

Tuesday, 2 November 2021

(9.59 am)

**Presentation by Counsel to the Inquiry relating to knowledge of and response to risk by pharmaceutical companies involved in blood products**

**SIR BRIAN LANGSTAFF:** Yes, Mr Hill. We have pharmaceutical companies and risk.

**MR HILL:** That's right, sir, it's the last in the series of the presentations on pharmaceutical companies. It should be considered alongside the others but I've tried not to repeat that which we heard earlier in September and October.

The presentation today, as you've said, concerns the response to the emerging risk of AIDS, and the focus is on the United States, and in particular on four companies: Alpha; Armour; Hyland, also known as Hyland Travenol in some of the documents; and Cutter, also known as Miles Cutter.

It's accompanied by a written presentation which has been disclosed and will be placed on the website.

The references to the documents cited are all in that written presentation, so everybody is going to be spared me reading agreed lengthy URN numbers as we go through, and instead I will refer to the paragraph numbers in the written presentations, so

1

that people can find the documents, should they wish to look at them.

As I've said, the focus is on those four companies and is on the United States. But at stages in the narrative I will also draw upon what was going on in the United Kingdom, partly to provide some context of what was happening in the States, and also just to allow us to get our bearings with the rest of the evidence.

There was, as we know, one further company that imported bloods into the UK in the 1970s and 1980s, and that was Immuno, the Austrian firm. I will be referring to them on occasions in this, but the focus has been on American documents and on the interaction, in particular of those four companies, with the American regulators and other interested parties within America, and for that reason Immuno doesn't get as much coverage as it otherwise would have done so. But you'll recall, sir, that we spent some time on the Immuno and its products --

**SIR BRIAN LANGSTAFF:** Yes, we also heard, of course, that Immuno did take plasma from the United States.

**MR HILL:** Absolutely. And by 1983 the dominant product in the Factor VIII market that Immuno was offering was sourced from American plasma.

2

**SIR BRIAN LANGSTAFF:** Yes.

**MR HILL:** So these events are of relevance to then, particularly in relation to donor screening. We just don't have as much internal documentation, in part because much of the documents that we have is drawn from the US litigation, in which Immuno -- or there was an awful lot of litigation but most was focused against the US companies rather than Immuno, so we don't just have as much about them as we do with other companies.

I should say, at this point, sir, that we are grateful to all of those who have provided documents that have allowed for this analysis, including many of the Core Participants. You will see from the URN numbers who it is who has been providing those documents.

The written presentation begins with a series of caveats and comments on what is not included, and I won't go through them all. The key points are that this presentation is made from an independent perspective. It is intended as a neutral factual narrative. It inevitably involves a degree of judgment about which documents to select and how to summarise them. What we're looking at today is the tip of an iceberg in terms of the amount of documents

3

that are available to you and to the Core Participants.

No special status attaches to a document because I'm referring to it today, and nor is any such status absent from another document because I haven't referred to it. The intention is to provide you, the Core Participants, those infected and affected, and the wider public, with an overview of this topic. It doesn't pretend to be exhaustive. The analogy I use in the written presentation is that it's like trying to navigate through a forest without getting lost and stuck in a thicket.

All Core Participants have access to the documents to which I will refer today, and to many, many others. All will have opportunities to make submissions on them, and ultimately, sir, it will be for you to consider those submissions, to consider the evidence and come to your own findings.

It may help if I provide a short route map about where we're going to be going today and tomorrow.

The presentation begins chronologically from the first reports of AIDS in people with haemophilia in 1982, and then moves chronologically through 1983 and the first half of 1984.

In that period, 1982 to June/July 1984, there

4

(1) Pages 1 - 4

are four particular themes and issues that emerge. The first is donor screening. That is the question of how to minimise blood and plasma donations from those in high-risk groups. The three key high-risk groups at this time were identified as being intravenous drug users, male homosexual donors and people who were either Haitian or who had relatively recently resided in Haiti.

The most contentious of those three areas was about the exclusion of gay donors.

The second main issue that arose in this time was the related question of the geographical siting of plasmapheresis centres in what were often referred to as high incidence areas or high risk areas. Such group of centres were those that had purposely targeted gay men as donors in order to obtain plasma that was high in hepatitis antibodies -- we discussed this in September and October -- the purpose being to provide plasma that would be used to create products that would boost immunity for hepatitis.

The second high risk area was prisons. Again, that was something that we touched upon in September and October, and we'll be coming back to in the next two days.

The third set of high risk centres were those

5

the protective measures, the donor screening and the cutting down of centres in high risk areas -- as those increased, it raised the question of what to do with products that had been manufactured before those measures were put in place.

You will recall, sir, the evidence of Dr Kingdon of Hyland we referred into September and October, about the long pipeline between plasma being obtained from a donor, and that plasma, or part of that plasma being injected by a patient, and that could be as much as two years afterwards.

The second limb of the recall of products issue is this: when a donor is found to have AIDS, or develop symptoms that may be suggestive of AIDS, what should be done about the products that have been manufactured from previous donations given by that donor? Should they be recalled? The issue -- sorry, this issue, at least as far as the companies were concerned, and as far as they claimed, threatened the worldwide supply of factor concentrates, and at points it's even put in terms of threatening the continuation of the industry itself. We will come on to see why that was claimed.

From mid-1984, the presentation departs from a strictly chronological approach, to look at two

7

that were located in cities which were known to have high incidence of AIDS. New York, San Francisco were the two main cities so identified. Also cities like Miami, New Orleans, Hollywood, and New Jersey as well.

The third issue that emerges in 1982 to 1984 is surrogate testing. In this period the virus causing AIDS had not been identified, and indeed there was a debate as to whether or not a virus was the causative agent. Consideration was therefore given to whether a surrogate test could be used. That is, testing for another virus or another set of clinical markers which may indicate that that individual is at high risk of AIDS.

Various candidates were discussed and projects were run on various different types of testing. The one that gained most traction was testing for the antibody to hepatitis B core antigen. I'm going to refer to that as anti-HBC testing as we go through. I will try hard not to use too many acronyms, particularly for various bodies and organisations, but there will be some I'm afraid.

The fourth main issue that emerged in this time was the recall of products. That had two related but distinct limbs. The first of those was that as measures taken by fractionators increased -- these are

6

matters thematically. The first is the introduction of heat-treated products and the licensing and increased use of those products, particularly from autumn 1984.

Heat treatment is something that runs throughout this period and I will make reference to it as we go along, but it will be after the June/July 1984 point where I address that as a matter in its own right.

The second of the issues is the development and deployment of a screening test for HTLV-III, as the virus was known at that time, HIV. It's something that became available in spring and summer in 1985, following on from the isolation of the virus the year before.

Now, that is the map, and it may be helpful to introduce some of the features of the landscape that we're going to see as we move along, starting with some of the organisations, and this is from paragraph 9 of the written presentation onwards. I don't seek to explain all of these organisations and their legal status and their various roles. This is just to introduce them, because they are, some of them, organisations that we may not have considered much before in the evidence.

The federal government department within the

8

1 US administration that had responsibility for blood  
2 supply and its regulation was the Department of Health  
3 and Human Services, the DHHS, so the equivalent, as it  
4 were of the DHSS in the UK. That was overseen by its  
5 secretary, a woman called Margaret Heckler, who was  
6 a member of Ronald Reagan's Cabinet, and underneath  
7 her there were various undersecretaries, one of whom  
8 was Dr Edward Brandt Jr, and we'll see his name in  
9 some of the documents.

10 One of the agencies within the Department of  
11 Health and Human Services was the Public Health  
12 Service. I'll come back to that in a second. That  
13 was, as the name suggests, responsible for public  
14 health management within the United States.

15 The Food and Drink Administration, or FDA -- and  
16 that is one of the acronyms I'm afraid I'm going to  
17 use, the FDA -- was the body charged with regulating  
18 and reviewing the blood supply system. It comprised  
19 various divisions, the most significant of which for  
20 our purposes was the Bureau of Biologics; that was the  
21 area that dealt with blood and blood products.  
22 In 1982 that was merged into the Center for Drugs and  
23 Biologics, but often you'll see in the documents  
24 references to the "Bureau of Biologics", or the "BOB"  
25 or just "the Bureau". That means the organisation

9

1 within the FDA that was responsible for blood and  
2 blood products.

3 The FDA consulted formally and informally with  
4 a wide range of groups, had a number of standing  
5 committees. One of those was the Blood Products  
6 Advisory Committee, often referred to in the documents  
7 as BPAC. It contained various individuals drawn from  
8 relevant medical, commercial and charitable  
9 establishments, and its purpose was to provide advice  
10 on blood products matters.

11 The blood banking industry was particularly  
12 strongly represented. And by "blood banking", I mean  
13 collectors of whole blood within the United States,  
14 and some of those were blood banks that were run  
15 voluntarily, others were run for profit, some were  
16 connected to hospitals, some were community-based  
17 blood banks. They should be differentiated from  
18 plasmapheresis centres, which were there to collect  
19 plasma, usually for fractionation into blood products.

20 The Centers for Disease Control and Prevention  
21 were based in Atlanta, and they were part of the  
22 Public Health Service. Up until 1980 the name was  
23 singular, Center for Disease Control and Prevention.  
24 After 1980 it becomes Centers for Disease Control and  
25 Prevention, so that's the CDC. And again, that's one

10

1 of the acronyms that I'm going to allow myself to use  
2 because it was almost always referred into the  
3 documents as the CDC.

4 **SIR BRIAN LANGSTAFF:** So, for what it matters, the time  
5 for which we are most interested, the 1980s onwards,  
6 it's in the plural, is it?

7 **MR HILL:** Yes, that's right, "Centers". I have mistakenly  
8 referred into the singular in the written document,  
9 and we can correct --

10 **SIR BRIAN LANGSTAFF:** But it is actually one organisation  
11 even though it's expressed in the plural?

12 **MR HILL:** It is one organisation. As with the FDA,  
13 a number of divisions within it but one organisation  
14 that oversees them.

15 It was part of the Public Health Service, so if  
16 we go back to the DHHS, the Government body, that has  
17 the Public Health Service within it, and within that  
18 the Centers for Disease Control based in Atlanta.

19 Another organisation which comes up in some of  
20 the documents is the National Institutes of Health,  
21 which again has a number of institutes within it.  
22 That was the Government's principal biomedical  
23 research agency, and we will see individuals from the  
24 NIH, National Institutes of Health, attend various  
25 meetings, including Dr Fauci.

11

1 There were two trade bodies for fractionation  
2 interests in this period. The Plasma Manufacturers  
3 Association, often referred into the documents as  
4 the PMA, that represented those pharmaceutical  
5 companies that were affiliated to it, so you've got  
6 Armour and Cutter and Hyland. The membership changed  
7 at various points and I don't think that strictly  
8 matters for our analysis today, but it was generally  
9 regarded as the fractionators' trade body.

10 There was also the American Blood Resources  
11 Association. That was a slightly wider body that  
12 incorporated not just the fractionators, the  
13 manufacturers, it also involved those who were  
14 involved in running independent plasmapheresis  
15 centres, and, as we have seen, those independent  
16 centres would often contract with the main companies  
17 in order to provide them with plasma.

18 A number of organisations involved in whole  
19 blood collection are also of relevance: the American  
20 Red Cross, the American Association of Blood Banks,  
21 and the Council of Community Blood Centers. I won't  
22 break those down individually, but they are the  
23 equivalent -- the two last groups that I mentioned are  
24 the equivalent trade bodies for someone in the blood  
25 banking industry.

12

(3) Pages 9 - 12



1 One thing that you may feel emerges as we go  
2 through this is that those groups are not monolithic.  
3 There was considerable disagreement and tension  
4 between different government agencies. In general  
5 terms, the CDC, elements within the CDC, were more  
6 hawkish about the threat of AIDS than some of  
7 the other agencies. They had some difficulty  
8 persuading others within government, as well as those  
9 outside it. Even within the CDC itself there were  
10 some tensions.

11 The fractionators and the blood banking industry  
12 also had different views and different interests.  
13 This was particularly evident in the debate about  
14 donor screening and donor exclusion. There, as we'll  
15 see from the documents, fractionators proved more  
16 responsive to change than the blood bankers did,  
17 including the voluntary blood bankers.

18 But nor were the fractionators themselves the  
19 uniform group. We will see that there were occasions  
20 on which they would seek to present a single view,  
21 even a script, and they were particularly united on  
22 the issue of product recall. But there was also  
23 a divergence in policies, including in respect of  
24 donor screening, approaches to prison donations and on  
25 surrogate testing as well. It shouldn't be forgotten

13

1 that, as well as having shared interests, these  
2 companies were market competitors, and while I refer  
3 to the fractionators as a whole, I do so without  
4 losing sight of the fact that they were individual  
5 companies.

6 One other body that is worth mentioning at this  
7 stage is the National Hemophilia Foundation. That was  
8 the main representative body within the United States  
9 for people with haemophilia and their families.

10 The National Hemophilia Foundation, often known  
11 as the NHF, also had within it a medical and  
12 scientific advisory committee, very often referred to  
13 as MASAC. That was a committee of leading haemophilia  
14 clinicians from the United States, and it was, in  
15 effect, the body that set out recommendations for  
16 clinical care of people with haemophilia.

17 The National Hemophilia Foundation would also  
18 attend relevant meetings. As we'll see, it called  
19 meetings itself and invited interested groups such as  
20 the fractionators along to them, and the NHF would  
21 also issue public statements on policy.

22 Having identified those groups, I will begin the  
23 chronological narrative. A document that I will draw  
24 on frequently when going through the chronology is  
25 an article written by Dr Bruce Evatt, entitled

14

1 "The Tragic History of AIDS in the Haemophilia  
2 Population 1982 to 1984", which was published in the  
3 Journal of Thrombosis and Haemostasis in 2006. The  
4 reference to it is at paragraph 17 of the written  
5 presentation, there is actually also an introduction  
6 to it at paragraph 6.

7 Dr Evatt was a leading figure at the CDC, he  
8 would go on to become the Director of the Division of  
9 Hematology, and he was a central protagonist in these  
10 events. He wrote the article in 2006, so looking back  
11 about a quarter of a century earlier, as an historical  
12 sketch. He drew on his own memory, but also on  
13 extensive documentation, which he footnoted in the  
14 article.

15 In the "Tragic History", as I'm going to refer  
16 to it, Dr Evatt states that AIDS first became apparent  
17 in the United States in the last quarter of 1980. In  
18 July 1981, the CDC established a task force on some of  
19 the -- symptoms that came to be associated with AIDS  
20 and particularly Kaposi's sarcoma, that task force was  
21 led by a CDC scientist called Dr James Curran.

22 In March 1982, the first interagency meeting  
23 took place, relating to issues connected with what  
24 became known as AIDS.

25 **SIR BRIAN LANGSTAFF:** May I just ask if you may have

15

1 missed a date here, because I think 5 June 1981 was  
2 when the MMWR first reported five cases of AIDS.

3 **MR HILL:** There are many dates that I've missed.

4 **SIR BRIAN LANGSTAFF:** But that would be the first report  
5 in any recognised literature, I think, and I have it  
6 noted as that date. If anyone wants a reference to  
7 it, it's CGRA0000242. That would then lead on  
8 naturally to the development of the task force, so it  
9 may be just a step in the history.

10 **MR HILL:** Yes, sir.

11 **SIR BRIAN LANGSTAFF:** That's how, at the moment, I would  
12 like to understand it, I may be wrong, of course, and  
13 if so I'll be corrected in submissions, but I think  
14 5 June 1981, to me, is an important date.

15 **MR HILL:** Yes, sir.

16 There are many different landmarks and  
17 milestones that are not included in this  
18 presentation --

19 **SIR BRIAN LANGSTAFF:** Yes.

20 **MR HILL:** -- and others will have an opportunity to point  
21 out those that they consider to be of relevance.

22 So March 1982, first interagency meeting took  
23 place between representatives of the CDC, the FDA and  
24 other Government bodies, and Dr Evatt and Dr Curran  
25 were in the lead from the CDC at that meeting.

16

(4) Pages 13 - 16



1 According to Dr Evatt's history, there was  
2 a turning point in June and July 1982, in his  
3 understanding and the CDC's understanding of AIDS. He  
4 referred to these as being "pivotal months". The  
5 cause of this change of understanding was that the CDC  
6 was beginning to learn of patients with haemophilia  
7 who had developed pneumocystis carinii pneumonia, PCP.

8 The CDC were learning of these, in part, because  
9 they were the body that was charged with providing  
10 a drug that was used to treat PCP, and so people had  
11 to report cases to them in order to get the drug. The  
12 CDC began to notice that people with haemophilia were  
13 being affected in 1982 and, in June and July, the CDC  
14 was informed of the second and third patients who had  
15 developed immune disorders.

16 This led Dr Evatt and his colleagues to become,  
17 and I quote him again:

18 "... reasonably convinced that haemophilic  
19 patients were another risk group or AIDS."

20 So that is in addition to the three that I've  
21 already mentioned.

22 Dr Evatt raised the issue of senior figures  
23 within the CDC. Remember, the CDC did the same with  
24 other bodies and agencies leading, on 9 July 1982, to  
25 Harry M Meyer, who is the director of the FDA's

17

1 through, how the number of cases increases as time  
2 progresses.

3 This evidence suggests that US pharmaceutical  
4 companies were, as of mid-July 1982, given notice of  
5 PCP infections in patients with haemophilia, and were  
6 given notice of a possibility of transmission of  
7 an infectious agent through blood and blood products.  
8 Lest there be any doubt about that matter, if we could  
9 bring up, Soumik, CGRA0000668.

10 This is a memorandum, an internal memorandum,  
11 within Hyland Travenol. We can see that it is from  
12 HS Kingdon, that is Dr Kingdon, whose evidence we  
13 heard about in October and September. He is the man  
14 who gave a witness statement in 1990 as part of the UK  
15 HIV litigation. That was always a draft statement,  
16 but we saw that Dr Kingdon looked at that draft and  
17 proved what was contained in it and made amendments  
18 where he felt it was necessary to do so.

19 This is a memorandum from 5 January 1983, so  
20 six months after the events that we have just been  
21 discussing. What Dr Kingdon says is this, in the  
22 first paragraph:

23 "We have been closely monitoring the AIDS issue  
24 at Hyland since the original description of the  
25 syndrome in male homosexuals in the December 10, 1981

19

1 National Center for Drugs and Biologics to write a  
2 circular to all manufacturers of plasma fractionation  
3 products. He informed them of the three cases of PCP  
4 in people with haemophilia, and he stated, and I  
5 quote:

6 "Although the cause of this outbreak is unknown,  
7 the information suggests that a transmissible agent  
8 might be involved and concern about transmission  
9 through blood and blood products has been raised."

10 That's paragraph 19 of the written presentation,  
11 9 July 1982, a circular sent to all fractionators.

12 Five days later, on 14 July 1982, the National  
13 Hemophilia Foundation issued a patient alert. That  
14 concerned and raised the three cases and also the  
15 possibility of an infectious agent transmitted through  
16 blood or blood products. The NHF statement stated,  
17 and I quote:

18 "It is important to note that at this time the  
19 risk of contracting this immunosuppressive agent is  
20 minimal and CDC is not recommending any change in  
21 blood product use."

22 That's paragraph 20 of the written presentation.

23 Two days later, so 16 July 1982, the CDC  
24 publishes a report of the three cases in Morbidity and  
25 Mortality Weekly Reports. We will hear, as we go

18

1 issue of The New England Journal of Medicine, and more  
2 intensively since the first three hemophilia cases  
3 were reported in the Morbidity and the Mortality  
4 Weekly Report from the CDC on July 16, 1982."

5 He goes on to say, and I quote:

6 "Many of us have been involved in considering  
7 the problem and in discussions with CDC on its  
8 implications for our blood products. Dr Rodell [who  
9 at that stage was with Hyland Travenol] has attended  
10 the bulk of the meetings held at the CDC or [National  
11 Institutes of Health] on the subject."

12 So we can see there acknowledgements from  
13 January 1983 that Hyland Travenol have been following  
14 that issue closely, particularly from July 1982.

15 **SIR BRIAN LANGSTAFF:** Again, if I can just pick up  
16 something for my own understanding of the subject --  
17 again, obviously to correction if it proves later to  
18 be wrong -- but the date there of 10 December 1981, in  
19 reference to the NEJM may well be right but he also  
20 refers to the MMWR in the words that follow. My  
21 understanding, at the moment, is that in the MMWR in  
22 August 1982 -- sorry, August '81, 28 August, there  
23 were 70 cases of pneumocystis carinii pneumonia and  
24 Kaposi's sarcoma amongst gay men, which is reported  
25 with a 40 per cent mortality rate. Now, if that's the

20

(5) Pages 17 - 20

1 case, there was actually a widespread reference in the  
2 MMWR, if it was read, to the growth, the exponential  
3 growth, perhaps of symptoms related to AIDS, even if  
4 not necessarily diagnostic precisely of them.

5 **MR HILL:** Yes, sir. I'm trying to remember, I think if we  
6 could have, please, on screen, Soumik, the next  
7 reference, which is paragraph 23 of the written  
8 presentation. That's CBLA0000011\_005, at page 26.  
9 This is Dr Kingdon's statement from 1990 and, from  
10 memory, I think that he comments on this.

11 If we could just have the previous page. This  
12 is electronic page 25 and it's paragraph 73. This  
13 says -- yes:

14 "Although the diseases had been regularly  
15 reported in the MMWR since June 1981, it did not  
16 receive particular attention from the scientific and  
17 medical communities until the articles appeared in the  
18 NEJM."

19 **SIR BRIAN LANGSTAFF:** So that explains it: it was there to  
20 be seen, but wasn't necessarily picked up?

21 **MR HILL:** Yes, and at that time the link to blood and  
22 blood products wasn't as pronounced as it came to be  
23 from July 1982, with the cases reported in people with  
24 haemophilia.

25 **SIR BRIAN LANGSTAFF:** Yes.

21

1 So, although there was an open debate, it is  
2 Dr Kingdon's evidence from 1990, supported by the  
3 memorandum from 1983, and the other documents that we  
4 have looked at, that, as of July 1982, fractionators  
5 were on notice that the CDC had these concerns.

6 From a UK perspective, paragraph 24 of the  
7 written submission, the written presentation, we can  
8 see that in July 1982 some information was getting  
9 back to the DHSS about this, although it was in  
10 a slightly garbled form at that stage.

11 **SIR BRIAN LANGSTAFF:** Well, I think the chronology from  
12 the UK -- just to intersect, I think the first  
13 reported case, or it may be death, I don't know, but  
14 case of AIDS in the UK, was in December of 1981, and  
15 it was certainly in July '82 that Terrence Higgins  
16 died.

17 **MR HILL:** Yes. I should have made clear that in  
18 July 1982, there was a knowledge of AIDS beforehand.  
19 July 1982, I'm talking specifically about a knowledge  
20 about AIDS in people with haemophilia.

21 **SIR BRIAN LANGSTAFF:** Yes. The question here is the link  
22 with those who suffered from haemophilia.

23 **MR HILL:** Yes, yes, and that's the MMWR publication and  
24 the NHF alert and the FDA alert.

25 **SIR BRIAN LANGSTAFF:** But it goes wider than that because

23

1 **MR HILL:** If we could just go over to the next page -- I'm  
2 sorry, just before we leave that, actually: Dr Kingdon  
3 goes on to point out the NEJM is the most widely read  
4 medical journal in the US and every article is peer  
5 reviewed, so peer review was involved, and so that is  
6 another reason why the NEJM pricked his interest in  
7 a way that the MMWR article may not have done as much.

8 If we could go over to the next page, please,  
9 Soumik.

10 At paragraph 75, we see Dr Kingdon, this, as  
11 I say, from this draft statement from 1990. His  
12 evidence here is consistent with that memorandum that  
13 we've just read, that in July 1982, the first reports  
14 of cases in people with haemophilia appeared in the  
15 MMWR and he says, and I quote:

16 "This report crystallised the concern that  
17 haemophiliacs may develop AIDS and raised a question  
18 of whether the diseases may be blood borne. There was  
19 however still much controversy about the disease and  
20 its causes and modes of transmission."

21 He goes on to explain why there was controversy  
22 about and about the fact that patients had used  
23 a mixture of blood products and an issue therefore  
24 arose about which, if any, contained the causative  
25 agent.

22

1 it must be also a link, potentially, to those who have  
2 transfusions of blood.

3 **MR HILL:** Yes.

4 **SIR BRIAN LANGSTAFF:** If it's blood borne, then it will  
5 come in however one may get blood passed from one  
6 person to another or whether it's with a needle or  
7 a transfusion or a blood product.

8 **MR HILL:** Yes. In Dr Meyer's directive of July 1982 he  
9 talks about, and I quote:

10 "... transmission through blood products."

11 **SIR BRIAN LANGSTAFF:** Yes.

12 **MR HILL:** That was also a phrase that was used by the NHF,  
13 so there is an awareness at that time that it affects  
14 both. Indeed, as we've seen from Dr Kingdon's  
15 statement, one of the causes of uncertainty in his  
16 mind at that time, according to his 1990 evidence, was  
17 the fact that the people who had received -- the  
18 people who had developed AIDS who had haemophilia had  
19 received a range of blood and blood products, and they  
20 weren't sure which part, if any, were involved.

21 So, yes, it absolutely applies to people who  
22 were having transfusions as well, although, of course,  
23 as we will see, the risk of a transmission in  
24 a transfusion is lower than that in a blood product  
25 because of the way in which plasma was pooled for

24

(6) Pages 21 - 24

1 blood products.  
 2 That, of course, not necessarily known at that  
 3 time.  
 4 27 July 1982 saw the first meeting, an open  
 5 meeting, which took place between relevant groups.  
 6 I'm going to ask if we could bring up, please,  
 7 JREE0000019. This is the first meeting with groups --  
 8 between representatives of the Government and -- it's  
 9 page 280, Soumik.  
 10 It's a meeting, the first meeting between  
 11 government agencies and interested bodies who were  
 12 connected with blood and blood products. It was  
 13 an open meeting, and it was formally a meeting of the  
 14 Public Health Service Committee on "Opportunistic  
 15 Infections in Patients with Haemophilia". This is the  
 16 formal record of it. We can see from the first  
 17 paragraph it says:  
 18 "The meeting on July 27, 1982, [took place] from  
 19 8.30 am to 4.30 pm [and it] was held to consider the  
 20 significance of the occurrence of opportunistic  
 21 infections ... with *Pneumocystis carinii* pneumonia  
 22 (PCP) in three patients with haemophilia."  
 23 So the three patients that the CDC reported:  
 24 "[The] Invited participants included  
 25 representatives of the CDC, FDA, NIH, National

25

1 and [opportunistic infections]) are occurring in  
 2 several populations -- homosexual men, recent Haitian  
 3 entrants and IV [intravenous] drug abusers. The  
 4 possibility exists that it is occurring in patients  
 5 with hemophilia.  
 6 "If the PCP observed in three patients with  
 7 hemophilia represents the same process as seen in  
 8 other groups with AIDS, then a possible mode of  
 9 transmission is via blood products, in this case  
 10 Factor VIII concentrate. This finding would  
 11 strengthen the existing hypothesis that AIDS is caused  
 12 by a transmissible agent."  
 13 C talked about other unusual disorders among  
 14 haemophilia patients, which have been mentioned, but  
 15 which were -- had not been studied sufficiently to  
 16 establish a relationship with AIDS.  
 17 Point D, and I quote:  
 18 "There are 11,000 to 15,000 persons with  
 19 hemophilia in the United States with varying severity  
 20 of condition. The morbidity and mortality from  
 21 hemophilia, as well as the lifestyle of hemophilia  
 22 patients has changed considerably over the past  
 23 10 years. These patients are treated with either  
 24 a product derived from fresh frozen plasma  
 25 (cryoprecipitate) or a protein concentrate prepared

27

1 Hemophilia Foundation, American National Red Cross,  
 2 various blood banking organizations, National Gay Task  
 3 Force ..."  
 4 It's relevant to note here, sir, that this was  
 5 a lobbying organisation for gay rights in the United  
 6 States, who were heavily involved in the meetings at  
 7 this time:  
 8 "... New York City Health Department, and the  
 9 New York Inter-Hospital Study Group on [AIDS] and  
 10 Kaposi's Sarcoma", New York being a particular centre  
 11 for high instance of AIDS.  
 12 We know from another source, which is cited in  
 13 the written presentation, that Dr Evatt attended, as  
 14 did Dr Meyer on the Government side. For the  
 15 fractionators, Dr Mike Rodell attended. Dr Rodell at  
 16 that time was still with Hyland, he would later move  
 17 to Armour, but he was there on behalf of the Plasma  
 18 Manufacturers Association, the trade body. He  
 19 reported back to other members and other fractionators  
 20 after the meeting.  
 21 If we move down to section II, "Aspects of  
 22 Discussion", I'll read through this, occasionally  
 23 pointing out some features that we learned from the  
 24 other documents. The record says, and I quote:  
 25 "AIDS (and the sequelae of [Kaposi's sarcoma]

26

1 from these precipitates called antihemophilic factor  
 2 or Factor VIII. Such therapy has allowed the  
 3 development of home treatment regimens which permit  
 4 patients to live a more normal life, including sharing  
 5 educational and vocational opportunities and pursuits  
 6 with the rest of the population. The number of days  
 7 of hospitalization annually has decreased markedly for  
 8 hemophilia patients on home treatment programs.  
 9 Hemorrhage (spontaneous and traumatic) remains a major  
 10 cause of death in hemophilia patients."  
 11 I just pause there to note that from another  
 12 source, Dr Rodell's note of the meeting, we know that  
 13 this information was given to the meeting by Dr Louis  
 14 Aledort, a leading haemophilia clinician who was  
 15 connected to the National Hemophilia Foundation and  
 16 sat on the Medical and Scientific Advisory Committee.  
 17 I should also note that from Dr Rodell's note we  
 18 know that it was Dr Evatt and Dr Curran from the CDC  
 19 who presented the data about the infections in people  
 20 with haemophilia at that meeting.  
 21 Returning to the note, paragraph E:  
 22 "Almost all patients regularly receiving  
 23 Factor VIII or cryoprecipitate develop hepatitis B and  
 24 non-A non-B ... infections. These products have been  
 25 shown to transmit these infections. Because of the

