SGH.005.0155 (9 February 1987)

statutory ambit.[163] The state of the art defence would not apply as NANB hepatitis was known about. Therefore, whatever testing was available (including surrogate testing) required to be instituted in order to minimise the number of infections and the number of potential claimants under the strict liability provisions of the Act.

As was determined by Burton J in the case of A v The National Blood Authority & Ors[164], the failure of the English BTS to introduce routine surrogate testing of blood donations there was a breach of the strict liability provisions of the Consumer Protection Act 1987 from the time at which those provisions came into force in March 1988. Given the fact that there is a clear history of the implications of the Act for the blood transfusion services in Scotland and also the specific warnings provided by Professor Cash about the potential exposure under the legislation based on the absence of a surrogate testing regime, we submit that it cannot be deemed reasonable on the part of the SHHD not to have implemented surrogate testing before March 1988 on the basis of its obligations under the legislation alone.

When asked about the reasons for the recommendation to introduce surrogate testing in March 1987, Professor Cash indicated that part of the reason, at least, was the emergence of product liability and the whole question of patient safety.[165] This would tend to imply that patient safety was a concept which had not always been at the forefront of thinking in the provision of blood and blood products. In our submission, patient safety should always have been the key consideration in decision making.

The consequences of the failure to introduce surrogate testing

20. The number of infections with Hepatitis C in Scotland which are likely to have been avoided, had surrogate testing for NANB hepatitis been introduced

The Inquiry has made certain investigations into the number of patients infected with hepatitis C as a result of blood transfusions in Scotland. It is our understanding that those investigations are still ongoing. The epidemiologist Dr Kate Soldan gave evidence to the Ross Committee to the effect that

[163] SGH.005.0149
[164] [2001] EWHC QB 446
[165] Transcript for 29/11/11 (day 70); 175 (15 to 16) (Professor Cash)

around 3,500 people were infected with hepatitis C as a result of blood transfusions in Scotland.[166] Surrogate testing would have been likely to have had a significant effect on the reduction of infection with hepatitis C

Against this background, the Inquiry has access to a certain number of useful pieces of evidence in analysing the potential usefulness of surrogate testing in minimising the transmission of PT NANBH. Dr Dow gave evidence to the effect that he thought that surrogate testing would have been likely to have reduced the incidence of PT NANBH in Scotland by 70%.[167] He was an individual who was very familiar with this whole area and we would invite the Inquiry to accept his view on that matter. Further, as was spoken to in evidence by Dr McClelland[168], the study done by Crawford & Ors on donors in the 6 months after the introduction of anti-HCV screening found that 0.088% of donors tested HCV positive and that 59% of those has ALT level above the upper limit of normal.[169] Even amongst the 159 positive donors identified as anti-HCV positive amongst the 180,658 donors who were tested, that would have resulted in the west of Scotland alone in 94 positive donations positive donations potentially destined to infect a blood transfusion patient being excluded.

Dr McClelland was of the view that this analysis needed to take consideration of a true prospective study of the value of surrogate testing, done between 1988 and 1992 in Canada.[170] He was of the view that this was the best available evidence of the likely impact of surrogate testing on reducing the incidence of PT NANBH[171] although he subsequently added a note of caution about its statistical significance.[172] In this paper an analysis was done of the apparent transmission rates of PTH to patients based on whether the blood which they had received had been subjected to the two forms of surrogate tests (which were not routinely performed in Canada) or whether it was not surrogate tested. It is significant to note that these figures came from recipients of blood (a) before the introduction of routine anti-HCV screening and (b) which had been screened for anti-HIV. Therefore all recipients benefitted from the incidental exclusion of donors who had hepatitis C and were excluded primarily to prevent HIV transmission. In the 397 patients who received non-tested blood, 8 were infected. In the 402 patients who received tested blood, only 2 were infected. Dr McClelland confirmed that the Canadian data (based transfusion of blood collected and treated in a similar way

[166] Report of the Expert Group on Financial and other Support (March 20033) @ paragraph 4.8 - fgunsonhttp://www.scotland.gov.uk/Resource/Doc/47034/0024918.pdf
[167] Transcript for 22/11/11 (day 67); 34 (21) to 35 (4) (Dr Dow)

[168] Transcript for 16/11/11 (day 64); 33 (19) to 34 (3) (Dr McClelland)
[169] PEN.002.0582
[170] LIT.001.3223
[171] Transcript for 16/11/11 (day 64); 40 (14 to 16) (Dr McClelland)
[172] PEN.019.0100

to the contemporaneous Scottish blood collection system) would have resulted in a 70% reduction in the incidence of PT NANBH in Scotland. In our submission, this is a safe assumption. Dr McClelland carried out certain calculations in his supplementary report on the C2 topic based on a 50% reduction and the HCV prevalence rates amongst donors as reported in the Crawford paper. We would wish to add to that (a) that the Canadian paper relied upon by him would have suggested a higher rate of reduction of PT NANBH due to surrogate testing (70%) and (b) the prevalence figures from the Crawford paper were lower than the rates used by other commentators, such as Professor Thomas who preferred a figure of around 0.5% based on the paper by Minor & Ors (see out C3A submission). This use of these alternative figures would result in (a) a higher rate of infection due to the higher prevalence and (b) a higher rate of prevention than the working hypothesis upon which Dr McClelland based his calculation.