28

(7) Pages 25 - 28



1 freedom and reduction of suffering permitted  
 2 hemophilia patients by Factor VIII concentrate, the  
 3 product's benefits are perceived by patients to vastly  
 4 outweigh currently known risks.  
 5 "The Factor VIII normally present in fresh  
 6 plasma is heat labile and inactivated by many types of  
 7 chemical or physical treatment. For this reason, the  
 8 techniques developed for the production of Factor VIII  
 9 concentrate from fresh plasma are known to have little  
 10 effect on hepatitis viruses. There are five  
 11 commercial producers of Factor VIII concentrate. Lots  
 12 of Factor VIII concentrate are prepared from plasma  
 13 pooled from 1,000-5,000 donors. Donors come from many  
 14 parts of society. Most material is pooled from paid  
 15 donors in plasmapheresis centres. Hemophilia patients  
 16 use large amounts of Factor VIII (40,000 to over  
 17 65,000 factor units per year) from multiple  
 18 preparations with subsequent potential exposure to  
 19 material derived from thousands of donors.  
 20 "The occurrence of PCP in three patients with  
 21 hemophilia is disturbing, particularly since there is  
 22 no previous evidence that this infection is common in  
 23 hemophilia patients. The two patients who had  
 24 immunologic studies performed demonstrated a T-cell  
 25 abnormality similar to that among other patients in

29

1 an infectious etiology.  
 2 "3. There is an increased risk of AIDS for  
 3 homosexual men, [intravenous] drug abusers, and among  
 4 Haitians who have recently entered the United States.  
 5 The recent occurrence of PCP in three patients with  
 6 hemophilia raises the question whether the underlying  
 7 immunodeficiency seen in these patients has the same  
 8 etiology as among other groups with PCP. High  
 9 priority should be given to obtaining information that  
 10 will answer this question.  
 11 "4. There is need to determine if certain blood  
 12 products, particularly Factor VIII are risk factors  
 13 for AIDS."  
 14 **SIR BRIAN LANGSTAFF:** So just summarising for a moment, is  
 15 it a fair summary to say that the working hypothesis,  
 16 the working assumption, is that AIDS is caused by  
 17 an infectious agent? The question, which is posed by  
 18 the case of the three haemophiliacs who were found to  
 19 be suffering from AIDS, is whether the AIDS in them  
 20 was caused by the same cause as the cause of the AIDS  
 21 in others.  
 22 **MR HILL:** Yes, that is a fair summary of the consensus  
 23 view at the meeting. It doesn't mean that everybody  
 24 shared that view, some were more persuaded, that there  
 25 was a link between people with haemophilia and AIDS,

31

1 other high-risk groups with AIDS/KS. There is no  
 2 known intrinsic immune disorder in hemophilia patients  
 3 that would permit or promote such opportunistic  
 4 infections."  
 5 We take it from Dr Rodell's note that that  
 6 information is coming from Dr Evatt and Dr Curran, and  
 7 as we can see, points towards the finding or a working  
 8 hypothesis that the condition which is being observed  
 9 in people with haemophilia is the same condition that  
 10 is being observed in the other risk groups of  
 11 intravenous drug abusers, gay men, patients, and is  
 12 AIDS.  
 13 The conclusions of the meeting were set out in  
 14 the following way:  
 15 "1. The pathological process should be termed  
 16 Acquired Immune Deficiency Syndrome ..."  
 17 So this is an agreement that they're going to  
 18 call this AIDS and that is something that Dr Evatt  
 19 welcomes from this meeting.  
 20 "Kaposi's Sarcoma and various opportunistic  
 21 infections are sequelae of the AIDS state."  
 22 The CDC will go on to form a definition of what  
 23 amounts to AIDS.  
 24 The second conclusion:  
 25 "2. AIDS has characteristics which suggests

30

1 and some were less persuaded even that AIDS was caused  
 2 by an infectious agent. But the consensus view of the  
 3 meeting was as you have just summarised there, sir,  
 4 yes.  
 5 **SIR BRIAN LANGSTAFF:** Thank you.  
 6 **MR HILL:** The meeting made five recommendations, I won't  
 7 go through those in detail, but they included  
 8 an active surveillance system, detailed laboratory  
 9 studies, an urgent need to determine practical  
 10 techniques to decrease or eliminate the infectious  
 11 risks from Factor VIII, a call for broad input into  
 12 the areas, including from gay community groups,  
 13 haemophilia groups, and so forth, and the fifth was  
 14 the eternal concern over adequacy of funding for all  
 15 this work.  
 16 Dr Evatt said that the second positive that he  
 17 took from the meeting was that the CDC was therefore  
 18 encouraged to continue in its work of tracking and  
 19 surveilling the development of AIDS, particularly in  
 20 the haemophilia community.  
 21 But, overall, Dr Evatt was disappointed by that  
 22 meeting. We can see what he said about it in his  
 23 Tragic History, if we could have CVHB0000042, at pages  
 24 4 to 5. What we have just been discussing, sir, was  
 25 the consensus view of the meeting, and this is want

32

(8) Pages 29 - 32

Dr Evatt, looking back on it, thought. If we could pick it up from the final paragraph on the second column, beginning "It was a long day", just underneath the heading "Confronting 'existing wisdom'", you can see the second paragraph down, beginning "It was a long day". Thank you.

He said this, and I quote:

"It was a long day. Detailed histories of the hemophilia cases were systematically presented, followed by data from other risk groups and comparison of hypothetical risks posed by various etiological theories to each risk group."

If we can expand, Soumik, and I'm just going to show you that table that he refers to here. The bottom of the first column, table 1. So the four potential risk groups, drug users, Haitians, people with haemophilia and homosexuals, gay men, those are the four population groups there.

The different columns show the different ideas of what could be causing AIDS in this group. The first is anti-sperm antibodies, which might be present in homosexuals, but not in the other three groups.

Amyl nitrate is a type of drug associated with the gay community, amyl nitrate inhalants, again, present in the gay community, but not in the other

33

three groups, and hepatitis B core antigen, a blood-borne infectious agent, present in all of the groups. Dr Evatt was saying that -- we'll go on to exactly what he says in his words, and I quote:

"Only the high risk for blood-borne infections could explain a risk common to all four groups. But, rather than expressing alarm at a possible blood-borne infection and suggesting ways to reduce a blood-borne risk, the audience expressed an almost universal reluctance to act. The scientific community had yet to see 'published evidence that the syndrome was indeed an infectious disease' let alone blood borne and sexually transmitted. Homosexuals were major blood donors in the large cities on the east and west coasts. It was thought that singling out homosexuals for exclusion would unnecessarily stigmatize them without evidence that they were indeed transmitting the disease. The blood industry, threatened by losing a large donor pool, strongly support the position of the gay groups on this issue ..."

If we could just highlight the first paragraph there. Thank you. Dr Evatt quotes people at the meeting says:

"... 'three hemophilia patients with the syndrome did not mean that they should spend millions

34

of dollars' changing recruitment and screening practices. The hemophilia groups expressed concerns that the data showing immune suppression in hemophilic patients could have reflected the effects of prolonged use of blood products and did not necessarily mean that they had the new syndrome. They also feared the stigma of having a disease associated with homosexual patients and were concerned that reducing the use of clotting factor concentrates would bring back old issues of deformities and early death, the fate of hemophilic patients before concentrate treatment. The FDA, which had regulatory authority over the blood industry, had not yet accepted the collection of disorders related to immune deficiency as a single disease, and was also skeptical that hemophilic patients represented another risk group. Thus, no consensus was reached concerning blood donors."

He goes on to mention the two important steps that were accomplished, namely the naming of the disease as AIDS and the fact that the CDC was encouraged to continue its work.

So a rather different tone in Dr Evatt's recollection than the collegiate tone of the note that formally recorded the meeting.

A number of themes and tensions can be discerned

35

from those two records. The first is the tension between, on the one hand, the potential gravity of the problem and resulting calls for immediate action and, on the other hand, the scientific and medical uncertainties involved and the resulting calls for further information and research before firm decisions were taken.

The second theme is the association between the suspected risk of AIDS and the known risk of hepatitis for people with haemophilia.

The third is the reliance on plasma from paid donors from, as it was put euphemistically in the formal record, "many parts of society".

The fourth theme is the emphasis placed on the beneficial effects of the use of factor concentrates and consequent concerns about the risk to the supply of these products.

The fifth theme is the approach to the way in which the conclusion and recommendations of the meeting were expressed, and indeed the way that the meeting was conducted. Instead of identifying the opinions of individuals and the differences of opinion between those individuals, the note was drafted to record the view of the meeting as a whole and, inevitably, this gives rise to a broader and less

36

1 specific set of observations, a more consensual view.  
 2 In his note of the meeting -- I won't take you  
 3 to it, sir, but we know that Dr Rodell produced one  
 4 and I summarise it at paragraphs 33 onwards of the  
 5 written presentation -- he wrote that -- he provided  
 6 information in response to questions at the meeting.  
 7 Presumably that included the information about  
 8 the donor pools that we saw from the other note.

9 Among the information that he gave to the  
 10 meeting, according to his note, was information about  
 11 the existence of six to eight plasma collection  
 12 centres in prisons. He also said that about  
 13 2 per cent of the total plasma collected in  
 14 the country came from those prison sources.

15 He also said that other centres were located  
 16 throughout the country, including in inner cities and  
 17 university locations.

18 According to Dr Rodell's note, Dr Sandler of the  
 19 American Red Cross said at the meeting that:

20 "... the CDC had not yet proved that AIDS is  
 21 transmissible by blood or blood products and that no  
 22 donor population should be implicated at this time."

23 So that was the voice of somebody from  
 24 the American Red Cross, one of the old blood  
 25 collection organisations.

37

1 Scepticism on that point was also expressed by  
 2 other representatives of whole blood groups.

3 According to Dr Rodell, he spoke privately to  
 4 Dr Dennis Donohue, who was the director of the  
 5 Division of Blood and Blood Products at the FDA.

6 Dr Donohue said that his division could -- and  
 7 I quote here from Dr Rodell's note:

8 "... find itself in the position of having to  
 9 make a politically expedient decision to disapprove  
 10 the operation of plasmapheresis centers specifically  
 11 intended to collect anti-HBs plasma [so that's plasma  
 12 rich in hepatitis antibodies] from homosexuals."

13 So Dr Rodell is referring to the FDA as seeing  
 14 that as a "politically expedient decision", whereas  
 15 I'm sure that the CDC, or at least Dr Evatt, would  
 16 have put it in rather different terms.

17 As we have heard, Dr Donohue did approach  
 18 fractionators in August 1982, so the following month,  
 19 in an effort to persuade them voluntarily to exclude  
 20 plasma obtained from donors, typically gay men, who  
 21 had been recruited because of the likelihood that they  
 22 would have antibodies to hepatitis B.

23 I pause there to make the point that this was an  
 24 attempt to persuade fractionators to take voluntary  
 25 action. The FDA did have regulatory powers, and those

38

1 are set out in some of the reports, particularly the  
 2 report of the Institute of Medicine, to which I refer  
 3 in the presentation, but the feeling was that  
 4 statutory powers would take a long time to implement  
 5 and could get caught up in bureaucratic wrangling, and  
 6 indeed legal wrangling, whereas if you can persuade  
 7 a company to do something voluntarily then that will  
 8 take effect more quickly. But the FDA did have powers  
 9 to compel as well as powers to persuade.

10 I'm not going to go back over the evidence that  
 11 we've already heard about the response of the  
 12 companies to Dr Donohue. When we looked at it before  
 13 it was to try to understand what was taking place  
 14 before 1982 and 1983. Here, we're looking at what  
 15 happens once that approach was made by Dr Donohue.

16 In summary, Cutter agreed to suspend collection  
 17 from such centres, although it was noted in an  
 18 internal document, which is cited at paragraph 36 of  
 19 the written presentation, that they wouldn't be  
 20 fractionating any of that material into factor VIII  
 21 and IX for sale anyway.

22 Alpha also agreed to voluntary suspension until  
 23 further notice.

24 The documentation suggests that Hyland itself  
 25 didn't fractionate such plasma into their own

39

1 products, although they may have sold it to Alpha.

2 Interestingly, in an internal Cutter memorandum,  
 3 Dr Rodell, of Hyland, is said to have, and I quote:

4 "... expressed great surprise that we [that is  
 5 Cutter] would even consider fractionating this  
 6 material into factors VIII and IX (anything other  
 7 than HIBG) because of the history of hepatitis  
 8 problem."

9 So we can see there differences between  
 10 the companies on how they approached this matter in  
 11 the past, but all agreeing to do what Dr Donohue had  
 12 asked them to do. Armour's position is not clear from  
 13 the documents obtained by the Inquiry.

14 As we have seen, Dr Rodell had referred to this  
 15 as being a decision that was taken for political  
 16 rather than scientific considerations, and at  
 17 paragraph 37 of the written presentation we can see  
 18 that that was also the view of some others, including  
 19 Dr Hershberger of Cutter. Dr Hershberger, in an  
 20 internal memorandum recording his conversation with  
 21 Dr Donohue, said that Dr Donohue, and I quote:

22 "... feels that the hold will not be necessary  
 23 for more than two or three months unless more donors  
 24 develop AIDS."

25 If accurate, that shows Dr Donohue's thinking at

40

(10) Pages 37 - 40



1 the time within the -- he was within the FDA, about  
 2 the threat, the prediction of it not being necessary  
 3 for more than two or three months unless there were  
 4 further cases that developed.

5 **SIR BRIAN LANGSTAFF:** It's specifically cases amongst  
 6 donors --

7 **MR HILL:** Yes.

8 **SIR BRIAN LANGSTAFF:** -- so it's looking at what's going  
 9 into the product at the base level, as opposed to  
 10 what's coming out at the recipient's end.

11 **MR HILL:** The only caveat I would add to that is that  
 12 it is a brief reference in a memorandum passing on  
 13 information. But the logic would clearly mean -- if  
 14 you are putting this suspension in place because of  
 15 your concerns about three cases of potential AIDS in  
 16 people with haemophilia, if more cases in people with  
 17 haemophilia came forward, then the logic would surely  
 18 apply that the suspension must continue.

19 **SIR BRIAN LANGSTAFF:** Well, it depends what he meant. If  
 20 he is talking about donors, he is talking about people  
 21 whose blood or plasma is being taken, as opposed to  
 22 those who are receiving it. And equally the logic  
 23 might be: there are a number of people who are known  
 24 to have AIDS; if a greater number come forward to  
 25 donate then there may be a bigger risk.

41

1 **MR HILL:** It could be, sir. The difficulty is trying to  
 2 interpret what one word or a sentence in a memorandum,  
 3 which is reporting somebody else says --

4 **SIR BRIAN LANGSTAFF:** Yes. Absolutely.

5 **MR HILL:** What is clear from that and from other  
 6 correspondence is that these commitments were  
 7 prospective, they were about what was going to happen  
 8 in the future, and no comment was made on what was  
 9 going to be done about existing stocks of plasma that  
 10 had been or were being processed into blood products  
 11 at that time.

12 Counsel to the Inquiry have seen no evidence  
 13 that efforts were made to withdraw or withhold  
 14 factor concentrates that had been produced from such  
 15 plasma. That's not to say that such evidence does not  
 16 exist but it's certainly not clear, on the face of  
 17 these documents, that there was an intention to take  
 18 those kind of steps.

19 What we can see, though, is a document from  
 20 12 August 1982, in which the FDA Bureau of Biologics  
 21 have requested that Cutter quarantine four units of  
 22 plasma from a donor hospitalised for AIDS.

23 If we could have on screen, please, Soumik,  
 24 CGRA0000652.

25 This is an internal Cutter memorandum written by

42

1 Dr Hershberger. It's actually the final paragraph  
 2 that we're interested in for this purpose.

3 What Dr Hershberger wrote is that:  
 4 "We were extremely fortunate that we were able  
 5 to quarantine the 4 units of Source Plasma ... before  
 6 they were pooled. Had they been pooled the [Bureau of  
 7 Biologics] might have found it politically expedient  
 8 to make hard line decisions regarding the fate of  
 9 the products made from the pool. This kind of risk  
 10 will continue for some time until there is solid data  
 11 to prove that AIDS is not transmitted by blood  
 12 products. Meanwhile we should try to help the BoB  
 13 develop a rational policy for dealing with AIDS that  
 14 will withstand political panic."

15 This is, sir, one of the earlier hints at  
 16 the issue about recalling products that will become  
 17 increasingly important as we move through the months  
 18 and years ahead.

19 **SIR BRIAN LANGSTAFF:** Just before we leave this document,  
 20 the way he puts the matter in the second-last  
 21 sentence -- you highlighted it, I think, the emphasis  
 22 you gave, but the transcript may not pick that up  
 23 entirely. It's:  
 24 "This kind of risk will continue for some  
 25 time ..."

43

1 Not "until we know that AIDS is transmitted",  
 2 but:  
 3 "... until there is ... data to prove that [it]  
 4 is not transmitted ..."

5 **MR HILL:** Yes, sir.

6 **SIR BRIAN LANGSTAFF:** So it puts it the other way around.  
 7 In other words, if there is known to be a risk that it  
 8 might happen, you need to disprove it before you stop  
 9 taking preventative action, rather than you need to  
 10 prove it before you start taking preventative action.

11 **MR HILL:** He does, sir, yes.

12 **SIR BRIAN LANGSTAFF:** So this is -- if one goes back to  
 13 the line "no conclusive proof", for instance, this is  
 14 the opposite. So, no conclusive proof that it isn't  
 15 the cause.

16 **MR HILL:** Yes. Yes, sir. No conclusive -- he's putting  
 17 the burden on proving the negative.

18 **SIR BRIAN LANGSTAFF:** Yes. Yes.

19 **MR HILL:** You will have also seen, sir, in that quotation,  
 20 several references to "political panic" and  
 21 "politically expedient" decisions. The suggestion  
 22 being that such measures are being driven not by  
 23 science and data, but by political pressure.

24 Soumik, thank you, I think we can take that down  
 25 now.

44

(11) Pages 41 - 44

1 That was 12 August. Just before the break  
2 I mention a couple of events from September 1982. The  
3 first is that there was a meeting that took place on  
4 9 September 1982 to discuss technical issues about  
5 heat treatment of Factor VIII products. It's  
6 notable -- and this is at paragraph 40 -- that that  
7 meeting discusses the heat treatment of products in  
8 respect of inactivation of hepatitis viruses. At  
9 least in the official record of the meeting there is  
10 no reference to the relevance of heat treatment to  
11 AIDS at that time. So the focus of heat treatment in  
12 September 1982 is still very much on hepatitis.

13 The second meeting to which I make reference in  
14 September 1982 occurred on 23 and 24 September. It  
15 was a meeting of the Blood Products Advisory  
16 Committee, summarised at paragraph 41 of the written  
17 presentation. There is a brief note on this in  
18 a document which was prepared for a Congressional  
19 investigation a few years later, and it said that that  
20 meeting discussed, and I quote:

21 "... non-specific methods of detecting  
22 infectious agents in donated blood."

23 Which would seem to be a reference to surrogate  
24 testing. That is one of the themes that will grow in  
25 importance as time passes.

45

1 and it's very difficult then to prove a negative  
2 because there are no documents to show that. So it's  
3 something that we will continue to look into, but that  
4 may be one of the explanations as to why there is no  
5 documentation, or at least no documentation that we  
6 have seen.

7 Returning then to the autumn of 1982, I'm going  
8 to read from Dr Evatt's Tragic History about the CDC's  
9 work at that time.

10 Soumik, can we have on screen please,  
11 CVHB0000042, and electronic page 5.

12 If we could highlight the third paragraph down  
13 on the left-hand side, beginning "In the fall of  
14 1982."

15 Dr Evatt wrote this:

16 "In the fall of 1982, we identified four  
17 additional and one probable case of AIDS in hemophilic  
18 patients, two of whom were children. In addition, we  
19 investigated and identified AIDS in a number of  
20 individuals who had received transfusions. Invoking  
21 donor confidentiality, some blood banks severely  
22 hampered investigations by refusing to share donor  
23 lists of persons who contributed blood given to  
24 recipients who later developed AIDS. They feared we  
25 would unduly alarm or embarrass donors with sexual

47

1 The minutes also record there was a discussion  
2 of the issue of AIDS, at the end of which the  
3 Committee concluded, and I quote:

4 "... there are insufficient data to suggest that  
5 any immediate action [be taken] with licenced blood  
6 products."

7 That is 23 and 24 September 1982, and relevant  
8 to note that Armour, Hyland, Cutter and Alpha,  
9 I think, were all represented at that meeting.

10 I wonder, sir, if that is a convenient point  
11 because I'm about to move on to the further  
12 investigations that were undertaken by the CDC in the  
13 autumn of 1982.

14 **SIR BRIAN LANGSTAFF:** Yes, it is. We'll take a break now  
15 until quarter to 12. Quarter to 12.

16 (11.13 am)

(A short break)

18 (11.47 am)

19 **MR HILL:** Before returning to the chronological account,

20 there is something I should make clear. I mentioned  
21 earlier that counsel to the Inquiry didn't have

22 a clear understanding of Armour's position on the  
23 question of targeting gay donors for plasma rich in  
24 hepatitis antibodies. We understand that this may be  
25 because Armour never -- never -- had any such centres,

46

1 questions, thereby discouraging donations. Without  
2 linking an AIDS patient's donation to the recipient of  
3 a blood component, it was impossible to show  
4 transmission. Also, transfused patients often  
5 received transfusions for other underlying illnesses  
6 (ie cancer surgery), conditions that were possible  
7 sources of secondary immunodeficiency. As these cases  
8 accumulated, the author routinely provided briefings  
9 to the blood industry, FDA panels and [National  
10 Institutes of Health] conferences of blood banking  
11 experts, who seemed only to request more patients and  
12 proof, without yielding on recommendations for changes  
13 in blood policy. Frustration and impatience grew at  
14 the CDC."

15 I pause there to note, sir, that the primary  
16 subject of that frustration of the CDC at this time  
17 was blood banks, not necessarily the fractionators,  
18 although Dr Evatt does refer to the briefings that he  
19 gave to the blood industry more generally, but we'll  
20 see shortly how some of the fractionators responded.

21 In October 1982, the National Hemophilia  
22 Foundation resolved that no plasma should be sourced  
23 from gay men, intravenous drug users, or people  
24 from Haiti. The response of the pharmaceutical  
25 companies to that recommendation is something that we

48

(12) Pages 45 - 48

1 will look at in due course. The recommendation was  
2 made in October 1982, paragraph 44 of the written  
3 presentation.

4 Relating things again to what was going on in  
5 the United Kingdom at that time, it's relevant to note  
6 that it was at around then that Dr Craske produced  
7 his initial report on AIDS, and in the covering letter  
8 that accompanied that report he said that he had  
9 spoken to somebody he described as the "project leader  
10 of the team looking into the epidemiology of the  
11 disease", at the CDC, which is a reference probably  
12 either to Dr Evatt or Dr Curran.

13 The next meeting that I will draw your attention  
14 to, sir, took place on 3 and 4 December 1982. It was  
15 a meeting of the Blood Policy Advisory Committee.  
16 A large number of items were discussed there, among  
17 them, many of them not to do with AIDS or --

18 **SIR BRIAN LANGSTAFF:** Just on that last -- what you  
19 recited, paragraph 45 in the presentation, do we know  
20 when in the autumn Dr Evatt had recalled the CDC  
21 identifying four additional cases, and one probable  
22 case of AIDS? Because that would make seven, and one  
23 probable case, whereas Craske was talking about  
24 five people.

25 **MR HILL:** The short answer is that I don't know. We can

49

1 go back and look at the MMWR reports at that time and  
2 see if we can discern that.

3 **SIR BRIAN LANGSTAFF:** The reason I ask is that it may  
4 demonstrate something of the perspicacity of  
5 Dr Craske, if indeed he had spoken at some time before  
6 September, which it would be if Dr Evatt is talking  
7 about September, for instance, in his recollection,  
8 and drawn the conclusions that he did, which he then  
9 presented in September to those who were listening.

10 **MR HILL:** We will look into that, sir.

11 **SIR BRIAN LANGSTAFF:** Thank you. In other words, it might  
12 have been there to be seen at an earlier stage than  
13 September.

14 **MR HILL:** We will conduct some further studies on that.

15 **SIR BRIAN LANGSTAFF:** Thanks.

16 **MR HILL:** Perhaps, sir, as we're on the topic, perhaps  
17 I can read, just from paragraph 45 of the written  
18 presentation, a section from what Dr Craske was saying  
19 in the autumn. I think that this is from his covering  
20 letter rather than the report. What he said, and  
21 I quote, is this:

22 "The hypothesis at present being used to explain  
23 the acquisition of these cases ... is that one or two  
24 patients in the incubation period of the disease  
25 donated plasma which has since been used to prepare

50

1 Factor VIII or IX concentrates. All of the  
2 haemophiliacs who have had the disease have had severe  
3 coagulation defects requiring regular treatment with  
4 Factor VIII. The likelihood is, therefore, that other  
5 cases will be identified amongst severe haemophiliacs,  
6 though probably at a low prevalence."

7 So that is what Dr Craske was writing in his  
8 covering letter.

9 Moving on to the meeting of the Blood Policy  
10 Advisory Committee on 3 and 4 December 1982. As  
11 I say, it discussed a range of topics, many not  
12 connected with AIDS or matters of relevance to this  
13 Inquiry, but some of the things that they did discuss  
14 were methods for decreasing the infectivity of  
15 Factor VIII and Factor IX concentrates in respect of  
16 hepatitis B, but it was noted at the meeting that that  
17 might also be of some interest because of the  
18 occurrence of AIDS in some patients with haemophilia.

19 They also discussed the risk groups for  
20 hepatitis B and donors, including intravenous drug  
21 users and gay men. And they also discussed a study  
22 showing lower T4/T8 cell ratios in patients using  
23 factor concentrates when compared to those using  
24 cryoprecipitate, and it was noted that similar changes  
25 have been found in patients with AIDS.

51

1 At that meeting, Dr Evatt reported on the CDC  
2 investigations, and he said that the epidemic was  
3 growing at an almost exponential rate, doubling every  
4 six months. He expressed a concern that transfusion  
5 cases, and I quote him:

6 "... may follow the same increasing pattern seen  
7 with haemophilia patients."

8 So going back, sir, to the point that you raised  
9 earlier, Dr Evatt is clearly drawing attention to the  
10 fact that this is a matter might affect patients  
11 receiving whole blood transfusions as well as blood  
12 products.

13 He told the meeting that eight people with  
14 haemophilia had been reported with AIDS, only three of  
15 whom were still alive. Five transfusion cases had  
16 been reported, including a child who had received  
17 a transfusion at birth. I take that to be a reference  
18 to the San Francisco infant case, which we'll come on  
19 to shortly, a case of some importance because it  
20 provided what Dr Evatt describes as an "unequivocal  
21 transfusion case"; that's the word that he uses in his  
22 Tragic History. So it's a way of demonstrating that  
23 his hypothesis that the transmissible agent is passed  
24 through blood, which had been questioned by many of  
25 the blood banking industry. He saw the case of the

52

(13) Pages 49 - 52



1 San Francisco infant as being an unequivocal  
2 transfusion case.  
3 Dr Evatt also commented on the CDC's studies of  
4 the incubation period of AIDS, and he looked at  
5 35 cases where there had been person to person  
6 transmission, and in those cases the incubation period  
7 he described as being:

8 "... about 4 to 7 months with a prodrome before  
9 diagnosis of about the same period. The  
10 epidemiological pattern seems to be similar to that of  
11 hepatitis B."

12 Now I'm afraid I'm not able to discern precisely  
13 what Dr Evatt meant about the four to seven months,  
14 whether he's saying that it's four to seven months  
15 without anything, and then four to seven months with  
16 some symptoms before what was termed at the time  
17 "full-blown AIDS" developed, or whether or not it's  
18 a single four to seven-month period. This is at  
19 paragraph 48 of --

20 **SIR BRIAN LANGSTAFF:** Well, if it's an incubation period,  
21 then presumably it's before full-blown AIDS, but it  
22 may be a difference between the first symptoms  
23 recognisable as symptoms of the AIDS syndrome  
24 developing, and a period before that, after infection.  
25 In other words, the prodromal period, infected but not

53

1 symptomatic, followed by a period symptomatic but not  
2 yet full-blown AIDS, followed by full-blown AIDS?  
3 **MR HILL:** That is my reading of it. I think that's the  
4 least strained reading of the quotation, I would  
5 suggest: four to seven months before the prodromal  
6 period and then four to seven months afterwards to  
7 AIDS.

8 **SIR BRIAN LANGSTAFF:** Unless there is a better reading,  
9 that's what I take from it. The only concern that  
10 I have is that it may be informed by a bit of  
11 retrospectivity, knowing that, indeed, AIDS turned out  
12 to have a very lengthy incubation period, including  
13 the difference between the symptomatic and  
14 asymptomatic.

15 **MR HILL:** I think that quotation is actually taken from  
16 the contemporaneous minutes, rather than from  
17 Dr Evatt's Tragic History. So that is what he was  
18 telling the Blood Policy Advisory Committee at the  
19 time.

20 **SIR BRIAN LANGSTAFF:** Yes.

21 **MR HILL:** So it would seem to be free of that element of  
22 retrospectivity, but, as we know, the further evidence  
23 comes to light about how long the incubation period  
24 is.

25 **SIR BRIAN LANGSTAFF:** Yes.

54

1 **MR HILL:** It's also relevant to note to that the cohort  
2 from which the CDC were drawing this information were  
3 people who had received person-to-person transmission  
4 of AIDS, rather than people who had received it  
5 through blood and blood products.

6 The Blood Policy Advisory Committee discussed  
7 some steps intended to reduce the risk of infection,  
8 including relying on cryoprecipitate and viral  
9 inactivation techniques, surrogate testing and  
10 excluding high risk donors. The meeting concluded,  
11 and I quote:

12 "... there was a sense of urgency because of the  
13 continuing spread of AIDS and because of its long  
14 incubation time."

15 Which goes back to the debate that we've just  
16 been having. However:

17 "The committee did not recommend any immediate  
18 changes in the biological regulations or regulatory  
19 activities at that time.

20 Again, it is relevant to note the distinction  
21 between action being taken on a voluntary basis and  
22 action which is being mandated by changes to  
23 regulations and regulatory activities.

24 On 9 December 1982, so five and six days after  
25 that meeting, the National Hemophilia Foundation

55

1 informed its members of four new cases of AIDS among  
2 people with haemophilia, and stated that, and I quote:

3 "... while there is insufficient data to  
4 directly link the spread of AIDS to concentrates,  
5 there is an increased concern that AIDS may be  
6 transmitted through blood products."

7 Interestingly, the NHF, as of 9 December 1982,  
8 also advised, and I quote:

9 "... patients and parents should be aware of the  
10 potential risks."

11 That's 9 December 1982.

12 On the same day, Dr Rodell, of Hyland, sent  
13 a letter to the NHF responding to its recommendations  
14 about excluding high risk donors. In the letter,  
15 Dr Rodell said, first, that Hyland had consistently  
16 sought to exclude all intravenous drug users by  
17 checking forearms for needle marks. Second, he said  
18 that the company had "within the past several months"  
19 made a commitment to withhold plasma obtained through  
20 targeted recruitment of gay donors.

21 That is a phrase that we looked at and a letter  
22 that we looked at in September and October.

23 The third point that Hyland made was that in  
24 terms of seeking to determine the sexuality of donors,  
25 there were going to be difficulties involved in how

56

(14) Pages 53 - 56

1 you identify those donors, and he indicated in the  
2 letter that the company would rely instead on donor  
3 education and donor self-exclusion. We'll come on to  
4 see how Hyland did that in the months that followed.  
5 He did say, however, that donors would be asked  
6 directly about whether they had been residents in or  
7 visitors to Haiti. Dr Rodell also referred the NHF to  
8 the difficulties that the fractionation companies had  
9 in respect of plasma that they obtained from whole  
10 blood donations, recovered plasma. Again, that was  
11 something that we looked at in September and October,  
12 but we will come back to it in the months that follow.  
13 On the following day, 10 December 1982, an  
14 informal meeting took place between representatives of  
15 the FDA and the fractionators, and this had been  
16 convened at the request of Dr Donohue. We have  
17 a memorandum of it by Dr Steven Ojala of Cutter. Many  
18 of the memorandums that we're going to look at come  
19 from Dr Ojala, who made records of these meetings.  
20 If we could bring it up on screen, please,  
21 Soumik, it's CGRA0000425.  
22 We can see at the top the date is  
23 13 December 1982, so reporting back three days later  
24 on the meeting that was held on the 10th. The  
25 distribution list is a number of people from within

57

1 programme be coordinated between the manufacturers.  
2 Rodell made it clear that they intended to  
3 specifically ask their donors if they are high risk  
4 (ie homosexuals or drug users). He maintained that  
5 public health risks overrode any concerns with  
6 discrimination. The consensus was that the education  
7 programme be formulated by a professional firm  
8 experienced in this kind of presentation."  
9 I pause there, sir, to say that what Dr Rodell  
10 appears to be telling this meeting is that it's  
11 slightly firmer than the information that he gave in  
12 the letter to the NHF. It seems that, by this stage,  
13 Hyland were considering or intending to implement  
14 a policy where donors were asked directly whether or  
15 not they were gay, male donors were asked if they were  
16 gay.  
17 **SIR BRIAN LANGSTAFF:** There are marginal notes.  
18 **MR HILL:** Yes, sir. I have struggled to decipher these,  
19 and I don't know who made them. As we can see on the  
20 bottom right-hand corner of this document, we can see  
21 it's an exhibit from litigation. So we can't even be  
22 sure that these notes were made by somebody within  
23 Cutter. I'm afraid we simply don't know.  
24 **SIR BRIAN LANGSTAFF:** Do we know from which side of the  
25 litigation the document comes?

59

1 Cutter.  
2 If we could start from the first paragraph,  
3 we'll work our way down this page:  
4 "Dr Donohue asked for an informal meeting with  
5 four Blood Product Manufacturers following the PMA/FDA  
6 Liaison Committee Meeting on Friday to explore  
7 possible actions to minimize the risk of AIDS.  
8 Although the transmission of AIDS via blood products  
9 (and specifically AHF) has not been conclusively  
10 demonstrated, there is some evidence that a  
11 possibility does exist. [Dr] Donohue wanted to know  
12 what we manufacturers could do immediately to minimize  
13 the risk of potential exposure."  
14 Can we have the next paragraph, please:  
15 "Dr Donohue specifically asked if we could  
16 simply exclude high risk plasma taken from areas such  
17 as New York, San Francisco and Hollywood from AHF  
18 productions. Mike Rodell (Hyland) responded that he  
19 felt a more meaningful effort would be to attempt to  
20 educate the high risk populations (homosexuals,  
21 Haitians and drug users) and have them voluntarily  
22 exclude themselves from the plasmapheresis programs.  
23 Not everyone was convinced that a voluntary program  
24 would be completely successful, but it would be  
25 a first step. It was recommended that any educational

58

1 **MR HILL:** I don't. I don't, I'm afraid. It will have  
2 been disclosed -- to adopt the terminology from this  
3 jurisdiction, it will be have been disclosed in the  
4 litigation, which is why it became public.  
5 **SIR BRIAN LANGSTAFF:** But it doesn't look as though it's  
6 a litigation note, given the very last of the third of  
7 those entries, which is a reference to John Hink,  
8 isn't it --  
9 **MR HILL:** Yes, it is.  
10 **SIR BRIAN LANGSTAFF:** -- and John Hink needing to do  
11 something?  
12 **MR HILL:** "This will be a problem ..."  
13 **SIR BRIAN LANGSTAFF:** "... at Cutter ..."  
14 **MR HILL:** "... at Cutter ..."  
15 **SIR BRIAN LANGSTAFF:** "... John Hink will need to look at  
16 the [percentage and] costs."  
17 **MR HILL:** Yes. So that would certainly suggest that  
18 it's -- well, I think it's overwhelmingly likely that  
19 that means that the marginalia was made at the time.  
20 I suppose it's theoretical that Mr Hink might have  
21 been asked about that in the later litigation.  
22 **SIR BRIAN LANGSTAFF:** I think that's the working  
23 assumption.  
24 **MR HILL:** Yes.  
25 **SIR BRIAN LANGSTAFF:** If so, then probably is this, do you

60

(15) Pages 57 - 60

1 think, a Cutter document or a Cutter annotation?

2 **MR HILL:** I would have thought so. The memorandum is

3 circulated within Cutter and, certainly, that note

4 would seem to suggest that it's somebody within Cutter

5 identifying, either for themselves or for others --

6 **SIR BRIAN LANGSTAFF:** In case it matters, the marginal

7 notes, the first is fairly clear, I think:

8 "To educate the high risk is good."

9 What about the second?

10 **MR HILL:** "This makes" -- I think it says:

11 "This makes no sense ..."

12 **SIR BRIAN LANGSTAFF:** "Homosexual"?

13 **MR HILL:** Yes.

14 **SIR BRIAN LANGSTAFF:** "... [and] drug user who sells

15 plasma has no concern for others."

16 **MR HILL:** Yes.

17 **SIR BRIAN LANGSTAFF:** Yes, and this may be -- the working

18 assumption is that it's an internal Cutter document?

19 **MR HILL:** Yes.

20 **SIR BRIAN LANGSTAFF:** Yes. Thank you.

21 **MR HILL:** Returning to the third paragraph down:

22 "Donohue then asked if we were willing to

23 exclude plasma collected at prisons because the

24 homosexual link, and because it constituted only 2% of

25 collected plasma. The other manufacturers had no

61

1 Going over onto the following page, there's

2 a record of a brief discussion about Fraction V, and

3 then if we could expand the first paragraph, please,

4 Soumik. I quote:

5 "I have the impression" -- so this is the second

6 sentence in:

7 "I have the impression that while the agency is

8 concerned about the question of AIDS, they are not

9 going to overreact to the situation. Concerns have

10 been expressed about the safety of 'paid' donors

11 versus voluntary sources and there are those who are

12 championing the return to single donor cryo. I think

13 the Bureau will take a more studied and scientific

14 approach until sufficient information is available."

15 That's where we'll leave that document, sir. If

16 we could take it down, please, Soumik.

17 Relevant to note that the CDC were not present

18 at that meeting; it was a meeting between the FDA,

19 specifically Donohue, and the fractionators.

20 On the same day that that meeting took place,

21 10 December, the CDC published in MMWR the report

22 relating to the San Francisco infant, a 20-month old

23 child infected with AIDS. After the blood transfusion

24 had taken place at birth and the incubation period was

25 identified to be 18 months. The same report indicated

63

1 problem with this suggestion, but it was pointed out

2 that this was the source of our hyperimmunised donors.

3 Donohue then suggested that we exclude this plasma

4 from any AHF productions. It is my opinion that they

5 will remain relatively non-negotiable on this point.

6 It was indicated that there has been no causes of AIDS

7 reported from prison, and Donohue responded that was

8 because of the etiology of the syndrome and

9 insufficient time had transpired."

10 I pause there to note, as we've just discussed,

11 this is a Cutter document, so when referring to how

12 the "other" manufacturers had no issue with this, we

13 can see in this document and others that it was

14 a source of concern for Cutter.

15 "The final item of discussion related to

16 recovered plasma [that is, plasma taken from whole

17 blood donations]. Donohue pointed out that we would

18 have distinctly less leverage over any voluntary

19 reduction of high risk donors in recovered plasma. He

20 said that he felt that we should consider very

21 carefully if we should accept recovered plasma

22 collected from high risk populations. (He indicated

23 the Irwin Blood Bank specifically.)"

24 That is the Irwin Memorial Blood Bank in

25 San Francisco.

62

1 that three people with haemophilia, whose cases had

2 been reported in July, had all died.

3 In his Tragic History, Dr Evatt says this about

4 the -- specifically about the San Francisco case, but

5 more generally about the point reached by 10 December:

6 "We" -- that's a reference to he in his

7 colleagues the CDC:

8 "We were now convinced that in spite of the

9 absence of an identified agent, the pattern of the

10 epidemiological evidence was sufficient to implicate

11 a blood-borne disease. This evidence can no longer be

12 ignored. In our opinion urgent changes in blood

13 policy were needed to reduce the risk."

14 That is his view as of 10 December 1982.

15 Turning to the response of one pharmaceutical

16 company to the situation then pertaining. The company

17 is Alpha. On 15 December 1982, Alpha's executive

18 committee met for what was described as an AIDS

19 meeting and there the committee decided on a number of

20 steps. In essence, they put in place a new screening

21 process, patients were to be given information

22 leaflets -- sorry, not patients, donors, forgive me --

23 were to be given information leaflets. The donors

24 would be encouraged to self exclude if they were in

25 any of the three identified risk groups. Male donors

64

(16) Pages 61 - 64



1 would be asked directly if they had had sex with  
2 another man, and if they answered yes, then they would  
3 be excluded.

4 This new process was to be implemented in  
5 Alpha's own centres, and in centres with whom it had  
6 contracted. So these were some of the independent  
7 plasmapheresis centres that provided plasma to Alpha.

8 Alpha would also encourage whole blood centres  
9 to adopt these measures, and we will see from some  
10 documents from a few months later that this caused  
11 problems for Alpha because some of those with whom  
12 they were used to dealing were not prepared to do so,  
13 and so the relationship between them broke down.

14 Alpha was the first of the fractionators to put  
15 in place these enhanced measures, and it did so from  
16 mid-December 1982. I'm just going to take you to  
17 a couple of the documents that show what was done and  
18 how it was phrased, and if we could have on screen,  
19 please, Soumik, CGRA0000627. This is the covering  
20 note from Dave Gury at Alpha, and it refers to:

21 "... a series of urgent communications of AIDS.  
22 [They are] a background memo [to be sent to] centre  
23 personnel ... a memo to be xeroxed [that's  
24 photocopied] and given to donors. Third, a memo to be  
25 given to AIDS deferred donors."

65

1 a safe product to those who lives depend on it.  
2 Because of our shared goal of producing a continuing  
3 safe supply of plasma products for use worldwide,  
4 Alpha has committed its resources to reducing the  
5 possibility that this disease might be transmitted  
6 through our products. We are now asking for your  
7 commitment also.

8 "Until the cause of this disease is determined,  
9 we are asking that people who are a part of any of the  
10 following groups do not donate:

11 "Haitians

12 "Drug abusers

13 "Male homosexuals

14 "People who are a part of any of the above

15 groups may be eligible for a special plasma program.

16 If you think you may be eligible, please discuss this  
17 with our Medical Receptionist."

18 The special plasma programme, sir, was a system  
19 that Alpha put in place, whereby plasma from those  
20 groups was segregated and could be used for other  
21 purposes, other than the fractionation of factor  
22 concentrates.

23 Other documents -- thank you, Soumik, we can  
24 take that down.

25 Other documents, which I won't take you to, sir,

67

1 If we could now go, please, to page 3. This is  
2 the second of those documents. I should say that the  
3 first of them, the background memo, is summarised from  
4 paragraph 58 onwards of the written presentation, but  
5 I'm going to take you to the document that was given  
6 to donors.

7 It says, and I quote:

8 "Dear Donor:

9 "Recently, the medical community has noted the  
10 occurrence of a very serious disease known as Acquired  
11 Immune Deficiency Syndrome (AIDS). The Centers for  
12 Disease Control have documented an increasing number  
13 of cases of this disease across the country.

14 "As the name indicates, the disease seems to  
15 disrupt the patient's immune system, that is, their  
16 ability to fight off disease. Though very little is  
17 known about the disease or about its cause, this  
18 disease has been fatal, as there is no known  
19 treatment.

20 "It appears that the disease occurs more  
21 frequently in certain groups of people which include  
22 male homosexuals, Haitians, and drug abusers.

23 "In past years, you have helped us help others  
24 through your plasma donations. We are now faced with  
25 a situation in which only you can help us ensure

66

1 make it clear that, in addition to providing the donor  
2 with that document, a new protocol was put in place,  
3 such that the medical receptionist at any Alpha centre  
4 would say directly to a male donor, "Have you ever had  
5 sexual contact with a man", and if the answer was  
6 "Yes", then they would be deferred from donating other  
7 than for the special plasma process.

8 So we can see that the terminology used in that  
9 question combined with that in the document is very  
10 clear, there is no confusion about promiscuous male  
11 homosexuals, as occurred in some other literature  
12 around the time. It is a straight question, "Have you  
13 ever had sexual contact with a man?"

14 We will see that other fractionators didn't pose  
15 the question directly of the donor, and there are, of  
16 course, arguments as to why different approaches might  
17 be more effective.

18 A similar letter to the one that -- a similar  
19 note to the background note was sent to plasmapheresis  
20 centres, and they were instructed that plasma obtained  
21 after 26 December 1982, from donors who had not been  
22 screened in the way that Alpha required them to be  
23 screened, should not be sent to Alpha. They concluded  
24 their letter to their contracting centres with the  
25 following words:

68

(17) Pages 65 - 68

1 "While we recognise the potential of the  
2 rejection of long-term donors, we strongly believe  
3 that the loss of these donors is more than offset by  
4 the protection of our patients."  
5 Alpha's measures were introduced unilaterally.  
6 They were not part of an industry-wide approach, it  
7 was a decision that Alpha took on its own. They went  
8 beyond the measures that many voluntary and commercial  
9 blood banks were willing to put in place, and we'll  
10 see that in documents that follow.  
11 Alpha would later report that 308 homosexual  
12 donors had been excluded from donating in the first  
13 three weeks of implementation, and that an even larger  
14 number had voluntarily excluded themselves. Alpha's  
15 assessment by the summer of 1983 was that, in that  
16 first six months or so, 800 potential donors had  
17 voluntarily disqualified themselves from the pool.  
18 You may feel, sir, that it is significant that so many  
19 donors from high-risk groups could be excluded so  
20 quickly with a relatively simple measure.  
21 The company provided regular newsletters, and  
22 the one that was published in winter 1982 set out  
23 these new arrangements, and quoted the medical  
24 director, Dr Clyde McAuley as saying this:  
25 "So long as there is any question about the

69

1 an alternative to the use of factor concentrates. The  
2 calculations are set out at paragraph 70 of the  
3 written presentation. In short, the Committee  
4 concluded that within a year the average patient who  
5 had severe haemophilia would be exposed to  
6 700 donations, even with a reversion to  
7 cryoprecipitate, and a patient using 20 per cent of  
8 that 70,000 unit average would be exposed to  
9 140 donations a year by using cryoprecipitate. The  
10 meeting concluded, and I quote:  
11 "The use of cryo may do nothing to solve the  
12 incidence of AIDS related to AHF transfusion."  
13 It also recorded, and I quote:  
14 "Risk would be approaching that of pooled  
15 [anti-hemophilic factor]."  
16 The minutes don't record the discussion and the  
17 reasons as to why that conclusion was reached.  
18 There is some discussion of the costs of  
19 switching to cryoprecipitate. It was estimated that  
20 it would cost an additional \$1 per unit because of  
21 labour costs, so the estimate was of 7 million  
22 donations per year, so that would mean an additional  
23 cost of \$7 million in terms of labour alone.  
24 There was also an estimate of \$20 million to  
25 \$30 million in respect of equipment and shipping costs

71

1 involvement of blood products, Alpha is taking all  
2 possible steps to reduce the potential risk for the  
3 haemophiliac receiving our Factor VIII and Factor IX  
4 concentrates."  
5 It is, sir, relevant to note that those steps  
6 were prospective.  
7 Returning to the minutes of the Alpha executive  
8 committee on 15 December 1982, as well as putting in  
9 place this new scheme that meeting also considered  
10 what to be done with products that had been produced  
11 using three units of plasma that had been obtained  
12 from what was described as "the AIDS donor."  
13 It's not clear from the minutes how many lots  
14 were affected, but reference is made to one lot in  
15 particular, which comprised 2,841 vials and had been  
16 shipped in April and August 1982. The minutes record  
17 that the situation was going to be reported to the  
18 FDA, and that the company, and I quote:  
19 "... would wait for the Bureau of Biologics'  
20 opinion on what should be done."  
21 We haven't as yet, sir, been able to trace  
22 through all of the steps as to what happened to those  
23 products and what the decision of the FDA was on it.  
24 The same meeting also included a discussion on  
25 the possibility of a reversion to cryoprecipitate as

70

1 for 7 million units. There would be, it was said,  
2 additional costs which were not set out or calculated  
3 for shipping at minus 20°C.  
4 That was an internal discussion within the Alpha  
5 organisation.  
6 On 21 December 1982, the NHF made  
7 recommendations on the treatment of people with  
8 haemophilia in light of the risk of AIDS. This is  
9 quoted at paragraph 73 of the written presentation:  
10 "The organisation said that there was no  
11 conclusive evidence that the use of cryoprecipitate or  
12 fresh frozen plasma would reduce the risk of AIDS, but  
13 it recommended that patients who had not yet used  
14 concentrates should not begin to do so unless there  
15 was an overriding medical indication for so doing."  
16 And that group included children, those under  
17 four, people who had been newly diagnosed with  
18 haemophilia and those with mild haemophilia.  
19 "All other patients were advised to continue  
20 using concentrates."  
21 That was 21 December 1982, and there was a  
22 slight tweak to the guidance in January 1983, where  
23 physicians were also advised to use desmopressin for  
24 patients with mild or moderate haemophilia.  
25 In January 1983, as well, there was

72

(18) Pages 69 - 72

1 a recommendation that the advantages and disadvantages  
2 of postponing elective surgery be considered.

3 We've reached the end of 1982, and it's perhaps  
4 helpful just to give a very brief summary. By the end  
5 of 1982, pharmaceutical companies and other relevant  
6 bodies were aware of the potential risk of  
7 transmission of AIDS through blood products, and blood  
8 transfusions, though there was no consensus about  
9 the aetiology of the disease or the nature and extent  
10 of the risk.

11 That lack of consensus was evident between  
12 government agencies, as well as between those agencies  
13 and those involved in blood banking and in  
14 fractionation. In broad terms the CDC, or at least  
15 leading figures within the CDC, were considerably more  
16 concerned about AIDS than were other participants in  
17 the debate.

18 Some steps had been taken to seek to reduce  
19 risk. Companies had agreed voluntarily to forego  
20 future manufacture of blood products from -- or  
21 from -- factor concentrates from plasma obtained from  
22 donors specifically recruited because they were gay.  
23 There was a consensus amongst the fractionators about  
24 educating donors. Other measures, such as avoiding  
25 plasma from prisons and from geographical areas

73

1 thought to be hot spots for AIDS, were under  
2 consideration. But one company, Alpha, had gone  
3 considerably further and had unilaterally introduced  
4 its new screening process. As the events in  
5 January 1983 would show, there was, however, still  
6 a gulf between the steps that the blood industry  
7 generally were willing to take at that stage, and  
8 those that the leading figures within the CDC  
9 considered to be necessary.

10 That brings us, sir, to perhaps the most  
11 prominent and controversial event in the United States  
12 in this debate in this period, and that was the  
13 meeting held on 4 January 1983 in Atlanta. We have  
14 various sources for this meeting, and they're set out  
15 at paragraph 77 of the written presentation.

16 The meeting was convened by the assistant  
17 secretary for health, Dr Edward Brandt, at the urging  
18 of the CDC. It was a public meeting, and it was  
19 widely attended, including by figures from the  
20 fractionation industry, each of those firms.

21 It was chaired by Dr Jeffrey Koplan, and  
22 although Dr Koplan came from the CDC, there is some  
23 evidence that he was chosen as chair because he was  
24 considered to be a neutral figure in the emerging  
25 debate.

74

1 I'm going to take you, sir, to a summary of the  
2 meeting, which was contained in the Krever Report,  
3 which is a helpful way of beginning our understanding  
4 of the meeting. We will be looking at some other  
5 sources for it as well.

6 Soumik, can we have on screen, please,  
7 KREV0000001, and it's electronic pages -- beginning at  
8 electronic page 752.

9 Sir, there is a *mea culpa* here: I tried to  
10 transpose the internal page numbers of the Krever  
11 Report to the external -- to the electronic page  
12 numbers, and to my immense frustration I was one  
13 page out. So all references in the written report to  
14 the Krever Report are one page short on the electronic  
15 version. I apologise for that. As I say, it's  
16 a source of considerable frustration.

17 If we could expand, please, the first full  
18 paragraph, beginning "A meeting". This is  
19 Mr Justice Krever's summary, which is, in my  
20 submission, a helpful one:

21 "A meeting of the advisory group was held on  
22 4 January 1983."

23 I should note there, sir, that formally this was  
24 a meeting of something that was often described as  
25 a "Workgroup to Identify Opportunities for [the]

75

1 Prevention of AIDS". It was an *ad hoc* meeting, it  
2 wasn't a formal meeting of the Blood Products Advisory  
3 Committee:

4 "A meeting of the advisory group was held on 4  
5 January 1983. More than 200 persons were present at  
6 that meeting, including the employees of the CDC, the  
7 Food and Drug Administration and the National  
8 Institutes of Health, representatives of the blood and  
9 plasma centres, the plasma sector, the four large US  
10 blood product manufacturers, the gay community, and  
11 the National Hemophilia Foundation, as well as some  
12 treating physicians.

13 "At the meeting, Dr Evatt presented evidence  
14 suggesting that AIDS could be transmitted by blood.  
15 He discussed the cases of AIDS seen in hemophiliacs,  
16 described the case of an infant in California who had  
17 received a transfusion at birth, and said that five  
18 unconfirmed cases of transfusion-associated AIDS were  
19 investigation.

20 "Several measures were suggested to reduce the  
21 risk of transmission. Dr Donald Francis, the  
22 assistant director for medical science in the CDC's  
23 division of virology, advocated direct questioning of  
24 blood donors about behaviour that would have placed  
25 them at risk of contracting AIDS. He also recommended

76

(19) Pages 73 - 76



1 that donations be tested for the presence of antibody  
 2 to the hepatitis B core antigen, in the belief that  
 3 persons who had been exposed to hepatitis B would also  
 4 be at greater than normal risk of contracting AIDS.  
 5 Representatives of the gay community objected to his  
 6 first proposal because it would be discriminatory, and  
 7 representatives of the blood banks and plasma industry  
 8 objected to the second, primarily because it would be  
 9 too expensive. Dr Oscar Ratnoff, a physician at Case  
 10 Western Reserve University who treated hemophiliacs,  
 11 recommended that haemophiliacs used cryoprecipitate  
 12 instead of factor concentrates. Ultimately, the  
 13 meeting endorsed none of these measures. Although  
 14 the participants reached a general consensus that 'it  
 15 would be desirable to exclude high-risk donors to  
 16 reduce the risk of AIDS transmission', there was no  
 17 agreement about a method of accomplishing that goal.  
 18 There was also no consensus on the question of whether  
 19 AIDS was caused by a transmissible agent, on the risk  
 20 of AIDS from blood donations, or on the  
 21 desirability ..."

22 Sorry, I've just lost my place there.

23 **SIR BRIAN LANGSTAFF:** About halfway down.

24 **MR HILL:** Thank you:

25 "... or the desirability of introducing new

77

1 you run a surrogate test for hepatitis B core  
 2 antibody, then there is a prospect of identifying  
 3 90 per cent -- or, 90 per cent of people who may have  
 4 AIDS or develop AIDS will have that antibody, and  
 5 only 5 per cent in the general population will have  
 6 that antibody, at least in respect of voluntary  
 7 donors.

8 Now, his position won some support. There were  
 9 some blood centres that indicated a willingness to run  
 10 programmes in which anti-HBC would be tested, and  
 11 there were also some other surrogate tests.

12 **SIR BRIAN LANGSTAFF:** Could I just come back to those  
 13 figures?

14 **MR HILL:** Yes.

15 **SIR BRIAN LANGSTAFF:** I just wonder if you will be showing  
 16 me in due course what was recorded as to what he was  
 17 saying, because 90 per cent of known definite AIDS  
 18 cases is looking at the matter retrospectively, it's  
 19 after they've had whatever it is that caused AIDS --

20 **MR HILL:** Yes.

21 **SIR BRIAN LANGSTAFF:** -- compared to a 5 per cent figure  
 22 in the general population of voluntary donors. So the  
 23 issue -- if this is saying, as it seems to be, that  
 24 voluntary donors are a safer source, how does it make  
 25 that out? Because you're looking at donations on the

79

1 methods of donor screening or testing to reduce the  
 2 risk of transmission. Instead, the CDC, the Food and  
 3 Drug Administration and the National Institutes of  
 4 Health were each asked to submit a set of  
 5 recommendations after the meeting for the prevention  
 6 of AIDS in patients with hemophilia and for other  
 7 recipients of blood and blood products, so that  
 8 a uniform set of recommendations might be developed."

9 That's where we'll leave that document. Thank  
 10 you, Soumik.

11 Looking at the wider documents, we can see  
 12 a little more of the debate and the nuance of the  
 13 argument about surrogate testing that  
 14 Mr Justice Krever mentioned. As he said, the CDC's  
 15 case was presented by Dr Don Francis. He and his  
 16 colleagues had conducted studies that in their view  
 17 showed that 90 per cent of known definite AIDS cases  
 18 were positive for the antibody to hepatitis B core  
 19 antigen. This compared to a 5 per cent figure in the  
 20 general population of voluntary donors. It's  
 21 important to stress we're looking at voluntary donors  
 22 there, not paid donors at plasmapheresis centres.

23 Those figures would later be contested, and we  
 24 will see some further figures as we go through the  
 25 documents, but the CDC's case at the time was that if

78

1 one hand and you're looking at the  
 2 results/consequences on the other.  
 3 **MR HILL:** I don't think it's necessarily saying --  
 4 comparing voluntary donors with paid donors, it's just  
 5 that the voluntary donors were the cohort that the CDC  
 6 drew their data from.

7 The point that they were seeking to make,  
 8 I think, from this, is that if you introduce anti-HBC  
 9 testing, then you can expect to lose 5 per cent of  
 10 your donors at a voluntary blood donation centre,  
 11 because they will test positive. So your loss is  
 12 5 per cent of donors. The potential gain is that the  
 13 test, as a surrogate test, has a good correlation with  
 14 people who subsequently developed AIDS, because  
 15 90 per cent of people in their cohort who developed  
 16 AIDS were positive for anti-HBC.

17 It doesn't, as you say, necessarily tell you  
 18 whether or not somebody who was in the incubation  
 19 period for AIDS will -- it doesn't give you any  
 20 figures at all for that cohort because that's not  
 21 the group that they were using, they were using only  
 22 people who had developed AIDS, but I think that  
 23 the inference is that, as a surrogate test, it was one  
 24 that potentially could assist in identifying and  
 25 excluding high risk donors, even though it would come

80

(20) Pages 77 - 80

1 at a cost of losing some donors who did not go on to  
2 develop AIDS.

3 **SIR BRIAN LANGSTAFF:** Yes. I'm still, at the moment,  
4 puzzling over the exact way in which scientifically  
5 the link could be drawn. Because it might very well  
6 be that the -- the point which at the moment I'm  
7 struggling with, and it may be entirely a fault of  
8 mine, is that if you take one in twenty people who  
9 come along who happen to have hepatitis B, you may  
10 still end up with AIDS being created in association  
11 with hepatitis B as an output to an extent of  
12 90 per cent. So there has to be some way of saying,  
13 well -- I'm sorry, I don't understand what the link  
14 precisely is, but that's -- I'll try to work it out.

15 **MR HILL:** Perhaps that something, sir, I will come back to  
16 and go back to the -- I'll try to find from the  
17 various sources we've got of the meeting --

18 **SIR BRIAN LANGSTAFF:** Yes.

19 **MR HILL:** -- the best and the clearest discussion. That's  
20 something I will come back to over lunch --

21 **SIR BRIAN LANGSTAFF:** Thank you.

22 **MR HILL:** -- if I may.  
23 It may also be that Dr Evatt's Tragic History  
24 may set out clearly the parameters of that debate.  
25 What is clear from the sources is that while

81

1 bothered many but not CDC, several objected on  
2 scientific grounds."

3 We will come back, sir, after lunch, to the  
4 terms of that debate. But looking more generally at  
5 the meeting as a whole, we can see a -- the account  
6 given by Dr Evatt in his Tragic History, which  
7 summarises how he and some of his CDC colleagues felt  
8 about what happened.

9 If we could have on screen CVHB0000042. It's  
10 page 6.

11 If we could start with the first paragraph on  
12 the left-hand column, please. Sorry, the  
13 paragraph above it.

14 This is what Dr Evatt said of the meeting:  
15 "Naively, we reasoned that the meeting would be  
16 routine and produce a *pro forma* stamp for action, that  
17 is, review the data, accept the evidence as  
18 significantly supporting the case for a blood-borne  
19 infection and produce recommendations that high-risk  
20 groups be excluded from the donor pool and/or adopt  
21 a surrogate test, for example, hepatitis B core  
22 testing, or immune complex tests to exclude possible  
23 infected donors."