Conclusions

21. Whether and when routine surrogate testing for markers for NANB hepatitis in Scotland should have been introduced

We submit that routine surrogate testing should have been introduced in Scotland in 1987 as a result of information available about it in 1986 or at the latest in accordance with the recommendation made by the SNBTS directors in March 1987. This would have resulted in routine screening being introduced in 1988. Dr McClelland gave evidence to the effect that the SNBTS had considerable experience in rolling out testing programmes by the second half of the 1980s and that he feels that once the decisions were taken, both types of surrogate testing could have been instituted "quite quickly". He also mentioned that the anti-core testing could have been instituted within days.[173]

In his statement to the Inquiry on this topic, Dr Mitchell pointed out that there was a belief that healthy donors gave truthful answers to questions at this time. This appears to be indicative of a culture in the blood transfusion service and in the government in Scotland and nationally at the time. In our submission, this was a misguided approach which led to there being insufficient urgency in the contemporaneous attitude to carrying out a large scale study such as that proposed by Dr McClelland and to the introduction of additional safety mechanisms such as surrogate testing. In his evidence in the case of A v National Blood Authority & Ors, Dr Barbara expressed the view that

[173] Transcript for 15/11/11 (day 63); 141 (2 to 12) (Dr McClelland)

around 10% of blood donors in England, under a similar voluntary donor regime to that in Scotland, should not have been accepted.[174] This was blood being donated by the donors in a system which relied upon self-exclusion and in whom Dr Mitchell and others appear to have placed such faith. In our submission, the assumption that donors were truthful, in particular high risk donors for NANB hepatitis, was not appropriate and did not provide sufficient protection against the transmission of what was known to be a potentially lethal disease by 1986.

22. Whether the failure to introduce routine surrogate testing for markers for NANB hepatitis in Scotland was in the best interests of the recipients of blood and blood products

It is clear that a balancing exercise required to be carried out in considering whether safety measures such as surrogate testing should be introduced. Dr McClelland gave evidence to the effect that he took the view that if one could demonstrate that a particular safety measure would be of benefit, then it should be introduced. He contrasted the "Krever"" precautionary view based on patient safety with the health economic view, which was focussed primarily on cost.[175] Patient safety was **the** factor in his consideration and his motivation as to try to get surrogate testing started by March 1987.[176] At a meeting of the Council of Europe European Health Committee in May 1987, it was concluded that if blood were to have maximum safety then surrogate testing would have to be introduced.[177] The legislative framework which was on the way at the time when surrogate testing was being considered imposed strict liability on producers of blood and blood products to ensure that these products were such that persons generally were entitled to expect.

In reality, there were two camps on this matter. There were those, like Dr McClelland, whose agenda was to "try and get testing started"[178] in 1987. There were those who wanted to "buy time a bit".[179] There was nothing else which could have been done at that time to minimise the risk of PT NANBH.[180] In our submission, those in the latter category reached the view that delay was appropriate based on an incomplete understanding of the arguments and a preference for not making a difficult decision on an important patient safety measure. The delay which they advocated was unnecessary and harmful to patients.

---

[174] PEN.017.0302 @ 0363
[175] Transcript for 15/11/11 (day 63); 147 (13 to 23) (Dr McClelland)
[176] Transcript for 15/11/11 (day 63); 143 (23) to 144 (2) (Dr McClelland)
[177] SNB.001.9445 @ 9450
[178] Transcript for 15/11/11 (day 63); 144 (2) (Dr McClelland)
[179] Transcript for 15/11/11 (day 63); 106 (18 to 19) (Dr McClelland)
[180] Transcript for 15/11/11 (day 63); 154 (2 to 8) (Dr McClelland)

23. What lessons can be learned from and what recommendations for the future arise out of the Inquiry's consideration of the evidence in the C2 section?

In our submission, the following lessons can be learned from the evidence considered by the Inquiry in this section:

- The need for a more efficient management structure in the working relationship between the transfusion service in Scotland and the government, in particular one based less on personalities and structured so as to maximise patient safety
- A clear division of the roles of transfusion experts and the government in decision making about public health matters relating to the transfusion service
- A better understanding of the value of prospective research in preventing viral transmission from human blood or blood products is inherent to the nature
- A greater emphasis needs to be placed on the precautionary principle in decision making surrounding blood transfusion, in particular the need to take safety measures even if they will not completely eradicate a problem but will make a material contribution towards that goal
- There needs to be a greater awareness of the relevance and value of international research and opinions on measures designed to promote the safety of patients
- There needs to be a structured system whereby lessons can be learned from previous disasters within the transfusion service

JTD