24 He then cites the different attendees at the  
25 meeting. If we could move to the next paragraph,

83

1 there was some support for this proposition, there  
2 were also objections. Those objections were, as  
3 Mr Justice Krever said, on the grounds of cost and  
4 expense, and also on the grounds that it was going to  
5 lead to the destruction of plasma without direct  
6 evidence that that plasma was infected with AIDS.

7 Some concerns were raised about the availability  
8 of materials for the test and about the need for  
9 additional training for staff to carry it out.

10 According to the Cutter note of the meeting, one  
11 participant -- who is not named -- estimated the cost  
12 of introducing anti-HBC testing on all donations as  
13 being at least \$100 million per year.

14 Dr Robert Gerety commented that he didn't think that  
15 the test was, in his words, or his quoted words,  
16 "a good marker", and he noted that the test hadn't  
17 been licensed and wouldn't be licensed that year.

18 Dr Gerety was the director of the hepatitis  
19 branch of the FDA's division of blood and blood  
20 products, and he is expressing scepticism about the  
21 test as well.

22 Dr Hink, who wrote the Cutter note, and we saw  
23 his name on the Cutter marginalia a moment ago, he  
24 summarised the debate in this way, he said:  
25 "[The] Question of cost and implementation

82

1 please:  
2 "Unfortunately, 4 January 1983 became possibly  
3 the most discouraging and frustrating day of the  
4 epidemic for CDC staff. Rather than a rational  
5 discussion of the data, the meeting quickly became  
6 a forum to advance individual agendas and 'turf  
7 protection'. In the presence of (and perhaps in  
8 reaction to) news reporters and TV cameras, each group  
9 voiced essentially the same sceptical reasoning they  
10 had at the earlier meeting in July 1982. On this  
11 occasion some were less polite, sometimes attacking  
12 CDC data as inadequate and over stated. The  
13 particularly vocal blood bank organisations still  
14 strongly adhered to the philosophy that transfusions  
15 were a life saving procedure; some adverse reactions  
16 were acceptable to save a life. A 'rare disorder'  
17 that affected only eight haemophilia patients and one  
18 transfusion patient should not force a change in blood  
19 policy. Calls were to 'Show us the agent ... subject  
20 it to Koch's postulates'. The attendees regarded the  
21 data as only anecdotal evidence, without merit. Two  
22 views emerged. To us, the attendees' reactions seemed  
23 to be those of a group approaching an idealized  
24 science problem in an abstract world; to the audience,  
25 their position was that of a group acting as careful

84

(21) Pages 81 - 84

1 scientists in accordance with their training.  
 2 "All attendees underestimated the already high  
 3 disease incidence in the population because AIDS was  
 4 obscured by a long, still undetermined incubation  
 5 time. Dismissed as inadequate were our data on the  
 6 high frequency of immune disorders affecting the  
 7 haemophilia population that were identical to those  
 8 found in homosexual patients with lymphadenopathy  
 9 associated syndrome. Above all, the blood bank  
 10 organizations remained unconvinced that the CDC had  
 11 shown the condition to be a blood-borne disease and  
 12 some FDA officials remained unconvinced that AIDS was  
 13 actually a distinct disease. Dr Koplan proposed a set  
 14 of consensus recommendations at the end of the day,  
 15 and all were soundly defeated.  
 16 "The blood banking organizations were clearly  
 17 displeased with what, in truth, was the CDC's  
 18 intrusion into areas considered FDA's responsibility.  
 19 The attitude was reflected in a memo from a senior  
 20 [American Red Cross] official that, 'It has long been  
 21 noted that CDC increasingly needs a major epidemic to  
 22 justify its existence ... In short, we cannot depend  
 23 on the CDC to provide scientific, objective,  
 24 unbiased leadership ...'  
 25 Just a couple of points on that, sir, Koch's

85

1 the IOM placed people's attitude towards the CDC  
 2 within that context.  
 3 **SIR BRIAN LANGSTAFF:** So this is the IOM report of 1995?  
 4 **MR HILL:** Yes, that's right.  
 5 There is a piece of video footage which I'll  
 6 show after lunch, so that we can see it up properly on  
 7 the machine, which has a snippet of information about  
 8 Dr Francis and an interview with Dr Francis, and in  
 9 that video he confirms accounts that have been given  
 10 many times of him slamming his fist on the table  
 11 during the meeting and asking, in effect, how many  
 12 AIDS cases and how many deaths those attending needed  
 13 before they would act.  
 14 The Cutter representative at the meeting, Dr  
 15 Hink, he produced a memorandum which also contains  
 16 some further insights. Could we have, please,  
 17 CGRA0000300.  
 18 The memorandum is dated 6 January 1983, and it's  
 19 an internal document. If we go to the second  
 20 paragraph, please. This is Dr Hink's impression of  
 21 the meeting:  
 22 "Most of the meeting was devoted to presentation  
 23 of information and data by individual experts ...  
 24 there is little question that these individuals knew  
 25 their subject but as the day wore on, it was evidenced

87

1 postulates are a series of criteria that are used to  
 2 test the causative link between a suspected infective  
 3 agent and a disease, they include a criterion to  
 4 identify and isolate the organism said to have caused  
 5 the disease and, of course, that couldn't have been  
 6 done at that time because that agent was unknown.  
 7 The quotation from the American Red Cross  
 8 official about the CDC is also contained in another  
 9 document. The longer quotation also refers to federal  
 10 funding cuts as being relevant to the context in which  
 11 the CDC were putting forward its proposals. It  
 12 referred to a perceived marketing approach by the CDC,  
 13 and a suspicion that AIDS probably played some  
 14 positive role in the CDC's successful battle to fund  
 15 a new \$15 million virology lab, the suspicion being  
 16 expressed about the CDC's motivation.  
 17 That quotation is taken from a report prepared  
 18 by the Institute of Medicine, which is referred to in  
 19 the written presentation, and the Institute of  
 20 Medicine also placed this in the context of a previous  
 21 reaction to a potential outbreak of swine flu in the  
 22 United States in 1976, which led to a mass vaccination  
 23 programme, and indeed some deaths as a result of that  
 24 vaccination programme, and it was felt by some that  
 25 that had been a massive overreaction at the time and

86

1 that experts in other fields paid little attention to  
 2 these overviews."  
 3 He gives an example which I won't go through.  
 4 If we could go to the next paragraph, please, Soumik:  
 5 "I believe, but am not certain, that the  
 6 objective of this CDC sponsored Workshop was to arrive  
 7 at a meaningful recommendation for action(s) which  
 8 would reduce the rapidly increasing number of AIDS  
 9 disease cases being identified in the US. In  
 10 particular it appeared they directed attention to the  
 11 8 or 10 haemophiliacs with confirmed or suspected AIDS  
 12 assumed to have been caused by infusion of blood  
 13 products and what should be done quickly to prevent  
 14 a further increase in these numbers.  
 15 "However, difficulties in communication and  
 16 political power struggles made progress toward these  
 17 objectives difficult. The anti-discrimination  
 18 position of the gays, self-serving comments of blood  
 19 bankers and lack of data to provide legitimacy to many  
 20 proposals resulted in an overall stalemate. I felt  
 21 a great deal of empathy for the meeting chairperson  
 22 who I felt did a good job under the circumstances."  
 23 If we could turn to page 3 of this document.  
 24 Dr Hink provides various pieces of information which  
 25 he attributes to contributors to the meeting and those

88

(22) Pages 85 - 88



1 are set out in the written presentation. But if we go  
 2 to the bottom of page 3 we can see Dr Hink's  
 3 recommendations for Cutter resulting from the meeting.  
 4 So this wasn't what was said at the meeting, but what  
 5 Dr Hink is advising his colleagues should do:  
 6 "1. Institute a 'High Risk Donor'  
 7 educational-voluntary exclusion programme at all  
 8 Cutter source plasma collection facilities.  
 9 "2. Continue to exclude all plasma collected  
 10 from centers dealing predominantly with homosexual  
 11 populations (ie anti-HBs plasma collection facilities)  
 12 from use in coagulation products.  
 13 "3. Take no extraordinary actions (other than  
 14 [number] 1 above at our two prison centers which  
 15 supply about 3000 liters [per month], (there are no  
 16 data to support the emotional arguments that prison  
 17 plasma collected from adequately screened prisoners is  
 18 'bad'. To exclude such plasma from manufacture of our  
 19 coagulation product would only be sop or gratuity to  
 20 the Gay Rights and would presage further pressure to  
 21 exclude plasma collected from the Mexican border and  
 22 the paid donor.)  
 23 "4. Continue to attend further meetings of this  
 24 type, accumulate and evaluate all information and data  
 25 developing on AIDS and make independent investigations

89

1 on the cost, implementation and potential  
 2 effectiveness of using new (to Cutter) assay  
 3 procedures."  
 4 That's Dr Hink's perspective both on the meeting  
 5 and on what Cutter should do as a result.  
 6 You may, sir, wish to take particular note of  
 7 the position on prison donations.  
 8 One further point to note from the meeting,  
 9 apart from the plainly acrimonious terms in which it  
 10 took place; that is the suggestion that some attendees  
 11 may have considered that the CDC itself had not  
 12 reached a settled view on how to proceed. Dr Gerald  
 13 Sandler of the American Red Cross told investigators  
 14 from the Institute of Medicine in that 1995 report,  
 15 and I quote:  
 16 "Not one of Donald Francis' superiors had  
 17 supported a recommendation to implement hepatitis core  
 18 testing. As a result, few in attendance accepted  
 19 Francis' suggestions as they did not have the support  
 20 of CDC director William Foege."  
 21 The FDA's attitude was that more research was  
 22 needed on surrogate testing before it be implemented.  
 23 As I say, sir, the one remaining piece of  
 24 evidence about that meeting that I would like to draw  
 25 your attention to is the interview given by

90

1 Dr Francis, but I think it will be easier to do that  
 2 after lunch, so that Soumik has an opportunity to  
 3 bring the relevant video up on screen.  
 4 **SIR BRIAN LANGSTAFF:** Yes. Well, let's take a break then  
 5 until 2 o'clock. 2 o'clock.  
 6 **(1.00 pm)**  
 7 **(The luncheon adjournment)**  
 8 **(2.00 pm)**  
 9 **MR HILL:** Sir, we're now going to --  
 10 **SIR BRIAN LANGSTAFF:** Just a moment. Yes?  
 11 **MR HILL:** We're now going to play the video clip of  
 12 Dr Francis. I introduce this with a slight sense of  
 13 trepidation because the last time we played a video,  
 14 the live stream was cut due to an overzealous  
 15 algorithm from the providing company which kicked in  
 16 because of misplaced concerns about copyright  
 17 infringement.  
 18 So we're going to play this video. We hope that  
 19 the algorithm won't kick in again. If it does, and if  
 20 the live feed goes down, then we would like to assure  
 21 people that, firstly, that is the reason why it has  
 22 gone down. Secondly, we will do everything we can to  
 23 get it up and running as quickly as possible.  
 24 Thirdly, the full presentation will be available on  
 25 the Inquiry's website in due course. But I hope that

91

1 prefaces, but doesn't prove necessary.  
 2 When we play the video, it comes from an ITV  
 3 television programme from the 1990s, The Cook Report:  
 4 Profits before Patients. We've obtained the footage  
 5 from ITV in accordance with your statutory powers.  
 6 The first person speaking on the clip is  
 7 Dr William O'Connor, who was described in the  
 8 documentary as an adviser to the US Government on AIDS  
 9 from 1986, and after he speaks, describing what  
 10 happened at the meeting, you then see Dr Francis  
 11 giving his description of it as well. If we could  
 12 have that now, please, Soumik.  
 13 **(Video played)**  
 14 **MR HILL:** If we could turn back then, sir, to the issue  
 15 which you raised about surrogate testing, which was  
 16 one of the matters that Dr Francis was bringing to  
 17 people's attention at that meeting.  
 18 If we could have on the screen, please, Soumik,  
 19 CVHB0000042. This is Dr Evatt's Tragic History. If  
 20 we could have page 5, please. If we could highlight  
 21 the second paragraph down on the right-hand column,  
 22 beginning "Meanwhile." This is Dr Evatt describing  
 23 what took place in the autumn of 1982. He says:  
 24 "Meanwhile, the CDC's immunological studies of  
 25 AIDS patients showed an extremely high incidence of

92

(23) Pages 89 - 92

1 antibodies to the blood-borne virus hepatitis B in  
 2 affected patients and risk groups and a high incidence  
 3 of circulating immune complexes in AIDS patients  
 4 compared with controls ..."  
 5 He refers to table 2, which we'll look at in  
 6 a second:  
 7 "These data suggested, in the absence of  
 8 a specific screening test for blood donors, that such  
 9 surrogate markers might be useful in reducing the risk  
 10 to blood recipients."  
 11 Then, Soumik, if we could expand the table at  
 12 the bottom, table 2. It is entitled "Frequency of  
 13 abnormal tests by group. From author's personal slide  
 14 collection, 1982".  
 15 We don't know, sir, if this exact slide was  
 16 shown at the January 1983 meeting.  
 17 **SIR BRIAN LANGSTAFF:** Well, the information was plainly  
 18 available if this was in 1982, this information?  
 19 **MR HILL:** Yes, sir.  
 20 The left-hand column shows the different  
 21 population groups that were studied, and then the  
 22 second column shows the percentage that were positive  
 23 for the antibody to hepatitis B core antigen, the  
 24 right-hand column shows the percentage positive for  
 25 anti-hepatitis B surface antigen.

93

1 mentioned.  
 2 The first is homosexuals and bisexuals, and that  
 3 group, 79.2 per cent are positive for antibodies to  
 4 hepatitis B core antigen, and a similar figure,  
 5 79.5 per cent, to hepatitis B surface antigen.  
 6 Amongst Haitians the figures are, respectively,  
 7 36.2 per cent and 39.3 per cent. So a much lower  
 8 correlation amongst Haitians, but a higher one for  
 9 homosexuals.  
 10 Now then there is a group which are referred to  
 11 as "normal controls", and we can see that 5 per cent  
 12 of the normal control group are positive for both  
 13 antibodies to surface antigen and to core antigen.  
 14 **SIR BRIAN LANGSTAFF:** It provides the missing link which  
 15 I was concerned about before lunch. The issue  
 16 is: which, if any, donations can be excluded, and have  
 17 a protective effect in respect of the contraction  
 18 of AIDS, without being able to identify the AIDS virus  
 19 precisely because you can't at this stage?  
 20 Answer is not simply to focus on normal  
 21 controls, so-called, say if we have a 5 per cent  
 22 instance of hepatitis B and it's 90 per cent when you  
 23 get to AIDS cases generally, but if you've got the  
 24 evidence that the risk groups have a large anti-HBC  
 25 connection, the risk groups are over represented

95

1 The first selection of groups are "AIDS cases".  
 2 So these are people who have been identified as having  
 3 AIDS. Amongst those who were identified as having  
 4 AIDS and who were homosexual or bisexual,  
 5 88.2 per cent were positive for antibodies to core  
 6 antigen, 81.9 per cent to antibodies for surface --  
 7 for hepatitis B surface antigen.  
 8 IV drug users, the figures, the respective  
 9 figures were 100 per cent for core antigen, and  
 10 61.9 per cent surface antigen.  
 11 Haitians, 86.7 per cent core, 66.7 per cent  
 12 surface.  
 13 Others, 42.9 per cent core, 33.3 per cent  
 14 surface.  
 15 The figures for the -- presumably for the actual  
 16 numbers of those groups are contained in brackets.  
 17 The next population group of people who were  
 18 described as "Probable AIDS", "Lymphadenopathy", so  
 19 people who were showing signs that might be associated  
 20 with AIDS, the percentage who are positive to  
 21 antibodies for hepatitis B core antigen are  
 22 81.3 per cent, and surface antigen 75.4 per cent.  
 23 Then you've got "Risk group 'Controls'". So  
 24 these are people who haven't been diagnosed as having  
 25 AIDS, but are in the two control groups that are

94

1 significantly in those cases which have contracted  
 2 AIDS and they show a very strong correlation to  
 3 hepatitis B/C, the core antigen, then you've made the  
 4 case.  
 5 And this is, I would have thought, highly  
 6 supportive figures to justify, potentially justify,  
 7 the exclusion of those high-risk categories of donors  
 8 or at least to indulge in surrogate testing of those  
 9 who do not self identify as being in one of the risk  
 10 groups.  
 11 **MR HILL:** That was certainly the position of Dr Evatt --  
 12 **SIR BRIAN LANGSTAFF:** Well, I follow the logic.  
 13 **MR HILL:** It might be helpful just to look at the formal  
 14 record of the discussion that took place. That's  
 15 at JREE0000019, and it's page 289. We can see here  
 16 how, according to that record, the CDC put its case.  
 17 If we could take it from the top, please,  
 18 Soumik:  
 19 "Surrogate laboratory tests have the advantages  
 20 of being objective and can be done on specimens  
 21 already being drawn for HBsAg [hepatitis B surface  
 22 antigen]. They respect donor privacy and may be most  
 23 effective in eliminating potential transmitters of  
 24 AIDS. They have the disadvantages of adding expense  
 25 to the blood collection process, both through test

96

(24) Pages 93 - 96

cost, administrative overhead, and loss of blood units already collected. Further, they may stigmatize as unsatisfactory many 'normal' donors for each potential AIDS transmitter that is rejected.

"For example, if the presence of hepatitis B core antibody is used as a laboratory surrogate screening test:

"1. In CDC's specimen file, 90 per cent of known definite AIDS cases are positive for [anti-hepatitis B core antigen] and would be excluded as blood donors.

"2. Approximately five per cent of the general population of voluntary donors [I stress voluntary again] are positive for [anti-hepatitis B core antigen], though this figure may vary by blood center. These results would be determined after collection, and the collected units would have to be destroyed unless they could be safely and practically processed into other blood products.

"The costs of the test might add to the cost of processing. The loss of each destroyed unit represents further expense and there might be additional overhead costs. The costs of preventing an unknown number of AIDS cases (and possibly non-A, non-B hepatitis cases) are unknown, but each such case

97

is very costly in direct and indirect costs and the intangible costs of grief and suffering.

"4. Concern was expressed over availability of adequate [anti-hepatitis B core] test materials.

However, information suggests that some companies are already planning production of large quantities of [anti-hepatitis B core] and that demand would provoke an adequate supply.

"5. As the epidemiology of AIDS changes, high risk groups may have lower rates of positivity for [anti-hepatitis B core].

"6. This additional laboratory test will require new training and procedures for many laboratories."

So that is the formal record of the discussion, and we've heard, sir, some of the other contributions that were made and were recorded in the memoranda that were written by those present.

We will see in due course how other figures are put forward in respect of correlations between hepatitis B core antigen and known risk groups.

We will leave that meeting there, and move on a few days in time to 6 January 1983, when a meeting took place between the National Hemophilia Foundation and representatives of plasma fractionators.

98

The NHF requested an end to plasma collection in what are termed "AIDS hot spots". Alpha indicated that they had already taken such steps and, according to the Krever Report, Armour, Cutter and Hyland did so shortly thereafter. So that is about the geographical areas of high incidence, and the pharmaceutical companies showing a willingness to cease collecting plasma from those areas, if they indeed collected from there in the first place.

A week later, on 13 January 1983, a joint statement was published by the major blood banking organisations, the American Red Cross, the American Association of Blood Banks, and the Council of Community Blood Centers.

Now, this statement stated that, in the opinion of those groups, the possibility of blood-borne transfusion of AIDS was "unproven" and the evidence was "inconclusive." Notwithstanding this, the organisations accepted that there were sufficient grounds of concern to warrant some steps being taken, particularly in respect of the "long incubation period", that they noted.

The recommended steps included further questioning of donors to elicit relevant features of medical history, things such as night sweats and

99

unexpected weight loss, lymphadenopathy and Kaposi's sarcoma. Some questions would be posed to see whether or not a donor had any history of those symptoms.

However, the organisations considered that:

"Direct or indirect questions about a donor's sexual preference are inappropriate."

That was the position of the blood banking industry.

The statement appears to have been intended to pre-empt a strategy meeting that took place on the following day, 14 January 1983, at the behest of the NHF. The meeting involved representatives of fractionators, and those included Dr Eibl from Immuno. There were also representatives there from the voluntary and commercial blood banking industry, the CDC, including Dr Evatt, and the FDA, including Dr Donohue. A number of clinicians were present and of course members of the NHF.

On the morning before the meeting, so the morning of 14 January 1983, a meeting was convened of the major industry representatives from the fractionators, and that was done, and I quote from a record of that meeting, it was done:

"... to determine a consensus strategy to the actual NHF meeting."

100

(25) Pages 97 - 100



1 So this is industry figures meeting before the  
2 full meeting, to see if they could determine  
3 a consensus strategy. And such meetings would be  
4 common in this period: before you have a full public  
5 meeting, you would have such industry meetings.  
6 Those attending included the representatives of  
7 all of the major fractionation firms, as well as  
8 a representative of the American Blood Resources  
9 Association, but not, it seems, blood bankers. This  
10 is a meeting of fractionators and plasmapheresis  
11 centre representatives, not blood banks.  
12 A record of a meeting was made by Dr Ojala of  
13 Cutter. Now, Dr Ojala said in his memorandum that the  
14 primary concern of this meeting was the possibility of  
15 a recommendation that anti-hepatitis B core antigen  
16 testing should be introduced for all plasma.  
17 Dr Rodell of Hyland is recorded as suggesting that  
18 this would exclude approximately 10 per cent of all  
19 high-titred donors who are used for providing immune  
20 serum globulin.  
21 It's relevant to note here, sir, that the  
22 5 per cent figure quoted by the CDC was for voluntary  
23 blood donors. This group is concerned with donors who  
24 are donating to plasmapheresis centres, and groups  
25 that were donating to provide plasma high in hepatitis

101

1 fractionations but, and I quote:  
2 "... everyone agreed [this] was of questionable  
3 benefit."  
4 A hypothetical example was given, where it was  
5 said if you had a 10-donor pool and you employed some  
6 very effective manufacturing techniques, that might  
7 result in eight to 12 vials of product, but of those  
8 eight to 12 vials, eight of them would be required for  
9 quality control purposes. Manufacturers would have to  
10 keep four vials for testing for potency, purity and  
11 sterility, they would have to keep two vials for  
12 retention, presumably for the purposes of tracing back  
13 and testing back if needed, and the FDA would also  
14 require two vials for testing. So eight of those  
15 eight to 12 vials would not be marketable, and that  
16 would leave, obviously, between zero and four for  
17 sale. It was noted by Dr Ojala:  
18 "The economics of this procedure are relatively  
19 discouraging."  
20 That was the discussion that took place on small  
21 pool fractionation.  
22 The meeting also discussed the fact that in the  
23 view of those present, whatever requirements were  
24 placed on fractionators about the way in which they  
25 collected plasma should also be applied to blood

103

1 antibodies.  
2 The meeting agreed, and I quote from Dr Ojala's  
3 note:  
4 "We would support testing in concept, but defer  
5 until a more specific test was available."  
6 It was noted that Dr Donohue of the FDA was said  
7 to be "not particularly enthusiastic" about  
8 hepatitis B testing.  
9 The meeting also agreed, and I quote again:  
10 "... that the CDC was getting increasingly  
11 involved in areas beyond their areas of expertise and  
12 whenever possible we would try to deflect activity to  
13 the [National Institutes of Health and the] FDA."  
14 The meeting then went on to discuss action that  
15 could be taken to limit the risk of AIDS. The  
16 representative from Alpha informed the meeting of its  
17 donor screening programme and informed the meeting  
18 about the 308 people who had identified themselves as  
19 homosexuals as a result of that screening programme in  
20 the first three weeks, in giving notice of the success  
21 of a programme to their fellow fractionators.  
22 Hyland stated that it would have its own  
23 programme on in place by 1 February and Armour said  
24 that they were working on theirs.  
25 There was a discussion about small pool

102

1 banks, because the conceptual risk was the same for  
2 both whole blood and for plasma. We will see that in  
3 the weeks and months that followed that this was  
4 a bone of contention between the two different groups.  
5 Some information was shared about the progress  
6 on heat treatment processes at that industry meeting  
7 as well.  
8 One further point to note from Dr Ojala's  
9 memorandum of the meeting, he said, and I quote:  
10 "Both Alpha and Hyland are taking the AIDS  
11 problem very seriously."  
12 "Very" was underlined in the original. Dr Ojala  
13 was an employee of Cutter.  
14 Turning to the full meeting, this is at  
15 paragraph 95 of the written presentation. The meeting  
16 began with a review about the evidence, the aetiology  
17 of AIDS, it included reference to an article in the  
18 New England Journal of Medicine, which had found that  
19 40 to 60 per cent of patients using factor  
20 concentrates had a reverse T-cell ratio. As we saw  
21 earlier, that was something that was associated with  
22 groups who had developed AIDS.  
23 That figure of 40 to 60 per cent with a reverse  
24 T-cell ratio was a higher proportion than people with  
25 haemophilia using cryoprecipitate. So there was

104

(26) Pages 101 - 104

1 a greater prevalence of such people amongst people  
2 with haemophilia who used factor concentrates.  
3 It was noted, however, in the memorandum that no  
4 data was conclusive.

5 The National Hemophilia Foundation then  
6 explained its recommendations about the way in which  
7 patients with AIDS should be treated. These develop  
8 from the medical and scientific advisory committee.

9 There were three parts to these recommendations: one  
10 was aimed at physicians, giving them advice about  
11 actual treatment; one was aimed at fractionators,  
12 about how they should be preparing their products; and  
13 the third was aimed at regional and community blood  
14 centres, about how they should be collecting blood.

15 If we look at the recommendations that were made  
16 for fractionators, if we could have on screen, please  
17 JREE0000019, it's electronic page 293. If fifth we  
18 could highlight from where we can see II,  
19 "Recommendations to factor VIII concentrate  
20 manufacturers", these are the recommendations that the  
21 NHF were making to the fractionators:

22 "A. Serious efforts should be made to exclude  
23 donors that might transmit AIDS. These should  
24 include:

25 "1. Identification by direct questioning,

105

1 compensate for losses in plasma that might occur due  
2 to steps noted above.

3 "D. There should be an evaluation of the  
4 feasibility of fractionating and processing plasma so  
5 that lyophilized small pool products are available.  
6 While this certainly be more costly, it may be the  
7 line way to break out of the present dilemma without  
8 going to an all-cryoprecipitate effort.

9 "E. Concentrate manufacturers should  
10 immediately cease purchase of recovered plasma for  
11 factor VIII concentrate from blood centers that do not  
12 meet the criteria listed in II A above. These  
13 criteria should also apply to the production of  
14 cryoprecipitate.

15 "F. Manufacturers should accelerate efforts  
16 towards the productions of coagulation factor  
17 concentrates by recombinant DNA technology."

18 The document then goes on to give  
19 recommendations for the blood banking industry, but we  
20 can take that off the screen, please, Soumik.

21 The minutes of the meeting go on to explain some  
22 of the discussion. I won't go through it in detail  
23 but, on donor screening, Alpha explained its  
24 programmes and the results of its programme, which we  
25 have discussed before. In general, the fractionators

107

1 individuals who belong to groups at high risk of  
2 transmitting AIDS, specifically male homosexuals;  
3 intravenous drug users; and those who have recently  
4 resided in Haiti.

5 "2. Evaluation and implementation (if verified)  
6 of surrogate laboratory tests that would identify  
7 individuals at high risk of AIDS transmission.

8 "3. In addition, the manufacturers should cease  
9 using plasma obtained from donor centers that draw  
10 from population groups in which there is a significant  
11 AIDS incidence. It is clear from the epidemiologic  
12 data that the pool of individuals at risk for AIDS  
13 transmission is not uniform throughout the country and  
14 that a great deal could be achieved by excluding  
15 donors from the 'hot spots'.

16 "B. Efforts should be continued to expedite the  
17 development of processing methods that will inactivate  
18 viruses potentially present in factor VIII  
19 concentrates ..."

20 If we go over the page, please:

21 "C. There should be an evaluation of the  
22 possibility that the yield of factor VIII in  
23 plasmapheresis donors could be increased used DDAVP or  
24 exercise to maximize yield. This would permit  
25 a reduction in the size of the donor pool and would

106

1 expressed support for steps on donor screening and for  
2 the exclusion of geographical areas. The blood  
3 banking representatives expressed scepticism on those  
4 points, and we've seen --

5 **SIR BRIAN LANGSTAFF:** By geographical areas, in effect,  
6 one is reading hot spots, is one?

7 **MR HILL:** Yes, yes.

8 Dr Ojala recorded in his memorandum of the  
9 meeting, and I quote:

10 "It is unusual for us [that's the fractionators]  
11 to come away wearing the white hats while the  
12 'volunteer' sector wear the black."

13 On surrogate testing, as per their meeting  
14 beforehand, the fractionators indicated a willingness  
15 to accept an exclusion rate of about 10 per cent of  
16 donations and the higher costs associated with testing  
17 if, and then it's recorded:

18 "... 'an appropriate test' could be identified."

19 It was agreed that more work was required on  
20 that matter.

21 On donor pool size, the problems with small pool  
22 production that the fractionators had discussed in the  
23 morning were again raised in the meeting in the  
24 afternoon. Nobody from industry who was present at  
25 the meeting foresaw an early breakthrough on

108

(27) Pages 105 - 108

1 recombinant products. In summing up the meeting, the  
2 chair referred to, and I quote, "complicated issues  
3 involved", and he said that:

4 "... no regulations would develop from the  
5 meeting."

6 So, again, a lack of consensus amongst the  
7 people present about what should be done. There is  
8 a reference from the chair thanking the parties for  
9 entering into what he describes as an "open and frank"  
10 dialogue.

11 So that meeting took place on 14 January. The  
12 day before, the New England Journal of Medicine had  
13 published an editorial written by Dr Jane Desforges  
14 that urged consideration of the increased use of  
15 cryoprecipitate on clinicians, and I think that is  
16 a document that you looked before and I won't take you  
17 back to it now. The argument was put forward that  
18 cryoprecipitate might minimise the risk of infection  
19 and, that being so, the physicians should consider  
20 that as a treatment option, it's fair to say that the  
21 editorial doesn't go on to address the logistical  
22 issues concerned.

23 Turning then to the screening measures that were  
24 introduced by the fractionators in January and  
25 February 1983, within this environment in which NHF

109

1 are pushing for further steps to be taken. We've  
2 already heard about what Alpha had already done by  
3 that stage, but on 28 January 1983, the American Blood  
4 Resources Association, so the trade group, put out  
5 a statement in which it said that the cases of AIDS in  
6 people with haemophilia, and I quote, "suggest that  
7 AIDS may be of infectious aetiology". Therefore the  
8 organisation urged that "steps be taken as soon as  
9 possible to screen plasma donors to minimize" risk.

10 The recommendations that the group made focused  
11 on education of donors and plasma centre staff, and  
12 screening measures including further questions on  
13 medical history and seeking confirmation from donors  
14 that they were not in high-risk groups.

15 The first of those issues was one that the blood  
16 bankers could agree with, more questions about medical  
17 history, but the blood bankers had drawn the line at  
18 asking people about their sexuality, whereas the  
19 American Blood Resources Association refer to asking  
20 questions about whether or not a donor was in  
21 a high-risk group, which would of course include  
22 homosexual males.

23 On surrogate testing, the Association's  
24 statement recommended that no large-scale testing be  
25 implemented at that time, but noted that the issue was

110

1 "under study". Those recommendations, they said, were  
2 intended to apply not just to plasmapheresis centres,  
3 but also to whole blood institutions as well.

4 Now, as anticipated at earlier meetings, Hyland  
5 introduced revised donor screening procedures in  
6 January and early February 1982. These procedures  
7 included providing an information leaflet to donors  
8 before asking of them if they were in a high-risk  
9 category, and introducing the examination of the  
10 lymph nodes.

11 So this is a slightly different approach to the  
12 one taken by Alpha. As we saw, Alpha involved  
13 a direct question from a person at the desk to a male  
14 donor saying, "Have you ever had sex with a man?"  
15 Whereas Hyland produced a document, gave the document  
16 to the donor, the document identified the high-risk  
17 groups, including male homosexuals, and then they  
18 asked them, "Are you in a high risk group?" And if  
19 the answer was "yes" then they would be excluded from  
20 making the donation. So it is an indirect way of  
21 approaching that issue.

22 There are, of course, arguments one way and  
23 another as to which is best. There is a suggestion  
24 certainly in some of the literature that somebody  
25 asking a direct question of somebody who carries

111

1 a self imposed stigma of being gay, if you were asked  
2 that question directly, then there might be a higher  
3 possibility of you saying "No", rather than looking at  
4 a document and saying, "Yes, I am in a high risk  
5 group", without specifying what that is. But the  
6 psychology of that is something which I will make no  
7 further comment on.

8 But what is clear is that what Hyland were doing  
9 went beyond what the blood bank organisations were  
10 recommending because they considered that both direct  
11 and indirect questions about sexuality were  
12 inappropriate.

13 Hyland, by that time, had also closed  
14 plasmapheresis centres in San Francisco, Miami,  
15 Houston, New Orleans and New Jersey, and had elected  
16 not to contract with or open centres in those  
17 locations, or in New York or Hollywood. In his draft  
18 statement from 1990, Dr Kingdon stated that he was:

19 "... convinced by the available evidence ...  
20 that we were dealing with a virus that had an  
21 epidemiology similar to hepatitis and that we should  
22 take measures to reduce the risks of transmitting AIDS  
23 through blood products."

24 So that's Hyland in January and February '83.  
25 Cutter introduced additional physical

112

(28) Pages 109 - 112



1 examination of donors and additional screening  
2 questions in February 1983. Those included questions  
3 about medical symptoms, the unexplained dramatic  
4 weight loss, night sweats, recurrent fever. There was  
5 also an examination of lymph glands and a full body  
6 examination for lesions.

7 For Cutter, donors were required to sign the  
8 company's AIDS information notice, to state that they  
9 were not a member of any of the three high-risk  
10 groups, again including male homosexuals.

11 Armour introduced what it described as a "more  
12 aggressive programme" of donor screening in the same  
13 month, that is February 1983. The details of that are  
14 set out at paragraph 106, similar to Cutter and  
15 Hyland, and as with Cutter, donors were required to  
16 affirm in writing that they're not members of any of  
17 the several high-risk groups -- again, including male  
18 homosexuals.

19 At that time, February 1983, the company had no  
20 plasmapheresis centres in areas recognised as having  
21 a high incidence of AIDS, and nor did they source  
22 plasma from such areas. I take that from a letter  
23 that they sent to UK clinicians in May 1983.

24 So that's what the fractionators were doing, and  
25 it stands in contrast to what the trade bodies for the

113

1 blood banks were doing. But it is relevant to note  
2 that some individual blood centres were taking steps  
3 and were more receptive to change. February 1983 saw  
4 the implementation of donor screening programmes at  
5 both the Irwin Memorial Blood Bank in San Francisco,  
6 and the Greater New York Blood Program.

7 The latter pioneered a process by which donors  
8 could confidentially indicate that their plasma  
9 should not be used for fractionation and transfusion,  
10 a system that became known as "confidential unit  
11 exclusion". This produced a 1.4 per cent deferral  
12 rate from donors. It's perhaps relevant, sir, that  
13 both of those centres were in areas of high incidence  
14 of AIDS, and hence there was a need for them to do  
15 something to try to reduce the risk from their  
16 donations, less they cease to exist.

17 But from a British perspective, it's worth  
18 noting that in January 1983, that is when you have the  
19 discussion of AIDS led by Dr Craske of the Haemophilia  
20 Centre Directors Working Party on Hepatitis and also  
21 the meeting at Heathrow Airport that we have discussed  
22 on past occasions.

23 On 7 and 8 February 1983, the further meeting of  
24 the Blood Policy Advisory Committee took place. This  
25 was a meeting that was held in both open and closed

114

1 session. The representatives of the fractionators  
2 were there for the open session and, it appears, for  
3 some of the closed sessions, but not all of them.

4 Dr Duncan Thomas of the (UK) National Institute  
5 for Biological Standards and Control attended both the  
6 open and closed parts of the meeting on what was  
7 described as a consultant basis. It's counsel to the  
8 Inquiry's understanding that Dr Thomas may have been  
9 seconded in the United States in this period.

10 The open meeting saw a discussion of viral  
11 inactivation of hepatitis through heat treatment.  
12 This was in the context of the imminent licensing of  
13 the first heat-treated product, which was the Hyland  
14 product. There were also closed sessions with each of  
15 the fractionators in which each one described the work  
16 that they were undertaking on heat treatment. The  
17 focus was still on viral inactivation of hepatitis but  
18 the meeting also saw a discussion of AIDS.

19 In a closed session, at which the fractionators  
20 do not appear to have been present, a lengthy and  
21 often sceptical discussion took place of the cases of  
22 AIDS identified by the CDC. So this was a discussion  
23 by the members of the Blood Policy Advisory Committee,  
24 heavily populated by representatives of the blood  
25 banking industry. The CDC were not present, but their

115

1 work was being discussed.

2 Dr Donohue of the FDA was present. He reported  
3 on the National Hemophilia Foundation strategy meeting  
4 that we've just looked at, and he welcomed proposals  
5 for further donor screening that had been made there.  
6 He also stated that since that meeting the  
7 fractionators had agreed that there would be no  
8 fractionation into Factor VIII from plasma which is  
9 collected in prisons.

10 Counsel to the Inquiry aren't sure, sir, that  
11 that's a correct assessment, at least in terms of  
12 Hyland, and we'll see a little later why we say that.  
13 It's not clear that all fractionators had ceased to  
14 obtain plasma from prisons and fractionation at that  
15 time.

16 **SIR BRIAN LANGSTAFF:** Well, what you say is that they --  
17 it was recorded that they agreed there would be no  
18 fractionation. To say that you're agreeing that  
19 something will happen doesn't make it happen.

20 **MR HILL:** No.

21 **SIR BRIAN LANGSTAFF:** Nor does it give any timescale  
22 within which it will.

23 **MR HILL:** No, it doesn't. It's fair to say, I think, that  
24 there is a split between the fractionators on prison  
25 plasma. Alpha and Armour do not appear to have used

116

(29) Pages 113 - 116

1 it or been interested in that way of obtaining plasma.  
 2 We'll see that from some of the other documents.  
 3 Cutter and Hyland take a different approach.  
 4 Of course, we don't know why Dr Donohue was  
 5 saying what he was saying and how accurately he had  
 6 understood what the position of the fractionators was.  
 7 Dr Donohue also stated, in closed, and I quote:  
 8 "Everyone has agreed that there is not  
 9 a screening test which is appropriate to attempt to  
 10 define immune deficiency as it applies to donors.  
 11 There just is not one that fits."  
 12 Now, who he meant by "everyone" there isn't  
 13 clear, and I'm not sure that Dr Evatt and Dr Francis  
 14 would have agreed with that assessment.  
 15 There was a lengthy discussion that followed on  
 16 donor screening and surrogate testing. The CDC and  
 17 the American Blood Resources Association, so that's  
 18 the fractionators, were both criticised for what were  
 19 perceived to be their overreaction to events,  
 20 including by Dr Joseph Bove, the chairman of the  
 21 meeting and the director of the Yale-New Haven  
 22 Hospital blood bank.  
 23 Professor Dorothea Zucker-Franklin of  
 24 New York University Medical School stated that, and  
 25 I quote:

117

1 show that the blood collecting community behaved  
 2 irresponsibly."  
 3 Dr David Aronson cuts in and says:  
 4 "But, Joe, we have that worry every day.  
 5 "Dr Bove: I haven't had it quite like this.  
 6 I don't think there has been any situation that was  
 7 quite this dramatic. I don't think we've ever had  
 8 a situation where we are talking about an illness with  
 9 anywhere from 40 to 100 per cent mortality --"  
 10 Dr Aronson cuts in again:  
 11 "And That could show up every day --  
 12 "Dr Bove: Yes, it could, but the question is,  
 13 has it? I mean, it is not whether it could or not; it  
 14 is whether it has and whether we ought to be much more  
 15 aggressive.  
 16 "One can predict that surrogate -- I hate the  
 17 word -- surrogate testing would cost about 150 million  
 18 dollars a year and is there any reason that we should  
 19 delay instituting that?"  
 20 Dr Louis Sullivan cuts in:  
 21 "But what percentage of possible bad units would  
 22 be ruled out?  
 23 "Dr Bove: Who knows. We don't have any data at  
 24 all.  
 25 "Dr Donohue: That is right.

119

1 "[She] did not think there is a shred of  
 2 evidence that this [AIDS] is transmitted by blood as  
 3 of today."  
 4 So scepticism being expressed, particularly by  
 5 members of the blood banking industry, and some  
 6 hostility towards both the CDC, and indeed the  
 7 fractionators, for the steps they were taking.  
 8 However, there is what you may consider to be an  
 9 interesting exchange that then takes place, and we can  
 10 look at that from the transcript, and it's page 111 of  
 11 CGRA0000347\_008.  
 12 So in the midst of this often sceptical  
 13 discussion you have Dr Bove, the chairman, saying  
 14 this, and I quote:  
 15 "Well, one of the most vigorous, one of the most  
 16 outspoken, one of the shoe-pounding on the table  
 17 people for the blood collecting community to do  
 18 something, to be aggressive and get your heads out of  
 19 the sand is the Commissioner of Health of New York  
 20 City. And I want to say he must be absolutely  
 21 correct. The real problem that bothers me more than  
 22 anything bothered me in my professional life is that  
 23 everybody who talks about this may be correct. And in  
 24 the next 12 months there may be an amazing epidemic  
 25 which will clearly implicate blood transfusion and

118

1 "Dr Aronson: We don't know that any is caused.  
 2 "Dr Bove: We don't know that there are any bad  
 3 units."  
 4 We'll leave that meeting there, sir.  
 5 A couple of days later, on 18 February 1983, the  
 6 Alpha AIDS Task Force met and the topic was again this  
 7 issue of when products should be recalled. The news  
 8 that was discussed at the meeting was that Alpha had  
 9 received 11 plasma donations from a donor in Dallas,  
 10 Texas, who "possibly" had, I quote the note, "some  
 11 AIDS symptoms". So "possibly ... some AIDS symptoms".  
 12 The donor had not, however, been diagnosed with  
 13 AIDS. The plasma which was in four lots of  
 14 concentrate had been put on hold and there was  
 15 a discussion about the patient's symptoms. The  
 16 patient's physician had suggested that the donor had,  
 17 and I quote:  
 18 "... symptoms of lymphadenopathy but little else  
 19 to connect him with AIDS."  
 20 The donor was being followed up. Alpha's  
 21 decision was to release the concentrate, but not to  
 22 use any plasma from a donor which had not yet been  
 23 pooled. So that which had already been made was to be  
 24 released, that's the plasma which they held which had  
 25 not yet gone into any processes was not to be included

120

(30) Pages 117 - 120

1 in any plasma pools. It was agreed that Dr Carr would  
2 discuss the issue with the Bureau of Biologics, and  
3 the issue was posed in this way:

4 "What if we do find a donor who comes down with  
5 AIDS and we do have plasma in product in the field."

6 I note that that meeting also raised the issue  
7 of hepatitis B core testing, and it was noted that  
8 Dr McAuley and Dr Carr both had objections to any  
9 project being undertaken on that.

10 The issue of product recall would grow in  
11 importance and significance in the months that  
12 followed.

13 We have reached March 1983 and, as we've heard  
14 regularly during the evidence, in that month, on  
15 23 and 24 March, the FDA made recommendations about  
16 how donations should be collected by both blood banks  
17 and fractionators. Now, those recommendations grew  
18 out of the 4 January 1983 meeting, the very  
19 contentious meeting with Don Francis pounding the  
20 table. The only concrete outcome of that meeting was  
21 a recommendation that the CDC, the FDA and the  
22 National Institutes of Health be asked to submit sets  
23 of recommendations which could then be considered.

24 According to Dr Evatt, the CDC drew up a set of  
25 recommendations which were to be considered by the

121

1 Assistant Secretary for Health, and Dr Evatt frankly  
2 admits that the CDC was over stepping the mark and  
3 trying to by pass the FDA's regulatory authority by  
4 taking that step. The CDC draft recommendations  
5 included both the exclusion of high-risk donors, and  
6 surrogate testing. According to Dr Evatt, their  
7 recommendations were promptly rejected by the other  
8 agencies, but the Public Health Service did put  
9 together a set of guidelines which they published on  
10 4 March. Dr Evatt says that, and I quote:

11 "... although it was clearly short of what we,  
12 as individuals at the CDC wanted ... these guidelines  
13 [did mark] the beginning of a slow change in public  
14 policy on transfusion associated AIDS."

15 So those guidelines went out on the 4 March, but  
16 they were subsequently replaced with the FDA  
17 guidelines that went out in the name of Dr Petricciani  
18 on 23 and 24 March 1983. We've looked at those before  
19 so won't bring them up, it's relevant to note that  
20 they are non-binding guidelines, but they were  
21 guidelines that, it appears, the fractionators and the  
22 blood banks took seriously and adhered to.

23 Just to summarise briefly, and drawing from the  
24 Krever Report on them:

25 "Plasma centres were told not only to give

122

1 donors information about AIDS and to question patients  
2 about symptoms of AIDS but to examine donors  
3 physically for lymphadenopathy and weight loss.  
4 Standards imposed on plasma centres were considerably  
5 more stringent than those imposed on the voluntary  
6 sector because officials thought that voluntary donors  
7 posed less risk than paid donors. Finally,  
8 manufacturers were informed that plasma collected from  
9 donors suspected of being in a high-risk group might  
10 only be used in the production of derivatives not  
11 known to transmit infectious diseases."

12 So that's what the FDA recommendations said. As  
13 we've seen, the four US fractionation companies had,  
14 by that time, already implemented their own donor  
15 screening procedures, which were broadly equivalent to  
16 those suggested by the FDA in March 1983. It was the  
17 blood banks that were proving to be more resistant to  
18 change.

19 The FDA notably, did not recommend the  
20 implementation of surrogate testing and did not say  
21 anything about the recall of products.

22 The other point to note, which Mr Justice Krever  
23 brought out there, was that the plasmapheresis centres  
24 and the fractionators had higher standards imposed on  
25 them than the blood banks, which became a source of

123

1 tension and indeed a source of concern.

2 As the Inquiry has heard, it was shortly after  
3 the FDA recommendations were published that  
4 Dr Joseph Smith of the Committee on the Safety of  
5 Medicines wrote to Dr Keith Fowler at the DHSS  
6 proposing that there be a meeting of the Subcommittee  
7 of Biologicals to discuss issues relating to AIDS and  
8 blood products. That meeting would eventually take  
9 place in July.

10 Also in March 1983, we see the licensing of the  
11 first heat-treated product, which was Hyland's  
12 Hemofil-T. That was a licence that was granted  
13 interested by the FDA in that month. We're going to  
14 come back to the story about heat-treated products  
15 later, so I won't say any more on that now.

16 I'm going to turn in a second, sir, to the  
17 recall of heat-treated products, so I don't know if  
18 you would like me to do that before or after the  
19 break?

20 **SIR BRIAN LANGSTAFF:** Well, let's go on for quarter of  
21 an hour, shall we --

22 **MR HILL:** Yes.

23 **SIR BRIAN LANGSTAFF:** -- thereabouts?

24 **MR HILL:** May 1983, so we've moved on a couple of months.  
25 Hyland withdrew a lot of factor concentrate --

124

(31) Pages 121 - 124



1 a lot meaning a unit, rather than meaning many -- they  
 2 withdrew a unit of factor concentrate having  
 3 discovered that they had been manufactured from  
 4 a donor who was later diagnosed with AIDS.  
 5 This counsel to the Inquiry understands this was  
 6 the first such product withdrawal.  
 7 Paragraph 125 of the written presentation cites  
 8 the references from which we draw that conclusion.  
 9 If we could have on screen, please, Soumik  
 10 PRSE00004496.  
 11 **SIR BRIAN LANGSTAFF:** Just before we do that, same vein,  
 12 the rationale for the 24 March 1983 recommendations by  
 13 the FDA was that the product needed to be safer.  
 14 That I take for granted as being the purpose of the  
 15 recommendations.  
 16 It will follow that product which had not been  
 17 manufactured from plasma collected in accordance with  
 18 those regulations, or those recommendations I should  
 19 say, would be less safe, and the product manufactured  
 20 from it after 24 March would be safer.  
 21 Might it follow from that, that the logic ought  
 22 to be that the less safe product ought not to be used?  
 23 **MR HILL:** That is certainly a proposition which is  
 24 supported by logic, yes.  
 25 **SIR BRIAN LANGSTAFF:** Is there any evidence that anyone

125

1 we could expand out again, please, Soumik. Thank you.  
 2 We look at -- and pick it up from paragraph 2,  
 3 it says this:  
 4 "In spite of these precautions, Hyland  
 5 Therapeutics recently became aware that one of its  
 6 plasma donors, though not finally diagnosed, has been  
 7 identified as a possible victim of AIDS. The donor in  
 8 question is a member of the high risk groups, although  
 9 on several occasions prior to donating, he denied  
 10 being a member of such group. While healthy at the  
 11 time of donation, he subsequently developed some of  
 12 the clinical findings associated with AIDS, including  
 13 an inverted T4/T8 ratio and generalised  
 14 lymphadenopathy. His final diagnosis is still in  
 15 question.  
 16 "This donor's plasma was included in pools that  
 17 were fractionated into several therapeutic products  
 18 for haemophiliac, including Anti Haemophilic  
 19 Factor VIII, Factor IX complex, and Anti Inhibitor  
 20 Coagulant Complex. No therapeutic products  
 21 fractionated from plasma pools that contained this  
 22 donor's plasma have been shipped to any customer in  
 23 Europe.  
 24 "In the United States, Hyland has recalled the  
 25 only coagulation product fractionated from plasma

127

1 withdrew -- any of the companies withdrew pre-March  
 2 plasma manufactured product because it would be less  
 3 safe.  
 4 **MR HILL:** Not that I have seen.  
 5 **SIR BRIAN LANGSTAFF:** So they went on effectively  
 6 marketing product which was, if the recommendations  
 7 were sound, on that assumption, would be less safe?  
 8 **MR HILL:** Yes.  
 9 **SIR BRIAN LANGSTAFF:** Thank you.  
 10 **MR HILL:** We can also put some figures on that, sir, in  
 11 respect of the Alpha scheme, which was introduced in  
 12 December, where it saw within three weeks 308 people  
 13 who were in a known high risk group excluding  
 14 themselves from donations, over 800 by the summer.  
 15 **SIR BRIAN LANGSTAFF:** Yes.  
 16 **MR HILL:** If we then turn to PRSE0004496, this is a letter  
 17 that was written to the DHSS, so the UK Department of  
 18 Health and Social Security, on 9 May 1983, and it's  
 19 sent by Travenol Laboratories Ltd, so the UK  
 20 subsidiary of Hyland Travenol.  
 21 If we could -- I'll just find my place. The  
 22 first paragraph of the letter provides some  
 23 information about the steps that Hyland have been  
 24 taking in terms of donor screening, notes the  
 25 recommendations by the FDA on 24 March 1983. And if

126

1 containing that donor's plasma that had been  
 2 distributed to customers. The recall involves one lot  
 3 of Anti Inhibitors Coagulant Complex and is being  
 4 taken at Hyland Therapeutics initiative, and not at  
 5 the request of the National Centre of Drugs and  
 6 Biologics. As a precaution, all lots of Factor VIII  
 7 and Factor IX Complex that were manufactured from this  
 8 donor's plasma have been placed in quarantine pending  
 9 further resolution of this donor's medical condition.  
 10 None of these quarantined products have been  
 11 distributed to customers in either the United States  
 12 or Europe."  
 13 The author of the letter goes on to stress the  
 14 other measures that Hyland were taking, and said that  
 15 the company intended to convert both its European and  
 16 American facilities to manufacture only heat-treated  
 17 Factor VIII product, and they would do this, and  
 18 I quote, "as expeditiously as possible".  
 19 For the record -- the reference is at  
 20 paragraph 128 -- a copy of the same letter was sent to  
 21 Professor Bloom on the same date.  
 22 In the wake of the recall of the Hyland product,  
 23 the National Hemophilia Foundation published a medical  
 24 bulletin. This urged its members to continue using  
 25 factor concentrates. It noted that the incidence of

128

(32) Pages 125 - 128

1 AIDS in people with haemophilia was very low, at  
 2 12 patients in a population of 20,000, and it also  
 3 stressed, and I quote:  
 4 "... the life and health of haemophiliacs  
 5 depends upon blood products."  
 6 So that was what the National Hemophilia  
 7 Foundation was saying in May 1983.  
 8 The same month saw considerable activity within  
 9 the DHSS in the UK on AIDS and on blood products.  
 10 A number of internal memoranda. Dr Walford also  
 11 produced annual update on AIDS which she was asked  
 12 about when she gave her evidence.  
 13 In paragraph 130 of the written presentation  
 14 contains reference to a number of documents that were  
 15 produced at that time. I won't take you through  
 16 those, sir.  
 17 But during that same month, Dr Fowler wrote to  
 18 at least two US fractionators, posing questions about  
 19 the precautions that they were taking over donors,  
 20 about whether they had received reports of AIDS in any  
 21 users of their products, and about whether they had  
 22 received reports about any of their donors developing  
 23 AIDS or AIDS-like symptoms.  
 24 The references to both letters are at  
 25 paragraph 131.

129

1 the press. We have seen recent examples in The Mail.  
 2 As a result, false conclusions are arrived at in  
 3 patient treatment as well as product supply are  
 4 endangered.  
 5 "The facts about AIDS are very limited:  
 6 "1. The syndrome is quite ill-defined and cases  
 7 may not be fully reported outside the US. The WHO --  
 8 World Health Organisation -- has recognised it as  
 9 a worldwide health problem.  
 10 "2. The etiological agent is unknown. It is  
 11 not known whether it is a virus.  
 12 "3. Hence, it can only be an assumption that  
 13 AIDS can be transmitted by certain blood products.  
 14 This has not been shown.  
 15 "4. Also, it is unclear whether the syndrome  
 16 contracted by haemophiliacs really is the same as the  
 17 AIDS syndrome contracted by other high-risk groups.  
 18 "As medicine the plasma suppliers (commercial  
 19 and NHS) struggle to find the correct actions to take  
 20 to exclude the elusive AIDS donor it is imperative  
 21 that the supply of products (in particular  
 22 Factor VIII) not be reduce to levels where patients  
 23 can not be treated. The statement by Professor Bloom  
 24 in the attached communication from The Haemophilia  
 25 Society is particularly pertinent."

131

1 The letters were sent to Miles Cutter, and also  
 2 sent to Armour. We, as you know, sir, don't have all  
 3 documents, and it's a reasonable inference that such  
 4 letters were sent to Alpha and possibly also to Hyland  
 5 as well, depending on how much information Hyland had  
 6 provided in their own letters to the DHSS following  
 7 the product recall.  
 8 It's helpful, perhaps, to look first at the  
 9 response that was sent by Cutter. This is at  
 10 BAYP0000002\_183.  
 11 The letter was sent by Dr JN 'Newt' Ashworth,  
 12 who was the division vice-president for scientific  
 13 affairs at Cutter. It is dated 3 June, and it's  
 14 addressed to Dr Fowler. If we could go to the second  
 15 paragraph and move through from there, Dr Ashworth  
 16 wrote this:  
 17 "The questions [these are Dr Fowler's questions]  
 18 are expressive of the concern that exists everywhere  
 19 about this enigmatic syndrome. As you know, many  
 20 countries have now reported AIDS in the medical  
 21 literature.  
 22 "One of the major difficulties in dealing with  
 23 the many issues concerning AIDS is the absence of  
 24 persuasive data and this is complicated by the  
 25 oft-times sensationalistic and erroneous reporting in

130

1 I pause there, sir, to say that we don't have  
 2 that attachment, but we suspect that it's a reference  
 3 to Professor Bloom's address to the  
 4 Haemophilia Society on 23 April 1983, which is at  
 5 PRSE0000411.  
 6 **SIR BRIAN LANGSTAFF:** The Haemophilia Society published  
 7 his letter of 4 May, didn't they?  
 8 **MR HILL:** I think that they did, yes.  
 9 **SIR BRIAN LANGSTAFF:** And that was actually published in  
 10 one of the publications?  
 11 **MR HILL:** It may well be --  
 12 **SIR BRIAN LANGSTAFF:** So that may well be what this is  
 13 referring to?  
 14 **MR HILL:** Yes, yes.  
 15 "All participants in the procurement and supply  
 16 of Factor VIII (either cryoprecipitate or concentrate)  
 17 face the same dilemma. There is no test for AIDS.  
 18 What we (and presumably other countries, including the  
 19 UK) are doing is to attempt an unproven and probably  
 20 inadequate screening of donors by certain gross  
 21 definitions of the high risk groups and general  
 22 physical examinations. Only time will tell if these  
 23 checks on donors are accurate.  
 24 "More specifically, addressing your questions:  
 25 "1. By common agreement and with the regulatory

132

(33) Pages 129 - 132

1 pressure of the US DHSS [that's the Department of  
2 Health and Human Services], all plasma donors are  
3 screened to an extent consistent with present  
4 medical-scientific knowledge."

5 He goes on to say that the processes that Cutter  
6 employ are in the documents which were provided to  
7 Dr Fowler. We have discussed those earlier.

8 "2. The cases of AIDS in haemophiliacs are of  
9 course complicated to follow up but our investigations  
10 indicate that none received Koate."

11 Which is the Cutter Factor VIII product:

12 "3. So far, we have not had to make a decision  
13 concerning disposition of a lot of Koate from a donor  
14 who has become an AIDS victim. It is our plan that if  
15 this circumstance should occur, the decision  
16 concerning the lot would depend on many factors  
17 including, most importantly, receipt of advice from  
18 government health authorities based on the latest  
19 knowledge concerning AIDS."

20 Those were the answers that Cutter gave to  
21 Dr Fowler's questions.

22 The third of those answers suggests that  
23 the approach to product recall would be one that was  
24 taken on a case-by-case basis.

25 I won't bring up the Armour response, in part

133

1 because it is less definitive in that the response  
2 came from a WJ Tarbit of Armour Pharmaceutical Company  
3 Ltd, the UK-based company, and in the letter, I'm not  
4 sure -- I'm afraid I don't know if it's the honorific  
5 for WJ Tarbit, but the letter says that, amongst  
6 certain points Armour in the UK would have to refer  
7 back to Armour in the United States to get definite  
8 information.

9 But what the letter does say is that the British  
10 company were not aware of any reports of AIDS or  
11 AIDS-like illness arising from anywhere in the world  
12 from the use of Factor VIII specifically, but it does  
13 talk about how a letter in The Lancet on 28 May 1983  
14 referred to an increased susceptibility of  
15 haemophiliac children, who have received Factor VIII,  
16 to opportunistic infection.

17 It says, as well, that the company -- the UK  
18 company -- had had no reports of donors subsequently  
19 developing AIDS or similar illnesses in any of its  
20 plasma centres but, in view of the constantly changing  
21 situation, they were going to redirect the question to  
22 the United States. The letter implies that further  
23 information would be forthcoming from the United  
24 States but we haven't found that document or that  
25 letter, if indeed it exists.

134

1 On the same day that the WJ Tarbit letter was  
2 sent, which is 8 June 1983 -- I should have noted that  
3 Dr Ashworth's letter was of 6 June 1983. Also on 8  
4 June 1983, KW Fitch, the chairman and managing  
5 director of Armour Pharmaceutical Company Ltd, wrote  
6 to Professor Bloom in response to a letter that  
7 Professor Bloom had written him, and the details are  
8 at paragraph 137 of the written presentation.

9 Dr Bloom's concern was what we've seen referred  
10 elsewhere as plasma dumping of pre-march plasma onto  
11 the UK. Professor Bloom used the phrase, we're  
12 concerned about Armour "preferentially exporting" to  
13 the UK product that was produced before the FDA  
14 recommendations.

15 So the same concern but expressed as  
16 "preferential export", rather than plasma dumping.  
17 The answer from KW Fitch was, and I quote:

18 "For your ... advice and assurance, you should  
19 know that we supplied plasma prior to February 24  
20 [which is when Armour instigates its enhanced  
21 screening procedures], on a business-as-usual basis,  
22 but that most of this stock was supplied to customers  
23 in the [United States of America], since 70% of our  
24 Plasma business is in the USA. At no time have we  
25 preferentially exported Plasma stocks ex the USA

135

1 pre-February 24 or March 24."

2 My understanding of that letter and the  
3 quotation is at paragraph 137, is that Mr Fitch is  
4 saying that Armour haven't engaged in what others  
5 refer to as "dumping" of pre-march plasma. But we can  
6 also see from that letter that the approach has been  
7 a business as usual basis, going back to your earlier  
8 questions about what happened to plasma that was  
9 obtained before the enhanced screening methods were  
10 put in place.

11 **SIR BRIAN LANGSTAFF:** Just picking up on my question to  
12 you about the logic of the position, this would  
13 suggest that 30 per cent of the plasma business was  
14 outside the USA, and that there had been supplies made  
15 of pre-24 February and, for that matter,  
16 pre-March 1983, plasma made products, to places  
17 outside the USA, it may well have included the UK,  
18 I suspect, given this letter, and that there had been  
19 no withdrawal.

20 **MR HILL:** Yes, and we can -- we'll look -- I imagine after  
21 the break we'll look at a document to see how much  
22 Armour product was being supplied to the UK.

23 **SIR BRIAN LANGSTAFF:** Yes.

24 **MR HILL:** I wonder if that, sir, is a convenient time?

25 **SIR BRIAN LANGSTAFF:** Yes, it is. We'll take a break

136

(34) Pages 133 - 136



1 until quarter to. Quarter to.  
 2 (3.20 pm)  
 3 (A short break)  
 4 (3.45 pm)  
 5 **SIR BRIAN LANGSTAFF:** Yes.  
 6 **MR HILL:** Still in June 1983, sir. Dr Walford prepared  
 7 a questionnaire for fractionators requesting  
 8 information on a number of matters.  
 9 If we could have on screen, please, Soumik,  
 10 DHSC0002229 \_ 401. You can see from the bottom  
 11 right-hand corner that this is sent by Dr Walford, and  
 12 the date is 14 June 1983.  
 13 At this stage it is an internal DHSS document,  
 14 but we know from other documents that this is the form  
 15 of the questionnaire that was sent to the  
 16 fractionators. It is easier to read on this version,  
 17 which is why we're using it.  
 18 The questions posed are from number 1, and we'll  
 19 go through them in turn:  
 20 "1: does your company manufacture coagulation  
 21 factor concentrates for use in the UK? If yes, name  
 22 the products and state how much of each is supplied  
 23 annually.  
 24 "2. From which country or countries is the  
 25 source plasma obtained?

137

1 introduced?  
 2 "10. If USA plasma is used, are you able to  
 3 confirm that all future supplies of coagulation factor  
 4 concentrates to be sold in the UK will be manufactured  
 5 from plasma collected in accordance with the  
 6 FDA directives of 23 March 1983 (or in accordance with  
 7 special precautions, if any, instituted by your  
 8 company at an earlier date)?"  
 9 "11. If the answer to (10) is No, from what  
 10 date can you meet this requirement?"  
 11 So those were the questions posed by Dr Walford  
 12 and the DHSS, and they were sent off to the principal  
 13 fractionation companies, and indeed some other  
 14 companies as well.  
 15 The Inquiry has identified the direct responses  
 16 of the UK subsidiaries of the Miles Cutter and of  
 17 Armour, and the references are at paragraph 139 of the  
 18 written presentation.  
 19 We know that the other companies replied as  
 20 well, including Alpha, Hyland and Immuno, and we know  
 21 that because of the table that we've looked at before,  
 22 but I will ask to bring up again, it's  
 23 DHSC0002229\_055.  
 24 If we could go to the second page of this  
 25 document, just so that we orientate ourselves.

139

1 "3. If from the [United States], is all plasma  
 2 collected at FDA-licensed plasma collection centres?  
 3 Please give the names of the centres and their  
 4 locations.  
 5 "4. If non-USA plasma is used, name the  
 6 countries involved and state whether the plasma  
 7 collection centres in these countries are licensed by  
 8 the national regulatory authorities.  
 9 "5. Are you able to identify the origin of the  
 10 plasma included in each batch of final product and the  
 11 date on which it was collected?  
 12 "6. Is the plasma from each collection centre  
 13 fractionated separately or is plasma from several  
 14 collection centres pooled prior to processing?  
 15 "7. If the plasma is of USA origin, are you  
 16 able to supply final products which do not contain  
 17 plasma from the major 'epidemic' areas for AIDS eg  
 18 New York, San Francisco, Los Angeles, Miami?  
 19 "8. Can you confirm that all plasma of USA  
 20 origin in your product is being collected in  
 21 conformity with the FDA directive of 23 March 1983?  
 22 "9. Did your company institute, in advance of  
 23 the FDA requirements, any special precautions to be  
 24 taken by plasma collection centres in respect of AIDS?  
 25 If so, what were those precautions and when were they

138

1 This is the table that we looked at repeatedly  
 2 in September and October, which provides in tabular  
 3 form the responses of the five companies to the  
 4 questions that had been posed by Dr Walford, and we  
 5 can see the product names included UK annual sales.  
 6 You asked about Armour earlier, sir. We can  
 7 look at the first row. The annual sales from Armour  
 8 were in the region of 15-20 million international  
 9 units of Factor VIII, and 1-1.5 million units of high  
 10 potency Factor VIII.  
 11 If we could go back out again, please, Soumik.  
 12 We can see that that is the largest single  
 13 supply by any company.  
 14 You may feel, sir, that it is a reasonable  
 15 inference that among the 30 per cent of overseas sales  
 16 that were referred to in the previous document,  
 17 some of those came to the UK.  
 18 If we could turn back to the previous page,  
 19 a helpful prose summary of the responses to the  
 20 questionnaire given on this page by Mr Wrigglesworth  
 21 of the DHSS. You can see at (a), (b) and (c), there  
 22 is a reference to various firms who were approached  
 23 and who didn't supply blood products from human  
 24 coagulants, looking at Speywood there.  
 25 "d. The following firms are suppliers of blood

140

(35) Pages 137 - 140

1 products in the UK ..."

2 That's Alpha, Armour, Travenol, Immuno and

3 Miles. Then the quote from the document,

4 Mr Wrigglesworth says this:

5 "e. Annual imports of [Factor] VIII by the

6 above firms total about 42-50 [million] units.

7 "f. With the exception of Immuno the firms

8 state they do not or have ceased to collect in

9 'Epidemic' areas. All state that their collection

10 centres are FDA licensed.

11 "g. The plasma in each case is pooled prior to

12 processing. In the case of Immuno products, European

13 plasma and USA plasma are pooled separately.

14 "h. The origin of all plasma is identifiable.

15 "i. Each has given the assurance that future

16 sales will comply with FDA guidelines. However, Miles

17 Labs [that's for Cutter] state that [Factor] VIII

18 manufactured from plasma collected since March '83

19 will not be available until August, and Immuno in

20 September '83."

21 You can take that down now, Soumik, thank you.

22 The answers contributed to a debate within the

23 United Kingdom about whether a ban should be placed on

24 pre-March plasma, a matter that was discussed, among

25 other places, at the Committee on Safety of Medicines

141

1 meeting.

2 Paragraph 142 of the written presentation has

3 the relevant references for that list.

4 The meeting was held at the request of the FDA,

5 with the intention of developing a policy to respond

6 to situations where a donor whose plasma had

7 contributed to a fractionation pool was later found to

8 have AIDS.

9 I am going to read now from the minute -- sorry,

10 not the minute, but the note that was made by Hyland.

11 If we could go to the fourth paragraph down, the

12 first three paragraphs deal with who was attending.

13 What is recorded is this:

14 "This meeting was an opportunity to discuss with

15 the OB [that's the Bureau of Biologics] the concerns

16 which manufacturers have in attempting to live with

17 the potential that a donor whose plasma has been used

18 in one or more pools over a period of time may later

19 be found to have AIDS. The OB feels that there is

20 a need to develop a policy to handle that eventuality

21 and that the policy should be developed in a public

22 forum involving the CDC, National Hemophilia

23 Foundation and other interested parties. For their

24 part, however, the policy must be one which does not

25 interrupt the supply of coagulation products to

143

1 Biological Subcommittee on 13 July 1983.

2 As has been explored elsewhere in the Inquiry,

3 the DHSS officials turned to the debate taking place

4 in the United States in the anticipation that the

5 British position would mirror that taken by the

6 American authorities. The focus across the Atlantic,

7 however, was moving away from questions about donor

8 screening, to the debate about what should be done

9 about product recall. That debate, those existential

10 questions of the fractionators, we turn to that now.

11 A meeting took place on -- sorry, actually,

12 Soumik, can we bring the document up first,

13 CGRA0000267, please.

14 This is a record made by Hyland Travenol of

15 a meeting that took place on 9 June 1983 between

16 representatives of the Plasma Manufacturers

17 Association and the FDA. The fractionation companies

18 were: Hyland, represented by Richard Srigley; Cutter,

19 Dr Ojala was there for them; Alpha, Dr Carr; and

20 Armour, Dr Rodell.

21 It's notable that Dr Rodell had moved to Armour

22 by this time from Hyland, and Bill Wethersby was also

23 there for Armour.

24 The FDA attendees included Dr Petricciani and

25 Dr Donohue. The CDC was not represented at the

142

1 hemophiliacs or cause a panic condition in the mind of

2 users. Given the degree to which a relatively small

3 number of donations can affect a large number of

4 product lots and the uncertain -- but long --

5 gestation period for the disease, developing a policy

6 which is acceptable to the major interest groups is

7 seen as a real challenge."

8 That, there, is reflecting the views of the FDA.

9 If we go over to the next page, please, from the top:

10 "After considerable discussions, two alternative

11 points of view began to emerge.

12 "1) When a donor is found to have AIDS, his

13 plasma is excluded from pools. If the manufacturer

14 has followed donor screening guidelines, product need

15 not be recalled. If donor records show signs of prior

16 illness and the manufacturer had continued to

17 plasmapheresis the donor the manufacturer may be

18 required to recall product. Left unanswered are

19 questions related to the status of processed, but

20 undistributed product. One corollary to this plan

21 which has discussed was the feasibility and legality

22 of discontinuing the distribution of product under the

23 company's control but not recalling product which

24 already been sold. While this appeared to be workable

25 from the point of view of the Compliance people, it

144

(36) Pages 141 - 144

has obvious shortcomings."

"2) Pick a time period prior to diagnosis which the donor's plasma would be considered to be 'at risk' and withhold from distribution (or recall) product manufactured from pools containing 'at risk' plasma. The difficulty pointed out with this plan was that unless a very short (perhaps indefensibly short) time period were chosen, the amount of product affected could be very large."

So those, sir, are the two main ideas that are being floated at this meeting. The first can be summarised as an idea that if the manufacturer involved had followed the correct procedures, then there would be no need to recall previous plasma. The second was that if a time period were picked, then product that was produced during that time period would be recalled or would be withheld from distribution. These were the two ideas that were being floated at the meeting.

**SIR BRIAN LANGSTAFF:** Do we know any more about the basis for the suggestion that the following procedures which are designed to ensure that high risk donations are not accepted is sufficient to deal with the problem when it appears that a high-risk donation has become very risky indeed, and has been accepted?

145

standard."

**MR HILL:** Yes. That is a reference to the fractionators complaint that they are being held to a higher standard than the blood banks. The fractionators said, "Well, the blood banks, you should have exactly the same requirements made of them because the risk for whole blood is the same as for plasma", and that debate was aired at this meeting as well, and Dr Petricciani is saying, well, we'll continue to listen to you on this issue, as it were.

He also goes on to point out that nothing prevents manufacturers from imposing their own standards on top of those recommended by the BoB. Penny Carr of Alpha said that Alpha had done just that and had lost vendors of recovered plasma as a result. That is the issue that I alluded to earlier: the plasma that -- when Alpha put in place its measures and insisted that other centres that it contracted with adhered to them, there was a breakdown in relations between Alpha and several of those centres.

If we go on to the paragraph just below that, the note records this:

"After some time it became apparent that no additional new issues remained to be discussed. The meeting adjourned with the following action taken.

147

**MR HILL:** The logic is that which is contained in this document --

**SIR BRIAN LANGSTAFF:** That's all we have?

**MR HILL:** Yes.

**SIR BRIAN LANGSTAFF:** I see.

**MR HILL:** We will go on and we'll see in future documents a sense being expressed that there isn't a scientific rationale, if I may put it this way, for these proposals, it is an attempt to strike a balance between what was seen as the need for maintaining plasma supply, and concerns about the safety of these products. So it is a pragmatic approach, rather than a scientific approach, if I may put it that way.

It's fair to acknowledge that, in this document, references are made to, and I quote "the obvious shortcomings" of the plans and the difficulty that the time period proposal puts forward as well.

**SIR BRIAN LANGSTAFF:** At the bottom paragraph there, perhaps about six lines up from the bottom, is:

"Dr Petricciani [and he's of the FDA]" --

**MR HILL:** Yes.

**SIR BRIAN LANGSTAFF:** -- "stated that the March 24 recommendations were interim, the OB would welcome comments from industry regarding the donor screening and examination provisions -- including the double

146

"1) The OB will be scheduling an open meeting in July to discuss blood product issues related to AIDS; including the need for product recall.

"2) The manufacturers will meet prior to that to assemble information pertinent to the subject which would be of benefit to the OB in formulating a policy."

Three examples after given including:

"What action is recommended by the manufacturers to deal with this problem, given that the OB feels that it will be forced to take some sort of position on the matter which is scientifically defensible and, at the same time, politically responsive."

That was the challenge set then for the fractionators to try to come up with a policy that would meet those dual requirements.

A little further information is provided on this meeting by a note that was made by Dr Ojala of Cutter, if we could have on screen, please, CGRA0000231. The first page shows the note is 13 June, Dr Ojala, and it's about the same meeting that we've just been discussing. If we could turn to page 2, please. The second and third paragraphs, starting "A series of board meetings", Dr Ojala recorded this:

"A series of meetings will be held in Europe to

148

(37) Pages 145 - 148



review the screening process in the [United States], and Donohue stated that his mission was to defend our current procedures. He asked assistance from the manufacturers to convince those overseas that we are doing an acceptable jobs of screening out any AIDS donors.

"I spoke with Donohue and Petricciani privately about our Orlando donor. They agreed that based on the evidence that they saw no need for any recall action. The donor was only drawn once and Donohue commented that his symptoms were common to active homosexuals, but not indicative of AIDS."

So a discussion there, sir, between a representative of Cutter and representatives of the FDA about what to do in a specific example where a donor had been identified, presumably, as being somebody who may have symptoms that were associated with AIDS. The decision was not to recall the product.

A further perspective on the meeting comes from the note that was provided by Alpha's representative, Dr Penny Carr. Can we have on screen, please, CGRA0000598, page 2 of that document. Again, it's a summary of what was said, the same meeting still. If we could highlight the third paragraph, beginning

149

"Dr Petricciani stated":

"Dr Petricciani stated quietly but firmly that he considered it essential that the manufacturers, in presenting their proposal [this is about product recall], discuss the feasibility of doing what we suggest, and the potential availability of product. The message is loud and clear. He stated frequently that this is a social, economic, public relations and emotional issue, not a scientific one. Please note, we must be prepared by the middle of July with a rational example of what could happen in terms of a long-term donor whose plasma has been used in the manufacture of AHF and PTC, and what the economic consequences would be to us in terms of cost and, secondly, in terms of availability of our ... products ..."

Note that this should cover not only AHF and PTC but all of the blood products manufactured.

"One issue discussed over and over again was the potential for this wiping out a manufacturer totally economically. Therefore, when you're talking about the availability of the product, you must also address the potential loss of products from AHF manufacture."

Dr Carr there recording what she perceived and what was discussed as the threat to the industry from

150

a policy of product recall that would undermine their economic position.

By the time of that meeting in June, there were 1,508 identified cases of AIDS, according to the CDC, in the United States, 575 deaths and 15 people with haemophilia had been identified as having AIDS.

The open meeting on this topic took place on 19 July 1983, so about a month later. The forum was the Blood Products Advisory Committee that met at the National Institutes of Health. Dr Petricciani introduced the topic and the difficulties involved, Dr Evatt provided an overview of the epidemiology of AIDS and stated that, by that time, July, there were 17 cases of people with haemophilia that had been identified by the CDC. There was further discussion of the criteria for AIDS and on research on its aetiology.

If we could have, please, BAYP0004674. This is the formal summary minute of the meeting. If we could turn to page 2, please, which is where the record begins of the discussion on product recall. Right at the bottom of the page, paragraph 6, the minute says this:

"Dr Michael Rodell represented the four member companies of the Pharmaceutical Manufacturers

151

Association (PMA) involved in the manufacturing of the Antihemophilic Factor [if we could go to the next page, please], Alpha Therapeutic Corporation, Armour Pharmaceutical Company, Miles-Cutter Laboratories, and Hyland Therapeutics. Dr Rodell outlined the donor education and screening programmes initiated by each of the companies in early 1983 to reduce the number of donors from the high risk groups. Approximately four to four and one-half million liters of source plasma are fractionated on an annual basis which result in 800 million [Antihemophilic Factor] units. Primary plasma pool sizes range from 1,000 to 10,000 liters, with the result that a given pool would produce between 0.5 million to 5 million AHF units and treat an estimated 12 to 125 patients per year (or 500 to 5,000 individuals treatments). Because the industry estimates that the average frequent plasma donor makes between 40 and 60 donations a year, a single donor could easily be represented in as many as 50 plasma pools in one year. Were this donor subsequently found to have AIDS and a decision made to recall all units collected in a time period of one year prior to that, 25 to 250 million AHF activity units could be affected, all in various stages of pooling, production, and distribution. Given the PMA estimate

152

(38) Pages 149 - 152

1 of 800 million AHF activity units produced annually by  
2 the fractionation industry, the potential for serious  
3 disruption of AHF supply described by Dr Rodell seems  
4 quite real."

5 I pause there, sir, to note that, elsewhere in  
6 the literature in dealing with, I believe, Mr Justice  
7 Krever's report, the point is made that, according to  
8 those figures given by Dr Rodell, then four  
9 AIDS-positive donors could jeopardise the entire  
10 supply that these manufacturers made.

11 **SIR BRIAN LANGSTAFF:** Yes, I think Krever puts it as the  
12 entire world supply, which was what was being said,  
13 which may represent the American view of their control  
14 of the worldwide market.

15 **MR HILL:** From a British perspective, sir, the imported  
16 products were overwhelmingly American at that time.  
17 There was a small amount imported from Immuno but, as  
18 we saw in Dr Walford's evidence, attempts to source  
19 alternative supplies from Europe were unsuccessful at  
20 that time. There was no spare supply. So at least in  
21 terms of Britain, there is a very heavy dependence  
22 upon United States manufacturers for the product that  
23 was imported.

24 If we go back to the document, we can see how  
25 the discussion developed after Dr Rodell's

153

1 that there was great concern about the continued  
2 supply of AHF."  
3 We'll come back to Dr Aledort's contribution in  
4 a second.  
5 The summary:  
6 "It was very clear that confronted with this  
7 complex problem the Committee felt that a balance must  
8 be struck between theoretical risk of a product to  
9 recipients against the need for an uninterrupted  
10 supply of a life-sustaining therapy. As several  
11 members of the panel stressed, it would be undesirable  
12 to distribute and use a lot of product which  
13 incorporated plasma from a donor of a definite  
14 diagnosis of AIDS. However, signs and symptoms  
15 suggestive of AIDS (eg persistent lymphadenopathy,  
16 night sweats, et cetera) would not be persuasive  
17 enough to dictate a recall of product. Enough concern  
18 was expressed about the question of supply but the  
19 Committee was unwilling to advise the agency to take  
20 an unalterable regulatory position calling for  
21 an automatic recall which would likely jeopardize  
22 product availability."

23 Next page, please:

24 "Adding to the uncertainty with regard to the  
25 decision of whether to quarantine or recall a product

155

1 contribution. Dr Rodell has spelt out the problem,  
2 and Dr Steven Ojala from Miles-Cutter puts forward  
3 what the industry thinks should be the solution:

4 "Dr Steven Ojala (Miles-Cutter Laboratories)  
5 presented the PMA recommendation against automatic  
6 recall. Automatic recall could lead to serious  
7 product shortages. PMA recommends that manufacturers  
8 continue current screening and policies of discarding  
9 plasma from suspect donors. Dr Ojala stated that  
10 recall decisions should be made following each  
11 company's policy in close consultation with the FDA  
12 and should be considered on a case-by-case basis, in  
13 light of current knowledge of AIDS. One lot of final  
14 product has been voluntarily withdrawn from the market  
15 and suspect units of plasma are routinely discarded by  
16 plasma derivative manufacturers.

17 "Dr Louis Aledort presented the National  
18 Hemophilia Foundation ... recommendation that any  
19 product concentrate be recalled if it includes  
20 material from an individual that has later been  
21 identified as having AIDS or from an individual that  
22 in the best medical judgment of the manufacturer has  
23 characteristics strongly suggestive of AIDS. He  
24 noted, however, that the NHF did not have access to  
25 the PMA data when the statement was formulated, and

154

1 lot, several Committee members and other participants  
2 expressed the opinion that the risk of AIDS from  
3 transfusion of plasma derivatives or use of AHF  
4 concentrate has not been definitely established. They  
5 cited the fact that nearly all of the hemophiliacs  
6 with AIDS had used material from different lots and  
7 that many other hemophiliacs receiving these same lots  
8 had not developed AIDS. They stressed the need for  
9 studies to followup recipients of blood products  
10 derived from AIDS patients. The consensus of the  
11 Committee was that the action to be taken for each  
12 incident of inclusion of plasma from a donor who might  
13 have AIDS into a product pool should be decided on  
14 a case-by-case basis."

15 That is the formal minute, sir, but we are also  
16 assisted by a note of the meeting taken by  
17 Dr JB Derrick of the Canadian Red Cross, who was  
18 present.

19 If we could have on screen, please  
20 CBLA0000056\_215. I'll just note that this is, as we  
21 can see at the top, from Dr Derrick, and referring to  
22 the same meeting.

23 If we could go, please, to page 8, at  
24 paragraph 15, please.

25 The previous paragraphs have described what

156

(39) Pages 153 - 156

Dr Rodell and Dr Ojala said. The description there is consistent with the one that we've just read from the formal minute. Dr Derrick says that there was then a panel discussion, and I read from his note:

"Panel Discussion subsequent to these two presentations centered on: present action with reference to hepatitis contamination of pools and/or products; the possibility of reducing pool size (not considered a viable or well-based approach to the problem); the Hyland recall of an Autoplex lot because of a suspicion of AIDS contamination (this gesture lost some of its significance when it turned out that they were speaking of 187 vials); a significant question 'what is the risk associated with receiving blood from a donor later identified as an AIDS victim? (nobody knows)'."

Moving on to the next paragraph:

"Dr L Aledort made a presentation on behalf of the NHF and its MSAC [Medical and Scientific Advisory Committee] in which it was requested that 'any lot of Factor VIII concentrate should be recalled if it includes material from an individual either with AIDS or strongly suggestive of having AIDS'. Dr Aledort made this statement with some degree of embarrassment and actually disclaimed any personal responsibility

157

for it. He stated that personally he feels that the recall position for AIDS contamination should be similar to the current practice with reference to Hepatitis B contamination (ie a similar position to that stated by Steve Ojala earlier). In an exchange on the floor it became apparent that the 'the current state of knowledge simply does not lend itself to such an uncompromising position [sic]".

"The subsequent panel discussion identified the following pertinent points:

"a. The Manufacturers had demonstrated in their presentation that they have a full appreciation of the need to respond to the present situation in a responsible manner.

"b. I. For hemophilia patients, the current AIDS attack rate is no more and is probably less, than that of a year ago.

"ii. The need for the coagulation products would appear to far outweigh the difficulties which would result from large scale recall. Further, there is no guarantee that product lots in which no AIDS positive donor has been identified are any less infective than products in which AIDS has been implicated.

"c. The present state of knowledge is simply

158

not adequate enough for blanket decisions involving large scale recall or the initiation of an hiatus on Factor VIII concentrate productions for an adjustment period (suggested 6 months) to allow for accumulation of plasma collected under more stringent conditions.

"d. While individual physician committee members might find it a difficult decision to treat their patients with material with which an 'AIDS donation' has been implicated, there was nothing to be gained by recall in the face of the present state of knowledge.

"e. 'Drying up' the supply of AHF would place haemophilia patients at greater risk to their health than continuing therapy under the present circumstances.

"The meeting concluded with the Chairman's summary that while it was abhorrent to the Committee to consider condoning the use of products from which there was a known risk of AIDS development in the recipient, there was an agreement on the part of the Committee that mandatory recall is not presently warranted in view of the lack of data and information on the extent of risk, and the potential for serious disruption of the supply of coagulation products."

A couple of points to pick up from that, sir.

159

The chairman who was referred to at the end there was the acting chairman of BPAC, Dr William Miller, not Dr Bove who we heard about earlier.

The second point, if we could go back to point (c) on that page, this, sir, picks up on your question about what was done about pre-March plasma, and what was not being done.

Although the focus of the discussion on this meeting seems to have been about recall of products where a donor was known or suspected to have developed AIDS, there does seem to have been some discussion about what to do with products that were created and produced before the enhanced screening methods were put in place.

According to this note, the view was taken by the meeting that there was simply not enough -- the present state of knowledge is simply not adequate enough for blanket decisions about either the large-scale recall or a suggested hiatus period, where, one suspects, there was a suspension of providing material for six months to allow enough stock to be produced from the screening methods, and then that would be distributed out. That was a proposal which did not find favour at the meeting.

160

(40) Pages 157 - 160



1 We don't have any further detail from this  
2 document or from the previous document about what the  
3 reasoning behind that was, although, given the general  
4 context of the discussion, it seems fair to say that  
5 the two points that were raised against such  
6 a proposal were, firstly, the lack of scientific  
7 knowledge about the condition of the risk, and,  
8 secondly, the need to maintain a plasma supply.

9 Dr Petricciani -- sorry, no, it's Dr Donohue,  
10 who gives the FDA's impression of the meeting in  
11 a memorandum to Dr Petricciani a few days later.

12 If we could have that on screen, please, it's  
13 JREE0000019. It's electronic page 313. We can see  
14 that this is a memorandum that was dated 21 July 1983.  
15 What Dr Donohue wrote is this, and I quote:

16 "My interpretation of the Advisory Committee  
17 review of the Safety of Factor VIII in relation to  
18 Acquired Immunodeficiency Syndrome ... is as follows:

19 "The risk of transmitting AIDS to an individual  
20 hemophiliac from a specific lot of Factor VIII is  
21 very, very small, if it exists. Therefore,  
22 disposition of Factor VIII from a pool which contains  
23 plasma collected from a donor who may have the  
24 acquired immunodeficiency syndrome should be  
25 considered as a discrete incident. A conclusion as to

161

1 is at DHSC0002231\_063. Dr Fowler wrote this:  
2 "We spoke yesterday about the FDA meeting held  
3 on 19 July 1983 to discuss the implication of AIDS for  
4 blood products. The meeting was attended by Dr Meyer  
5 and other senior members of the administration with  
6 representatives of the US and Canadian Red Cross,  
7 haemophilia organisations and the manufacturers. It  
8 lasted four and a half hours.

9 "Although the subject got a very thorough airing  
10 nothing new came to light. The possibility of banning  
11 all products made before the implementation of the  
12 March '83 regulations was discussed but was rejected  
13 on a majority vote. The hiatus in supplies which such  
14 action would cause was the deciding factor.

15 "There is likely to be a congressional hearing  
16 on the same subject next Tuesday and this is likely to  
17 be much more media orientated. I have been promised  
18 a report and will let you have it as soon as  
19 possible."

20 So that minute, sir, written in the knowledge  
21 and the context of the ongoing debate in Britain about  
22 what to do with the pre-March plasma.

23 The source of the information may have been  
24 Dr Duncan Thomas. We have seen that he was present at  
25 other meetings in 1983, and his name was included in

163

1 the distribution or destruction of the final product  
2 should consider such variables as: the degree of  
3 specificity of the diagnosis, the time of onset of  
4 symptoms in relation to the time of donation, the  
5 potential effect upon immediate supply of Factor VIII  
6 and the long-term production of this essential plasma  
7 derivative. It is emphasized that all aspects of AIDS  
8 including the cause, method of transmission,  
9 predisposing factors and definition of the syndrome  
10 itself, are incompletely understood in spite of the  
11 extensive and intensive research activity focused upon  
12 these issues, and the benefit from life-threatening or  
13 disabling hemorrhage far exceeds the risk of acquiring  
14 AIDS."

15 **SIR BRIAN LANGSTAFF:** There must be something wrong with  
16 that, "the benefit from life-threatening or disabling  
17 hemorrhage".

18 **MR HILL:** I think that is intended to mean the benefit of  
19 avoiding life-threatening or disabling haemorrhage by  
20 using the concentrates far exceeds the risk of  
21 acquiring AIDS.

22 That was Dr Donohue's summation of the consensus  
23 view at that meeting.

24 In Britain, Dr Fowler recorded his understanding  
25 of the meeting in a minute dated 28 July 1983. This

162

1 the list of those attending the meeting that we have  
2 just been looking at. So it may be that he was  
3 feeding back to Dr Fowler.

4 The Congressional hearing that  
5 Dr Fowler referred to took place on 1 and 2  
6 August 1983. It resulted in no change of approach in  
7 respect of product recall.

8 I intend, sir, to go to an extract from that  
9 hearing, but it is more in the context of showing what  
10 the US Government position was on AIDS at that time,  
11 rather than specifically about this issue of product  
12 recall, because although it was a debate that was  
13 happening amongst those who were closely involved in  
14 the topic, it doesn't seem to have been a major focus  
15 of the Congressional hearing. I can take you to that  
16 document now, sir, or, I note the time, you may wish  
17 to look to leave it to the morning.

18 **SIR BRIAN LANGSTAFF:** I think we're looking at the  
19 response by the pharmaceutical industry, I don't know  
20 that, unless it sheds some light on that, I'm  
21 particularly interested in what another Government  
22 made of the situation.

23 **MR HILL:** Sir, the quotation is at paragraph 163 of the  
24 written presentation --

25 **SIR BRIAN LANGSTAFF:** Thank you.

164

(41) Pages 161 - 164

1 **MR HILL:** -- people can look for it and decide if it's  
 2 going to help or not.  
 3 **SIR BRIAN LANGSTAFF:** Well, it may be that it was picked  
 4 up by the DHSS here, given that Dr Fowler was speaking  
 5 about it, so perhaps we'd better have it because it  
 6 might have informed debate.  
 7 **MR HILL:** We do know from a minute, and the reference is  
 8 at 164, that Dr Fowler was informed about the  
 9 congressional hearing. Unfortunately, the minute in  
 10 which Dr Fowler comments upon the Congressional  
 11 hearing is one that we haven't been able to identify.  
 12 So we know there was one, but we don't know what it  
 13 said.  
 14 **SIR BRIAN LANGSTAFF:** So we know that at least it was part  
 15 of the material which fed into the debate in the UK?  
 16 **MR HILL:** Yes, yes.  
 17 **SIR BRIAN LANGSTAFF:** Well, in that case shall we deal  
 18 with it tomorrow morning?  
 19 **MR HILL:** Yes, sir.  
 20 **SIR BRIAN LANGSTAFF:** So 10 o'clock then tomorrow.  
 21 (4.35 pm)  
 22 (The hearing adjourned until 10 am on  
 23 Wednesday, 3 November 2021)  
 24  
 25

165

1	<b>I N D E X</b>	
2	Presentation by Counsel to the Inquiry relating to knowledge of and response to risk by pharmaceutical companies involved in blood products	1
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

166

	165/20	139/2 139/9	151/8 163/3	91/5	75/22
<b>MR HILL:</b> [91] 1/8	<b>\$</b>	<b>10 am</b> [1] 165/22	<b>1970s</b> [1] 2/11	<b>2 per cent</b> [1] 37/13	<b>4 March</b> [2] 122/10
2/23 3/2 11/7 11/12	<b>\$1</b> [1] 71/20	<b>10 December</b> [3]	<b>1976</b> [1] 86/22	<b>2,841</b> [1] 70/15	122/15
16/3 16/10 16/15	<b>\$100</b> [1] 82/13	20/18 63/21 64/5	<b>1980</b> [3] 10/22 10/24	<b>2.00 pm</b> [1] 91/8	<b>4 May</b> [1] 132/7
16/20 21/5 21/21 22/1	<b>\$100 million</b> [1] 82/13	<b>10 December 1982</b> [2]	15/17	<b>20</b> [2] 18/22 72/3	<b>4 units</b> [1] 43/5
23/17 23/23 24/3 24/8	<b>\$15</b> [1] 86/15	57/13 64/14	<b>1980s</b> [2] 2/11 11/5	<b>20 per cent</b> [1] 71/7	<b>4.30 pm</b> [1] 25/19
24/12 31/22 32/6 41/7	<b>\$15 million</b> [1] 86/15	<b>10 o'clock</b> [1] 165/20	<b>1981</b> [7] 15/18 16/1	<b>20,000</b> [1] 129/2	<b>4.35 pm</b> [1] 165/21
41/11 42/1 42/5 44/5	<b>\$20</b> [1] 71/24	<b>10 per</b> [2] 101/18	16/14 19/25 20/18	<b>200</b> [1] 76/5	<b>40</b> [5] 45/6 104/19
44/11 44/16 44/19	<b>\$20 million</b> [1] 71/24	108/15	21/15 23/14	<b>2006</b> [2] 15/3 15/10	104/23 119/9 152/18
46/19 49/25 50/10	<b>\$30</b> [1] 71/25	<b>10 years</b> [1] 27/23	<b>1982</b> [63] 4/23 4/25	<b>2021</b> [2] 1/1 165/23	<b>40,000</b> [1] 29/16
50/14 50/16 54/3	<b>\$30 million</b> [1] 71/25	<b>10,000 liters</b> [1]	6/5 9/22 15/2 15/22	<b>21</b> [2] 72/6 72/21	<b>401</b> [1] 137/10
54/15 54/21 55/1	<b>\$7</b> [1] 71/23	152/12	16/22 17/2 17/13	<b>21 July 1983</b> [1]	<b>41</b> [1] 45/16
59/18 60/1 60/9 60/12	<b>\$7 million</b> [1] 71/23	<b>100 per cent</b> [2] 94/9	17/24 18/11 18/12	161/14	<b>42-50</b> [1] 141/6
60/14 60/17 60/24		119/9	18/23 19/4 20/4 20/14	<b>215</b> [1] 156/20	<b>42.9 per cent</b> [1]
61/2 61/10 61/13		<b>106</b> [1] 113/14	20/22 21/23 22/13	<b>23</b> [7] 21/7 45/14 46/7	94/13
61/16 61/19 61/21	<b>'81</b> [1] 20/22	<b>10th</b> [1] 57/24	23/4 23/8 23/18 23/19	122/18 132/4 138/21	<b>44</b> [1] 49/2
77/24 79/14 79/20	<b>'82</b> [1] 23/15	<b>11</b> [2] 120/9 139/9	24/8 25/4 25/18 38/18	139/6	<b>45</b> [2] 49/19 50/17
80/3 81/15 81/19	<b>'83</b> [4] 112/24 141/18	<b>11,000</b> [1] 27/18	39/14 42/20 45/2 45/4	<b>23 and</b> [1] 121/15	<b>48</b> [1] 53/19
81/22 87/4 91/9 91/11	141/20 163/12	<b>11.13</b> [1] 46/16	45/12 45/14 46/7	<b>24</b> [10] 23/6 46/7	<b>5</b>
92/14 93/19 96/11	<b>'AIDS</b> [1] 159/8	<b>11.47</b> [1] 46/18	46/13 47/7 47/14	121/15 122/18 125/12	<b>5 June 1981</b> [1] 16/14
96/13 108/7 116/20	<b>'an</b> [1] 108/18	<b>111</b> [1] 118/10	47/16 48/21 49/2	126/25 135/19 136/1	<b>5 million</b> [1] 152/14
116/23 124/22 124/24	<b>'any</b> [1] 157/20	<b>12</b> [6] 46/15 46/15	49/14 51/10 55/24	136/1 146/22	<b>5 per cent</b> [5] 79/21
125/23 126/4 126/8	<b>'at</b> [2] 145/3 145/5	103/7 103/8 103/15	56/7 56/11 57/13	<b>24 March</b> [1] 125/20	80/9 80/12 95/11
126/10 126/16 132/8	<b>'bad</b> [1] 89/18	152/15	57/23 64/14 64/17	<b>24 September</b> [1]	101/22
132/11 132/14 136/20	<b>'Controls</b> [1] 94/23	<b>12 August</b> [1] 45/1	65/16 68/21 69/22	45/14	<b>5,000</b> [2] 29/13 152/16
136/24 137/6 146/1	<b>'Drying</b> [1] 159/12	<b>12 August 1982</b> [1]	70/8 70/16 72/6 72/21	<b>25</b> [2] 21/12 152/23	<b>50</b> [2] 141/6 152/19
146/4 146/6 146/21	<b>'epidemic</b> [2] 138/17	42/20	73/3 73/5 84/10 92/23	<b>250 million</b> [1] 152/23	<b>500</b> [1] 152/15
147/2 153/15 162/18	141/9	<b>12 months</b> [1] 118/24	93/14 93/18 111/6	<b>26</b> [2] 21/8 68/21	<b>575</b> [1] 151/5
164/23 165/1 165/7	<b>'existing</b> [1] 33/4	<b>12 patients</b> [1] 129/2	<b>1983</b> [59] 2/23 4/23	<b>27</b> [1] 25/18	<b>58</b> [1] 66/4
165/16 165/19	<b>'High</b> [1] 89/6	<b>125</b> [2] 125/7 152/15	19/19 20/13 23/3	<b>27 July 1982</b> [1] 25/4	
<b>SIR BRIAN</b>	<b>'hot</b> [1] 106/15	<b>128</b> [1] 128/20	39/14 69/15 72/22	<b>28</b> [2] 20/22 134/13	<b>6</b>
<b>LANGSTAFF:</b> [92]	<b>'it</b> [2] 77/14 85/20	<b>13</b> [2] 99/10 148/20	72/25 74/5 74/13	<b>28 January 1983</b> [1]	<b>6 months</b> [1] 159/4
1/6 2/21 3/1 11/4	<b>'Newt</b> [1] 130/11	<b>13 December 1982</b> [1]	75/22 76/5 84/2 87/18	110/3	<b>60</b> [1] 152/18
11/10 15/25 16/4	<b>'normal</b> [1] 97/3	57/23	93/16 98/23 99/10	<b>28 July 1983</b> [1]	<b>60 per cent</b> [2] 104/19
16/11 16/19 20/15	<b>'paid</b> [1] 63/10	<b>13 July 1983</b> [1]	100/11 100/20 109/25	162/25	104/23
21/19 21/25 23/11	<b>'published</b> [1] 34/11	142/1	110/3 113/2 113/13	<b>280</b> [1] 25/9	<b>61.9 per cent</b> [1]
23/21 23/25 24/4	<b>'rare</b> [1] 84/16	<b>130</b> [1] 129/13	113/19 113/23 114/3	<b>289</b> [1] 96/15	94/10
24/11 31/14 32/5 41/5	<b>'Show</b> [1] 84/19	<b>131</b> [1] 129/25	114/18 114/23 120/5	<b>293</b> [1] 105/17	<b>65,000</b> [1] 29/17
41/8 41/19 42/4 43/19	<b>'the</b> [1] 158/6	<b>137</b> [2] 135/8 136/3	121/13 121/18 122/18	<b>3</b>	<b>66.7 per cent</b> [1]
44/6 44/12 44/18	<b>'three</b> [1] 34/24	<b>139</b> [1] 139/17	123/16 124/10 124/24	<b>3 November 2021</b> [1]	94/11
46/14 49/18 50/3	<b>'turf</b> [1] 84/6	<b>14</b> [4] 18/12 100/11	125/12 126/18 126/25	165/23	<b>7</b>
50/11 50/15 53/20	<b>'volunteer</b> [1] 108/12	100/20 137/12	129/7 132/4 134/13	<b>3.20 pm</b> [1] 137/2	<b>7 million</b> [2] 71/21
54/8 54/20 54/25	<b>'what</b> [1] 157/14	<b>14 January</b> [1] 109/11	135/2 135/3 135/4	<b>3.45 pm</b> [1] 137/4	72/1
59/17 59/24 60/5		<b>140 donations</b> [1]	136/16 137/6 137/12	<b>30 per cent</b> [2] 136/13	<b>7 months</b> [1] 53/8
60/10 60/13 60/15		71/9	138/21 139/6 142/1	140/15	<b>70</b> [3] 20/23 71/2
60/22 60/25 61/6	<b>...</b> [1] 85/24	<b>142</b> [1] 143/2	142/15 151/8 152/7	<b>3000 liters</b> [1] 89/15	135/23
61/12 61/14 61/17	<b>0</b>	<b>15</b> [4] 64/17 70/8	161/14 162/25 163/3	<b>308</b> [2] 69/11 102/18	<b>70,000</b> [1] 71/8
61/20 77/23 79/12	<b>0.5 million</b> [1] 152/14	151/5 156/24	163/25 164/6	<b>308 people</b> [1] 126/12	<b>700 donations</b> [1]
79/15 79/21 81/3	<b>005</b> [1] 21/8	<b>15,000</b> [1] 27/18	<b>1984</b> [7] 4/24 4/25 6/5	<b>313</b> [1] 161/13	71/6
81/18 81/21 87/3 91/4	<b>008</b> [1] 118/11	<b>15-20 million</b> [1]	7/24 8/4 8/7 15/2	<b>33</b> [1] 37/4	<b>73</b> [2] 21/12 72/9
91/10 93/17 95/14	<b>055</b> [1] 139/23	140/8	<b>1985</b> [1] 8/12	<b>33.3</b> [1] 94/13	<b>75</b> [1] 22/10
96/12 108/5 116/16	<b>063</b> [1] 163/1	<b>150 million</b> [1] 119/17	<b>1986</b> [1] 92/9	<b>35 cases</b> [1] 53/5	<b>75.4 per</b> [1] 94/22
116/21 124/20 124/23		<b>16</b> [2] 18/23 20/4	<b>1990</b> [6] 19/14 21/9	<b>36</b> [1] 39/18	<b>752</b> [1] 75/8
125/11 125/25 126/5		<b>163</b> [1] 164/23	22/11 23/2 24/16	<b>36.2 per cent</b> [1] 95/7	<b>77</b> [1] 74/15
126/9 126/15 132/6	<b>1</b>	<b>164</b> [1] 165/8	112/18	<b>37</b> [1] 40/17	<b>79.2 per cent</b> [1] 95/3
132/9 132/12 136/11	<b>1,000</b> [1] 152/12	<b>17</b> [2] 15/4 151/14	<b>1990s</b> [1] 92/3	<b>39.3</b> [1] 95/7	<b>79.5 per cent</b> [1] 95/5
136/23 136/25 137/5	<b>1,000-5,000</b> [1] 29/13	<b>18</b> [1] 120/5	<b>1995</b> [2] 87/3 90/14	<b>4</b>	<b>8</b>
145/20 146/3 146/5	<b>1,508</b> [1] 151/4	<b>18 months</b> [1] 63/25		<b>4 December 1982</b> [2]	<b>8.30</b> [1] 25/19
146/18 146/22 153/11	<b>1-1.5 million</b> [1] 140/9	<b>183</b> [1] 130/10	<b>2 November 2021</b> [1]	49/14 51/10	<b>800</b> [2] 69/16 126/14
162/15 164/18 164/25	<b>1.00 pm</b> [1] 91/6	<b>187 vials</b> [1] 157/13	1/1	<b>4 January 1983</b> [1]	
165/3 165/14 165/17	<b>10</b> [4] 19/25 88/11	<b>19</b> [1] 18/10	<b>2 o'clock</b> [2] 91/5		
		<b>19 July 1983</b> [2]			

(43) MR HILL: - 800

F:



<b>8</b>	110/20 112/11 113/3 118/23 119/8 119/17 120/15 121/15 123/1 123/2 123/21 124/14 126/23 129/12 129/18 129/20 129/21 129/22 130/19 131/5 134/13 135/12 136/8 136/12 140/6 141/6 141/23 142/7 142/8 142/9 145/20 146/11 146/19 148/21 149/8 149/15 150/4 150/21 151/8 155/1 155/18 160/3 160/7 160/7 160/10 160/13 160/19 161/2 161/7 163/2 163/21 164/11 165/5 165/8 <b>above</b> [7] 67/14 83/13 85/9 89/14 107/2 107/12 141/6 <b>absence</b> [3] 64/9 93/7 130/23 <b>absent</b> [1] 4/5 <b>absolutely</b> [4] 2/23 24/21 42/4 118/20 <b>abstract</b> [1] 84/24 <b>abusers</b> [5] 27/3 30/11 31/3 66/22 67/12 <b>accelerate</b> [1] 107/15 <b>accept</b> [3] 62/21 83/17 108/15 <b>acceptable</b> [3] 84/16 144/6 149/5 <b>accepted</b> [5] 35/13 90/18 99/19 145/23 145/25 <b>access</b> [2] 4/13 154/24 <b>accompanied</b> [2] 1/19 49/8 <b>accomplished</b> [1] 35/19 <b>accomplishing</b> [1] 77/17 <b>accordance</b> [5] 85/1 92/5 125/17 139/5 139/6 <b>according</b> [13] 17/1 24/16 37/10 37/18 38/3 82/10 96/16 99/3 121/24 122/6 151/4 153/7 160/16 <b>account</b> [2] 46/19 83/5 <b>accounts</b> [1] 87/9 <b>accumulate</b> [1] 89/24 <b>accumulated</b> [1] 48/8 <b>accumulation</b> [1] 159/4 <b>accurate</b> [2] 40/25	132/23 <b>accurately</b> [1] 117/5 <b>achieved</b> [1] 106/14 <b>acknowledge</b> [1] 146/14 <b>acknowledgements</b> [1] 20/12 <b>acquired</b> [4] 30/16 66/10 161/18 161/24 <b>acquiring</b> [2] 162/13 162/21 <b>acquisition</b> [1] 50/23 <b>acrimonious</b> [1] 90/9 <b>acronyms</b> [3] 6/19 9/16 11/1 <b>across</b> [2] 66/13 142/6 <b>act</b> [2] 34/10 87/13 <b>acting</b> [2] 84/25 160/2 <b>action</b> [16] 36/3 38/25 44/9 44/10 46/5 55/21 55/22 83/16 88/7 102/14 147/25 148/9 149/10 156/11 157/6 163/14 <b>actions</b> [3] 58/7 89/13 131/19 <b>active</b> [2] 32/8 149/11 <b>activities</b> [2] 55/19 55/23 <b>activity</b> [5] 102/12 129/8 152/23 153/1 162/11 <b>actual</b> [3] 94/15 100/25 105/11 <b>actually</b> [10] 11/10 15/5 21/1 22/2 43/1 54/15 85/13 132/9 142/11 157/25 <b>ad</b> [1] 76/1 <b>ad hoc</b> [1] 76/1 <b>add</b> [2] 41/11 97/20 <b>adding</b> [2] 96/24 155/24 <b>addition</b> [4] 17/20 47/18 68/1 106/8 <b>additional</b> [11] 47/17 49/21 71/20 71/22 72/2 82/9 97/23 98/12 112/25 113/1 147/24 <b>address</b> [4] 8/8 109/21 132/3 150/22 <b>addressed</b> [1] 130/14 <b>addressing</b> [1] 132/24 <b>adequacy</b> [1] 32/14 <b>adequate</b> [4] 98/4 98/8 159/1 160/18 <b>adequately</b> [1] 89/17 <b>adhered</b> [3] 84/14 122/22 147/19 <b>adjourned</b> [2] 147/25 165/22	<b>adjournment</b> [1] 91/7 <b>adjustment</b> [1] 159/3 <b>administration</b> [5] 9/1 9/15 76/7 78/3 163/5 <b>administrative</b> [1] 97/1 <b>admits</b> [1] 122/2 <b>adopt</b> [3] 60/2 65/9 83/20 <b>advance</b> [2] 84/6 138/22 <b>advantages</b> [2] 73/1 96/19 <b>adverse</b> [1] 84/15 <b>advice</b> [4] 10/9 105/10 133/17 135/18 <b>advise</b> [1] 155/19 <b>advised</b> [3] 56/8 72/19 72/23 <b>adviser</b> [1] 92/8 <b>advising</b> [1] 89/5 <b>advisory</b> [17] 10/6 14/12 28/16 45/15 49/15 51/10 54/18 55/6 75/21 76/2 76/4 105/8 114/24 115/23 151/9 157/19 161/16 <b>advocated</b> [1] 76/23 <b>aetiology</b> [4] 73/9 104/16 110/7 151/17 <b>affairs</b> [1] 130/13 <b>affect</b> [2] 52/10 144/3 <b>affected</b> [7] 4/7 17/13 70/14 84/17 93/2 145/8 152/24 <b>affecting</b> [1] 85/6 <b>affects</b> [1] 24/13 <b>affiliated</b> [1] 12/5 <b>affirm</b> [1] 113/16 <b>afraid</b> [6] 6/21 9/16 53/12 59/23 60/1 134/4 <b>after</b> [23] 8/7 10/24 19/20 26/20 53/24 55/24 63/23 68/21 78/5 79/19 83/3 87/6 91/2 92/9 97/16 124/2 124/18 125/20 136/20 144/10 147/23 148/8 153/25 <b>afternoon</b> [1] 108/24 <b>afterwards</b> [2] 7/11 54/6 <b>again</b> [24] 5/21 10/25 11/21 17/17 20/15 20/17 33/24 49/4 55/20 57/10 91/19 97/14 102/9 108/23 109/6 113/10 113/17 119/10 120/6 127/1 139/22 140/11 149/23 150/19	<b>against</b> [4] 3/8 154/5 155/9 161/5 <b>agencies</b> [8] 9/10 13/4 13/7 17/24 25/11 73/12 73/12 122/8 <b>agency</b> [3] 11/23 63/7 155/19 <b>agendas</b> [1] 84/6 <b>agent</b> [17] 6/9 18/7 18/15 18/19 19/7 22/25 27/12 31/17 32/2 34/2 52/23 64/9 77/19 84/19 86/3 86/6 131/10 <b>agents</b> [1] 45/22 <b>aggressive</b> [3] 113/12 118/18 119/15 <b>ago</b> [2] 82/23 158/17 <b>agree</b> [1] 110/16 <b>agreed</b> [14] 1/23 39/16 39/22 73/19 102/2 102/9 103/2 108/19 116/7 116/17 117/8 117/14 121/1 149/8 <b>agreeing</b> [2] 40/11 116/18 <b>agreement</b> [4] 30/17 77/17 132/25 159/20 <b>ahead</b> [1] 43/18 <b>AHF</b> [14] 58/9 58/17 62/4 71/12 150/13 150/17 150/23 152/14 152/23 153/1 153/3 155/2 156/3 159/12 <b>AIDS</b> [237] <b>AIDS'</b> [1] 157/23 <b>AIDS-like</b> [2] 129/23 134/11 <b>AIDS-positive</b> [1] 153/9 <b>AIDS/KS</b> [1] 30/1 <b>aimed</b> [3] 105/10 105/11 105/13 <b>aired</b> [1] 147/8 <b>airing</b> [1] 163/9 <b>Airport</b> [1] 114/21 <b>alarm</b> [2] 34/7 47/25 <b>Aledort</b> [4] 28/14 154/17 157/18 157/23 <b>Aledort's</b> [1] 155/3 <b>alert</b> [3] 18/13 23/24 23/24 <b>algorithm</b> [2] 91/15 91/19 <b>alive</b> [1] 52/15 <b>all</b> [52] 1/21 3/12 3/19 4/13 4/15 8/20 18/2 18/11 28/22 32/14 34/2 34/6 40/11 46/9 51/1 56/16 64/2 70/1 70/22 72/19 75/13	80/20 82/12 85/2 85/9 85/15 89/7 89/9 89/24 101/7 101/16 101/18 107/8 115/3 116/13 119/24 128/6 130/2 132/15 133/2 138/1 138/19 139/3 141/9 141/14 146/3 150/18 152/21 152/24 156/5 162/7 163/11 <b>all-cryoprecipitate</b> [1] 107/8 <b>allow</b> [4] 2/8 11/1 159/4 160/22 <b>allowed</b> [2] 3/13 28/2 <b>alluded</b> [1] 147/16 <b>almost</b> [4] 11/2 28/22 34/9 52/3 <b>alone</b> [2] 34/12 71/23 <b>along</b> [4] 8/7 8/17 14/20 81/9 <b>alongside</b> [1] 1/10 <b>Alpha</b> [41] 1/16 39/22 40/1 46/8 64/17 65/7 65/8 65/11 65/14 65/20 67/4 67/19 68/3 68/22 68/23 69/7 69/11 70/1 70/7 72/4 74/2 99/2 102/16 104/10 107/23 110/2 111/12 111/12 116/25 120/6 120/8 126/11 130/4 139/20 141/2 142/19 147/14 147/14 147/17 147/20 152/3 <b>Alpha's</b> [6] 64/17 65/5 69/5 69/14 120/20 149/21 <b>already</b> [12] 17/21 39/11 85/2 96/21 97/2 98/6 99/3 110/2 110/2 120/23 123/14 144/24 <b>also</b> [84] 1/16 1/18 2/5 2/7 2/21 6/3 12/10 12/13 12/19 13/12 13/22 14/11 14/17 14/21 15/5 15/12 18/14 20/19 24/1 24/12 28/17 35/6 35/15 37/12 37/15 38/1 39/22 40/18 44/19 46/1 48/4 51/17 51/19 51/21 53/3 55/1 56/8 57/7 65/8 67/7 70/9 70/24 71/13 71/24 72/23 76/25 77/3 77/18 79/11 81/23 82/2 82/4 86/8 86/9 86/20 87/15 100/14 102/9 103/13 103/22 103/25 107/13 111/3 112/13 113/5
----------	---	--	---	---	---

(44) 800 million - also

<b>A</b>	<b>an hour</b> [1] 124/21 <b>an idea</b> [1] 145/12 <b>an illness</b> [1] 119/8 <b>an individual</b> [3] 154/20 154/21 161/19 <b>an infectious</b> [3] 19/7 31/1 31/17 <b>an internal</b> [2] 61/18 87/19 <b>an interview</b> [1] 87/8 <b>an issue</b> [1] 22/23 <b>an open</b> [2] 25/4 25/13 <b>an opportunity</b> [2] 16/20 91/2 <b>an overview</b> [1] 151/12 <b>an unalterable</b> [1] 155/20 <b>an uninterrupted</b> [1] 155/9 <b>analogy</b> [1] 4/9 <b>analysis</b> [2] 3/13 12/8 <b>anecdotal</b> [1] 84/21 <b>Angeles</b> [1] 138/18 <b>annotation</b> [1] 61/1 <b>annual</b> [5] 129/11 140/5 140/7 141/5 152/10 <b>annually</b> [3] 28/7 137/23 153/1 <b>another</b> [14] 4/5 6/11 6/11 11/19 17/19 22/6 24/6 26/12 28/11 35/16 65/2 86/8 111/23 164/21 <b>answer</b> [7] 31/10 49/25 68/5 95/20 111/19 135/17 139/9 <b>answered</b> [1] 65/2 <b>answers</b> [3] 133/20 133/22 141/22 <b>anti</b> [21] 6/18 33/21 38/11 71/15 79/10 80/8 80/16 82/12 88/17 89/11 93/25 95/24 97/10 97/14 98/4 98/7 98/11 101/15 127/18 127/19 128/3 <b>anti-discrimination</b> [1] 88/17 <b>anti-HBC</b> [6] 6/18 79/10 80/8 80/16 82/12 95/24 <b>anti-HBs</b> [2] 38/11 89/11 <b>anti-hemophilic</b> [1] 71/15 <b>anti-hepatitis B</b> [7] 93/25 97/10 97/14 98/4 98/7 98/11	101/15 <b>anti-sperm</b> [1] 33/21 <b>antibodies</b> [12] 5/17 33/21 38/12 38/22 46/24 93/1 94/5 94/6 94/21 95/3 95/13 102/1 <b>antibody</b> [8] 6/17 77/1 78/18 79/2 79/4 79/6 93/23 97/6 <b>anticipated</b> [1] 111/4 <b>anticipation</b> [1] 142/4 <b>antigen</b> [22] 6/17 34/1 77/2 78/19 93/23 93/25 94/6 94/7 94/9 94/10 94/21 94/22 95/4 95/5 95/13 95/13 96/3 96/22 97/10 97/15 98/21 101/15 <b>antihemophilic</b> [3] 28/1 152/2 152/11 <b>any</b> [52] 4/4 16/5 18/20 19/8 22/24 24/20 39/20 46/5 46/25 55/17 58/25 59/5 62/4 62/18 64/25 67/9 67/14 68/3 69/25 80/19 95/16 100/3 113/9 113/16 116/21 119/6 119/18 119/23 120/1 120/2 120/22 120/25 121/1 121/8 124/15 125/25 126/1 127/22 129/20 129/22 134/10 134/19 138/23 139/7 140/13 145/20 149/5 149/9 154/18 157/25 158/22 161/1 <b>anyone</b> [2] 16/6 125/25 <b>anything</b> [4] 40/6 53/15 118/22 123/21 <b>anyway</b> [1] 39/21 <b>anywhere</b> [2] 119/9 134/11 <b>apart</b> [1] 90/9 <b>apologise</b> [1] 75/15 <b>apparent</b> [3] 15/16 147/23 158/6 <b>appear</b> [3] 115/20 116/25 158/19 <b>appeared</b> [4] 21/17 22/14 88/10 144/24 <b>appears</b> [6] 59/10 66/20 100/9 115/2 122/21 145/24 <b>applied</b> [1] 103/25 <b>applies</b> [2] 24/21 117/10 <b>apply</b> [3] 41/18 107/13 111/2 <b>appreciation</b> [1]	158/12 <b>approach</b> [15] 7/25 36/18 38/17 39/15 63/14 69/6 86/12 111/11 117/3 133/23 136/6 146/12 146/13 157/9 164/6 <b>approached</b> [2] 40/10 140/22 <b>approaches</b> [2] 13/24 68/16 <b>approaching</b> [3] 71/14 84/23 111/21 <b>appropriate</b> [2] 108/18 117/9 <b>approximately</b> [3] 97/12 101/18 152/8 <b>April</b> [2] 70/16 132/4 <b>April 1983</b> [1] 132/4 <b>are</b> [120] 1/21 3/2 3/11 3/19 4/1 5/1 6/25 8/22 11/5 12/19 12/22 12/23 13/2 16/3 16/16 16/17 27/1 27/18 27/23 29/3 29/9 29/10 29/12 30/21 31/12 33/17 39/1 41/14 41/22 41/23 41/23 44/22 46/4 47/2 59/3 59/17 63/8 63/11 63/11 65/22 66/24 67/6 67/9 67/9 67/14 68/15 71/2 75/14 79/24 86/1 86/1 89/1 89/15 94/1 94/2 94/16 94/20 94/21 94/24 94/25 94/25 95/3 95/6 95/10 95/12 95/25 97/9 97/14 97/25 98/5 98/19 99/2 100/6 101/19 101/24 103/18 104/10 105/20 107/5 110/1 111/18 111/22 113/13 119/8 120/2 122/20 129/24 130/17 130/18 131/2 131/3 131/5 132/19 132/23 133/2 133/6 133/8 135/7 137/18 138/7 138/9 138/15 139/2 139/17 140/25 141/10 141/13 144/18 145/10 145/10 145/22 145/22 146/15 147/3 149/4 152/10 154/15 156/15 158/22 162/10 <b>area</b> [2] 5/21 9/21 <b>areas</b> [19] 5/9 5/14 5/14 7/2 32/12 58/16 73/25 85/18 99/6 99/8 102/11 102/11 108/2 108/5 113/20 113/22	114/13 138/17 141/9 <b>aren't</b> [1] 116/10 <b>argument</b> [2] 78/13 109/17 <b>arguments</b> [3] 68/16 89/16 111/22 <b>arising</b> [1] 134/11 <b>Armour</b> [27] 1/16 12/6 26/17 46/8 46/25 99/4 102/23 113/11 116/25 130/2 133/25 134/2 134/6 134/7 135/5 135/12 135/20 136/4 136/22 139/17 140/6 140/7 141/2 142/20 142/21 142/23 152/3 <b>Armour's</b> [2] 40/12 46/22 <b>Aronson</b> [3] 119/3 119/10 120/1 <b>arose</b> [2] 5/11 22/24 <b>around</b> [3] 44/6 49/6 68/12 <b>arrangements</b> [1] 69/23 <b>arrive</b> [1] 88/6 <b>arrived</b> [1] 131/2 <b>article</b> [6] 14/25 15/10 15/14 22/4 22/7 104/17 <b>articles</b> [1] 21/17 <b>as</b> [249] <b>Ashworth</b> [2] 130/11 130/15 <b>Ashworth's</b> [1] 135/3 <b>ask</b> [5] 15/25 25/6 50/3 59/3 139/22 <b>asked</b> [16] 40/12 57/5 58/4 58/15 59/14 59/15 60/21 61/22 65/1 78/4 111/18 112/1 121/22 129/11 140/6 149/3 <b>asking</b> [7] 67/6 67/9 87/11 110/18 110/19 111/8 111/25 <b>aspects</b> [2] 26/21 162/7 <b>assay</b> [1] 90/2 <b>assemble</b> [1] 148/5 <b>assessment</b> [3] 69/15 116/11 117/14 <b>assist</b> [1] 80/24 <b>assistance</b> [1] 149/3 <b>assistant</b> [3] 74/16 76/22 122/1 <b>assisted</b> [1] 156/16 <b>associated</b> [12] 15/19 33/23 35/7 76/18 85/9 94/19 104/21 108/16 122/14 127/12 149/17 157/14	<b>association</b> [13] 12/3 12/11 12/20 26/18 36/8 81/10 99/13 101/9 110/4 110/19 117/17 142/17 152/1 <b>Association's</b> [1] 110/23 <b>assumed</b> [1] 88/12 <b>assumption</b> [5] 31/16 60/23 61/18 126/7 131/12 <b>assurance</b> [2] 135/18 141/15 <b>assure</b> [1] 91/20 <b>asymptomatic</b> [1] 54/14 <b>Atlanta</b> [3] 10/21 11/18 74/13 <b>Atlantic</b> [1] 142/6 <b>attached</b> [1] 131/24 <b>attaches</b> [1] 4/3 <b>attachment</b> [1] 132/2 <b>attack</b> [1] 158/16 <b>attacking</b> [1] 84/11 <b>attempt</b> [5] 38/24 58/19 117/9 132/19 146/9 <b>attempting</b> [1] 143/16 <b>attempts</b> [1] 153/18 <b>attend</b> [3] 11/24 14/18 89/23 <b>attendance</b> [1] 90/18 <b>attended</b> [6] 20/9 26/13 26/15 74/19 115/5 163/4 <b>attendees</b> [5] 83/24 84/20 85/2 90/10 142/24 <b>attendees'</b> [1] 84/22 <b>attending</b> [4] 87/12 101/6 143/12 164/1 <b>attention</b> [7] 21/16 49/13 52/9 88/1 88/10 90/25 92/17 <b>attitude</b> [3] 85/19 87/1 90/21 <b>attributes</b> [1] 88/25 <b>audience</b> [2] 34/9 84/24 <b>August</b> [9] 20/22 20/22 20/22 38/18 42/20 45/1 70/16 141/19 164/6 <b>August 1982</b> [2] 38/18 70/16 <b>August 1983</b> [1] 164/6 <b>Austrian</b> [1] 2/12 <b>author</b> [2] 48/8 128/13 <b>author's</b> [1] 93/13 <b>authorities</b> [3] 133/18 138/8 142/6
----------	--	---	--	---	--

(45) also... - authorities



<b>A</b> <b>authority</b> [2] 35/12 122/3 <b>automatic</b> [3] 154/5 154/6 155/21 <b>Autoplex</b> [1] 157/10 <b>autumn</b> [6] 8/4 46/13 47/7 49/20 50/19 92/23 <b>availability</b> [6] 82/7 98/3 150/6 150/15 150/22 155/22 <b>available</b> [9] 4/1 8/12 63/14 91/24 93/18 102/5 107/5 112/19 141/19 <b>average</b> [3] 71/4 71/8 152/17 <b>avoiding</b> [2] 73/24 162/19 <b>aware</b> [4] 56/9 73/6 127/5 134/10 <b>awareness</b> [1] 24/13 <b>away</b> [2] 108/11 142/7 <b>awful</b> [1] 3/7	123/25 147/4 147/5 <b>banning</b> [1] 163/10 <b>base</b> [1] 41/9 <b>based</b> [7] 10/16 10/21 11/18 133/18 134/3 149/8 157/9 <b>basis</b> [9] 55/21 115/7 133/24 135/21 136/7 145/20 152/10 154/12 156/14 <b>batch</b> [1] 138/10 <b>battle</b> [1] 86/14 <b>BAYP0000002</b> [1] 130/10 <b>BAYP0004674</b> [1] 151/18 <b>be</b> [256] <b>be:</b> [1] 41/23 <b>be: there</b> [1] 41/23 <b>bearings</b> [1] 2/8 <b>became</b> [11] 8/12 15/16 15/24 60/4 84/2 84/5 114/10 123/25 127/5 147/23 158/6 <b>because</b> [53] 3/5 4/3 4/5 8/22 11/2 16/1 17/8 23/25 24/25 28/25 38/21 40/7 41/14 46/11 46/25 47/2 49/22 51/17 52/19 55/12 55/13 61/23 61/24 62/8 65/11 67/2 71/20 73/22 74/23 77/6 77/8 79/17 79/25 80/11 80/14 80/20 81/5 85/3 86/6 91/13 91/16 95/19 104/1 112/10 123/6 126/2 134/1 139/21 147/6 152/16 157/10 164/12 165/5 <b>become</b> [5] 15/8 17/16 43/16 133/14 145/24 <b>becomes</b> [1] 10/24 <b>been</b> [100] 1/20 2/14 3/15 6/7 7/4 7/15 18/9 19/20 19/23 20/6 20/13 21/14 27/14 27/15 28/24 32/24 38/21 42/10 42/14 43/6 50/12 50/25 51/25 52/14 52/16 52/24 53/5 55/16 57/6 57/15 58/9 60/2 60/3 60/21 62/6 63/10 64/2 66/18 68/21 69/12 70/10 70/11 70/15 70/21 72/17 73/18 77/3 82/17 85/20 86/5 86/25 87/9 88/12 94/2 94/24 100/9 115/8	115/20 116/5 117/1 119/6 120/12 120/14 120/22 120/23 125/3 125/16 126/23 127/6 127/22 128/1 128/8 128/10 131/14 136/6 136/14 136/18 140/4 142/2 143/17 144/24 145/25 148/21 149/16 150/12 151/6 151/14 154/14 154/20 156/4 158/22 158/23 159/9 160/10 160/12 163/17 163/23 164/2 164/14 165/11 <b>before</b> [39] 7/4 8/14 8/24 22/2 35/11 36/6 39/12 39/14 43/5 43/19 44/8 44/10 45/1 46/19 50/5 53/8 53/16 53/21 53/24 54/5 87/13 90/22 92/4 95/15 100/19 101/1 101/4 107/25 109/12 109/16 111/8 122/18 124/18 125/11 135/13 136/9 139/21 160/14 163/11 <b>beforehand</b> [2] 23/18 108/14 <b>began</b> [3] 17/12 104/16 144/11 <b>begin</b> [2] 14/22 72/14 <b>beginning</b> [10] 17/6 33/3 33/5 47/13 75/3 75/7 75/18 92/22 122/13 149/25 <b>begins</b> [3] 3/17 4/21 151/21 <b>behalf</b> [2] 26/17 157/18 <b>behaved</b> [1] 119/1 <b>behaviour</b> [1] 76/24 <b>behest</b> [1] 100/11 <b>behind</b> [1] 161/3 <b>being</b> [49] 5/5 5/18 7/8 7/10 17/4 17/13 26/10 30/8 30/10 40/15 41/2 41/21 42/10 44/22 44/22 50/22 53/1 53/7 55/21 55/22 81/10 82/13 86/10 86/15 88/9 95/18 96/9 96/20 96/21 99/20 109/19 112/1 116/1 118/4 120/20 121/9 123/9 125/14 127/10 128/3 136/22 138/20 145/11 145/19 146/7 147/3 149/16 153/12 160/8 <b>belief</b> [1] 77/2	<b>believe</b> [3] 69/2 88/5 153/6 <b>belong</b> [1] 106/1 <b>below</b> [1] 147/21 <b>beneficial</b> [1] 36/15 <b>benefit</b> [5] 103/3 148/6 162/12 162/16 162/18 <b>benefits</b> [1] 29/3 <b>best</b> [3] 81/19 111/23 154/22 <b>better</b> [2] 54/8 165/5 <b>between</b> [34] 7/8 13/4 16/23 25/5 25/8 25/10 31/25 36/2 36/8 36/23 40/9 53/22 54/13 55/21 57/14 59/1 63/18 65/13 73/11 73/12 74/6 86/2 98/20 98/24 103/16 104/4 116/24 142/15 146/10 147/20 149/13 152/14 152/18 155/8 <b>beyond</b> [3] 69/8 102/11 112/9 <b>bigger</b> [1] 41/25 <b>Bill</b> [1] 142/22 <b>Bill Wethersby</b> [1] 142/22 <b>binding</b> [1] 122/20 <b>biological</b> [3] 55/18 115/5 142/1 <b>Biologicals</b> [1] 124/7 <b>Biologics</b> [9] 9/20 9/23 9/24 18/1 42/20 43/7 121/2 128/6 143/15 <b>Biologics'</b> [1] 70/19 <b>biomedical</b> [1] 11/22 <b>birth</b> [3] 52/17 63/24 76/17 <b>bisexual</b> [1] 94/4 <b>bisexuals</b> [1] 95/2 <b>bit</b> [1] 54/10 <b>black</b> [1] 108/12 <b>blanket</b> [2] 159/1 160/19 <b>blood</b> [195] <b>blood banking</b> [1] 10/12 <b>blood-borne</b> [6] 34/2 34/5 34/7 83/18 93/1 99/16 <b>blooms</b> [1] 2/11 <b>Bloom</b> [5] 128/21 131/23 135/6 135/7 135/11 <b>Bloom's</b> [2] 132/3 135/9 <b>blown</b> [4] 53/17 53/21 54/2 54/2 <b>board</b> [1] 148/24	<b>BOB</b> [3] 9/24 43/12 147/13 <b>bodies</b> [8] 6/20 12/1 12/24 16/24 17/24 25/11 73/6 113/25 <b>body</b> [10] 9/17 11/16 12/9 12/11 14/6 14/8 14/15 17/9 26/18 113/5 <b>bone</b> [1] 104/4 <b>boost</b> [1] 5/20 <b>border</b> [1] 89/21 <b>borne</b> [12] 22/18 24/4 34/2 34/5 34/7 34/8 34/12 64/11 83/18 85/11 93/1 99/16 <b>both</b> [18] 24/14 90/4 95/12 96/25 104/2 104/10 112/10 114/5 114/13 114/25 115/5 117/18 118/6 121/8 121/16 122/5 128/15 129/24 <b>bothered</b> [2] 83/1 118/22 <b>bothers</b> [1] 118/21 <b>bottom</b> [8] 33/15 59/20 89/2 93/12 137/10 146/18 146/19 151/22 <b>Bove</b> [7] 117/20 118/13 119/5 119/12 119/23 120/2 160/3 <b>BPAC</b> [2] 10/7 160/2 <b>brackets</b> [1] 94/16 <b>branch</b> [1] 82/19 <b>Brandt</b> [2] 9/8 74/17 <b>break</b> [10] 12/22 45/1 46/14 46/17 91/4 107/7 124/19 136/21 136/25 137/3 <b>breakdown</b> [1] 147/19 <b>breakthrough</b> [1] 108/25 <b>brief</b> [4] 41/12 45/17 63/2 73/4 <b>briefings</b> [2] 48/8 48/18 <b>briefly</b> [1] 122/23 <b>bring</b> [9] 19/9 25/6 35/9 57/20 91/3 122/19 133/25 139/22 142/12 <b>bringing</b> [1] 92/16 <b>brings</b> [1] 74/10 <b>Britain</b> [3] 153/21 162/24 163/21 <b>British</b> [4] 114/17 134/9 142/5 153/15 <b>broad</b> [2] 32/11 73/14 <b>broader</b> [1] 36/25 <b>broadly</b> [1] 123/15	<b>broke</b> [1] 65/13 <b>brought</b> [1] 123/23 <b>Bruce</b> [1] 14/25 <b>bulk</b> [1] 20/10 <b>bulletin</b> [1] 128/24 <b>burden</b> [1] 44/17 <b>Bureau</b> [9] 9/20 9/24 9/25 42/20 43/6 63/13 70/19 121/2 143/15 <b>bureaucratic</b> [1] 39/5 <b>business</b> [4] 135/21 135/24 136/7 136/13 <b>but</b> [126] 1/10 2/4 2/13 2/19 3/7 6/20 6/23 8/7 9/23 11/10 11/13 12/8 12/22 13/18 13/22 15/12 16/4 16/13 19/16 20/18 20/19 21/20 23/13 23/25 26/17 27/14 32/2 32/7 32/21 33/22 33/25 34/6 37/3 39/3 39/8 40/11 41/13 42/16 43/22 44/2 44/23 47/3 48/19 51/13 51/16 53/21 53/25 54/1 54/22 57/12 58/24 60/5 62/1 64/4 66/4 70/14 72/12 74/2 78/25 80/22 81/14 83/1 83/4 87/25 88/5 89/1 89/4 91/1 91/25 92/1 94/25 95/8 95/23 97/25 101/9 102/4 103/1 103/7 107/19 107/23 110/3 110/17 110/25 111/3 112/5 112/8 114/1 114/17 115/3 115/17 115/25 119/4 119/12 119/21 120/18 120/21 122/8 122/15 122/20 123/2 129/17 132/2 133/9 134/5 134/9 134/12 134/20 134/24 135/15 135/22 136/5 137/14 139/22 143/10 144/4 144/19 144/23 149/12 150/2 150/18 153/17 155/18 156/15 163/12 164/9 165/12 <b>by</b> [156] 1/3 1/4 1/19 2/23 6/25 7/10 7/16 9/4 10/12 14/25 15/21 23/2 24/12 27/12 28/13 29/2 29/3 29/6 31/16 31/17 31/20 32/2 32/21 33/10 33/11 34/18 37/21 38/1 39/15 40/13 42/25 43/11 44/22 44/23 46/12 47/22
--	---	---	--	--	--

(46) authority - by

F:



<b>B</b> <b>by...</b> [120] 52/24 54/1 54/2 54/10 55/22 56/16 57/17 59/7 59/12 59/22 64/5 69/3 69/15 71/9 73/4 74/16 74/19 74/21 76/14 77/19 78/15 83/6 85/4 86/12 86/18 86/24 87/23 88/12 90/25 93/13 97/15 98/18 99/11 101/12 101/22 102/23 103/17 105/25 106/14 107/17 108/5 109/13 109/24 110/2 111/12 112/13 112/19 114/7 114/19 115/22 115/23 115/24 117/12 117/20 118/2 118/4 121/16 121/25 122/3 122/3 122/7 123/14 123/16 124/13 125/12 125/24 126/14 126/19 126/25 130/9 130/11 130/24 131/13 131/16 131/17 131/23 132/20 132/25 133/24 137/11 138/7 138/24 139/7 139/11 140/4 140/13 140/20 141/5 142/5 142/14 142/18 142/22 143/10 147/13 148/9 148/18 148/18 149/21 150/10 151/3 151/13 151/15 152/6 153/1 153/3 153/8 154/12 154/15 156/14 156/16 156/16 158/5 159/10 160/16 162/19 163/4 164/19 165/4 166/2 166/3	40/9 40/17 42/19 44/24 47/10 49/25 50/2 50/17 57/22 58/14 59/19 59/20 62/13 64/11 66/25 67/23 68/8 75/6 78/11 80/9 83/5 87/6 89/2 91/22 95/11 95/16 96/15 96/20 105/18 107/20 118/9 119/16 126/10 131/12 131/13 131/23 136/5 136/20 137/10 138/19 139/10 140/5 140/6 140/12 140/21 141/21 142/12 144/3 145/11 149/22 153/24 156/21 161/13 164/15 165/1 <b>can't</b> [2] 59/21 95/19 <b>Canadian</b> [2] 156/17 163/6 <b>cancer</b> [1] 48/6 <b>candidates</b> [1] 6/14 <b>cannot</b> [1] 85/22 <b>care</b> [1] 14/16 <b>careful</b> [1] 84/25 <b>carefully</b> [1] 62/21 <b>carinii</b> [3] 17/7 20/23 25/21 <b>Carr</b> [6] 121/1 121/8 142/19 147/14 149/22 150/24 <b>carries</b> [1] 111/25 <b>carry</b> [1] 82/9 <b>case</b> [32] 21/1 23/13 23/14 27/9 31/18 47/17 49/22 49/23 52/18 52/19 52/21 52/25 53/2 61/6 64/4 76/16 77/9 78/15 78/25 83/18 96/4 96/16 97/25 133/24 133/24 141/11 141/12 154/12 154/12 156/14 156/14 165/17 <b>cases</b> [44] 16/2 17/11 18/3 18/14 18/24 19/1 20/2 20/23 21/23 22/14 33/9 41/4 41/5 41/15 41/16 48/7 49/21 50/23 51/5 52/5 52/15 53/5 53/6 56/1 64/1 66/13 76/15 76/18 78/17 79/18 87/12 88/9 94/1 95/23 96/1 97/9 97/24 97/25 110/5 115/21 131/6 133/8 151/4 151/14 <b>categories</b> [1] 96/7 <b>category</b> [1] 111/9 <b>caught</b> [1] 39/5 <b>causative</b> [3] 6/9	22/24 86/2 <b>cause</b> [11] 17/5 18/6 28/10 31/20 31/20 44/15 66/17 67/8 62/13 64/11 66/25 <b>caused</b> [10] 27/11 31/16 31/20 32/1 65/10 77/19 79/19 86/4 88/12 120/1 <b>causes</b> [3] 22/20 24/15 62/6 <b>causing</b> [2] 6/6 33/20 <b>caveat</b> [1] 41/11 <b>caveats</b> [1] 3/18 <b>CBLA0000011</b> [1] 21/8 <b>CBLA0000056</b> [1] 156/20 <b>CDC</b> [79] 10/25 11/3 13/5 13/5 13/9 15/7 15/18 15/21 16/23 16/25 17/5 17/8 17/12 17/13 17/23 17/23 18/20 18/23 20/4 20/7 20/10 23/5 25/23 25/25 28/18 30/22 32/17 35/20 37/20 38/15 46/12 48/14 48/16 49/11 49/20 52/1 55/2 63/17 63/21 64/7 73/14 73/15 74/8 74/18 74/22 76/6 78/2 80/5 83/1 83/7 84/4 84/12 85/10 85/21 85/23 86/8 86/11 86/12 87/1 88/6 90/11 90/20 96/16 100/16 101/22 102/10 115/22 115/25 117/16 118/6 121/21 121/24 122/2 122/4 122/12 142/25 143/22 151/4 151/15 <b>CDC's</b> [11] 17/3 47/8 53/3 76/22 78/14 78/25 85/17 86/14 86/16 92/24 97/8 <b>cease</b> [4] 99/7 106/8 107/10 114/16 <b>ceased</b> [2] 116/13 141/8 <b>cell</b> [4] 29/24 51/22 104/20 104/24 <b>cent</b> [42] 20/25 37/13 71/7 78/17 78/19 79/3 79/3 79/5 79/17 79/21 80/9 80/12 80/15 81/12 94/5 94/6 94/9 94/10 94/11 94/11 94/13 94/13 94/22 94/22 95/3 95/5 95/7 95/7 95/11 95/21 95/22 97/8 97/12	101/18 101/22 104/19 104/23 108/15 114/11 119/9 136/13 140/15 <b>center</b> [4] 9/22 10/23 18/1 97/15 <b>centered</b> [1] 157/6 <b>centers</b> [12] 10/20 10/24 11/7 11/18 12/21 38/10 66/11 89/10 89/14 99/14 106/9 107/11 <b>central</b> [1] 15/9 <b>centre</b> [9] 26/10 65/22 68/3 80/10 101/11 110/11 114/20 128/5 138/12 <b>centres</b> [41] 5/13 5/15 5/25 7/2 10/18 12/15 12/16 29/15 37/12 37/15 39/17 46/25 65/5 65/5 65/7 65/8 68/20 68/24 76/9 78/22 79/9 101/24 105/14 111/2 112/14 112/16 113/20 114/2 114/13 122/25 123/4 123/23 134/20 138/2 138/3 138/7 138/14 138/24 141/10 147/18 147/20 <b>century</b> [1] 15/11 <b>certain</b> [6] 31/11 66/21 88/5 131/13 132/20 134/6 <b>certainly</b> [8] 23/15 42/16 60/17 61/3 96/11 107/6 111/24 125/23 <b>cetera</b> [1] 155/16 <b>CGRA0000231</b> [1] 148/19 <b>CGRA0000242</b> [1] 16/7 <b>CGRA0000267</b> [1] 142/13 <b>CGRA0000300</b> [1] 87/17 <b>CGRA0000347</b> [1] 118/11 <b>CGRA0000425</b> [1] 57/21 <b>CGRA0000598</b> [1] 149/23 <b>CGRA0000627</b> [1] 65/19 <b>CGRA0000652</b> [1] 42/24 <b>CGRA0000668</b> [1] 19/9 <b>chair</b> [3] 74/23 109/2 109/8 <b>chaired</b> [1] 74/21	<b>chairman</b> [5] 117/20 118/13 135/4 160/1 160/2 <b>Chairman's</b> [1] 159/16 <b>chairperson</b> [1] 88/21 <b>challenge</b> [2] 144/7 148/14 <b>championing</b> [1] 63/12 <b>change</b> [8] 13/16 17/5 18/20 84/18 114/3 122/13 123/18 164/6 <b>changed</b> [2] 12/6 27/22 <b>changes</b> [6] 48/12 51/24 55/18 55/22 64/12 98/9 <b>changing</b> [2] 35/1 134/20 <b>characteristics</b> [2] 30/25 154/23 <b>charged</b> [2] 9/17 17/9 <b>charitable</b> [1] 10/8 <b>checking</b> [1] 56/17 <b>checks</b> [1] 132/23 <b>chemical</b> [1] 29/7 <b>child</b> [2] 52/16 63/23 <b>children</b> [3] 47/18 72/16 134/15 <b>chosen</b> [2] 74/23 145/8 <b>chronological</b> [3] 7/25 14/23 46/19 <b>chronologically</b> [2] 4/21 4/23 <b>chronology</b> [2] 14/24 23/11 <b>circular</b> [2] 18/2 18/11 <b>circulated</b> [1] 61/3 <b>circulating</b> [1] 93/3 <b>circumstance</b> [1] 133/15 <b>circumstances</b> [2] 88/22 159/15 <b>cited</b> [4] 1/21 26/12 39/18 156/5 <b>cites</b> [2] 83/24 125/7 <b>cities</b> [5] 6/1 6/3 6/3 34/14 37/16 <b>City</b> [2] 26/8 118/20 <b>claimed</b> [2] 7/19 7/23 <b>clear</b> [18] 23/17 40/12 42/5 42/16 46/20 46/22 59/2 61/7 68/1 68/10 70/13 81/25 106/11 112/8 116/13 117/13 150/7 155/6 <b>clearest</b> [1] 81/19 <b>clearly</b> [6] 41/13 52/9 81/24 85/16 118/25 122/11	<b>clinical</b> [3] 6/12 14/16 127/12 <b>clinical markers</b> [1] 6/12 <b>clinician</b> [1] 28/14 <b>clinicians</b> [4] 14/14 100/17 109/15 113/23 <b>clip</b> [2] 91/11 92/6 <b>close</b> [1] 154/11 <b>closed</b> [7] 112/13 114/25 115/3 115/6 115/14 115/19 117/7 <b>closely</b> [3] 19/23 20/14 164/13 <b>clotting</b> [1] 35/9 <b>Clyde</b> [1] 69/24 <b>Coagulant</b> [2] 127/20 128/3 <b>coagulants</b> [1] 140/24 <b>coagulation</b> [10] 51/3 89/12 89/19 107/16 127/25 137/20 139/3 143/25 158/18 159/24 <b>coasts</b> [1] 34/15 <b>cohort</b> [4] 55/1 80/5 80/15 80/20 <b>colleagues</b> [5] 17/16 64/7 78/16 83/7 89/5 <b>collect</b> [3] 10/18 38/11 141/8 <b>collected</b> [23] 37/13 61/23 61/25 62/22 89/9 89/17 89/21 97/2 97/17 99/8 103/25 116/9 121/16 123/8 125/17 138/2 138/11 138/20 139/5 141/18 152/22 159/5 161/23 <b>collecting</b> [4] 99/7 105/14 118/17 119/1 <b>collection</b> [17] 12/19 35/13 37/11 37/25 39/16 89/8 89/11 93/14 96/25 97/16 99/1 138/2 138/7 138/12 138/14 138/24 141/9 <b>collectors</b> [1] 10/13 <b>collegiate</b> [1] 35/23 <b>column</b> [7] 33/3 33/15 83/12 92/21 93/20 93/22 93/24 <b>columns</b> [1] 33/19 <b>combined</b> [1] 68/9 <b>come</b> [20] 4/18 7/22 9/12 24/5 29/13 41/24 52/18 57/3 57/12 57/18 79/12 80/25 81/9 81/15 81/20 83/3 108/11 124/14 148/15 155/3 <b>comes</b> [6] 11/19
---	--	--	---	---	--

(47) by... - comes

F:

<b>C</b>	<b>companies:</b> [1] 1/16 <b>companies:</b> Alpha [1] 1/16 <b>company</b> [23] 2/10 39/7 56/18 57/2 64/16 64/16 69/21 70/18 74/2 91/15 113/19 128/15 134/2 134/3 134/10 134/17 134/18 135/5 137/20 138/22 139/8 140/13 152/4 <b>company's</b> [3] 113/8 144/23 154/11 <b>compared</b> [4] 51/23 78/19 79/21 93/4 <b>comparing</b> [1] 80/4 <b>comparison</b> [1] 33/10 <b>compel</b> [1] 39/9 <b>compensate</b> [1] 107/1 <b>competitors</b> [1] 14/2 <b>complaint</b> [1] 147/3 <b>completely</b> [1] 58/24 <b>complex</b> [6] 83/22 127/19 127/20 128/3 128/7 155/7 <b>complexes</b> [1] 93/3 <b>Compliance</b> [1] 144/25 <b>complicated</b> [3] 109/2 130/24 133/9 <b>comply</b> [1] 141/16 <b>component</b> [1] 48/3 <b>comprised</b> [2] 9/18 70/15 <b>concentrate</b> [19] 27/10 27/25 29/2 29/9 29/11 29/12 35/11 105/19 107/9 107/11 120/14 120/21 124/25 125/2 132/16 154/19 156/4 157/21 159/3 <b>concentrates</b> [23] 7/20 35/9 36/15 42/14 51/1 51/15 51/23 56/4 67/22 70/4 71/1 72/14 72/20 73/21 77/12 104/20 105/2 106/19 107/17 128/25 137/21 139/4 162/20 <b>concept</b> [1] 102/4 <b>conceptual</b> [1] 104/1 <b>concern</b> [17] 18/8 22/16 32/14 52/4 54/9 56/5 61/15 62/14 98/3 99/20 101/14 124/1 130/18 135/9 135/15 155/1 155/17 <b>concerned</b> [9] 7/19 18/14 35/8 63/8 73/16 95/15 101/23 109/22 135/12 <b>concerning</b> [5] 35/17 130/23 133/13 133/16 133/19 <b>concerns</b> [11] 1/13 23/5 35/2 36/16 41/15 59/5 63/9 82/7 91/16 143/15 146/11 <b>concluded</b> [6] 46/3 55/10 68/23 71/4 71/10 159/16 <b>conclusion</b> [5] 30/24 36/19 71/17 125/8 161/25 <b>conclusions</b> [3] 30/13 50/8 131/2 <b>conclusive</b> [5] 44/13 44/14 44/16 72/11 105/4 <b>conclusively</b> [1] 58/9 <b>concrete</b> [1] 121/20 <b>condition</b> [7] 27/20 30/8 30/9 85/11 128/9 144/1 161/7 <b>conditions</b> [2] 48/6 159/5 <b>condoning</b> [1] 159/18 <b>conduct</b> [1] 50/14 <b>conducted</b> [2] 36/21 78/16 <b>conferences</b> [1] 48/10 <b>confidential</b> [1] 114/10 <b>confidentiality</b> [1] 47/21 <b>confidentially</b> [1] 114/8 <b>confirm</b> [2] 138/19 139/3 <b>confirmation</b> [1] 110/13 <b>confirmed</b> [1] 88/11 <b>confirms</b> [1] 87/9 <b>conformity</b> [1] 138/21 <b>confronted</b> [1] 155/6 <b>Confronting</b> [1] 33/4 <b>confusion</b> [1] 68/10 <b>congressional</b> [6] 45/18 163/15 164/4 164/15 165/9 165/10 <b>connect</b> [1] 120/19 <b>connected</b> [5] 10/16 15/23 25/12 28/15 51/12 <b>connection</b> [1] 95/25 <b>consensual</b> [1] 37/1 <b>consensus</b> [16] 31/22 32/2 32/25 35/17 59/6 73/8 73/11 73/23 77/14 77/18 85/14 100/24 101/3 109/6 156/10 162/22 <b>consequences</b> [2] 80/2 150/14 130/23 133/13 133/16 133/19 <b>consequent</b> [1] 36/16 <b>consider</b> [10] 4/17 4/17 16/21 25/19 40/5 62/20 109/19 118/8 159/18 162/2 <b>considerable</b> [4] 13/3 75/16 129/8 144/10 <b>considerably</b> [4] 27/22 73/15 74/3 123/4 <b>consideration</b> [3] 6/9 74/2 109/14 <b>considerations</b> [1] 40/16 <b>considered</b> [17] 1/10 8/23 70/9 73/2 74/9 74/24 85/18 90/11 100/4 112/10 121/23 121/25 145/3 150/3 154/12 157/9 161/25 <b>considering</b> [2] 20/6 59/13 <b>consistent</b> [3] 22/12 133/3 157/2 <b>consistently</b> [1] 56/15 <b>constantly</b> [1] 134/20 <b>constituted</b> [1] 61/24 <b>consultant</b> [1] 115/7 <b>consultation</b> [1] 154/11 <b>consulted</b> [1] 10/3 <b>contact</b> [2] 68/5 68/13 <b>contain</b> [1] 138/16 <b>contained</b> [8] 10/7 19/17 22/24 75/2 86/8 94/16 127/21 146/1 <b>containing</b> [2] 128/1 145/5 <b>contains</b> [3] 87/15 129/14 161/22 <b>contamination</b> [4] 157/7 157/11 158/2 158/4 <b>contemporaneous</b> [1] 54/16 <b>contention</b> [1] 104/4 <b>contentious</b> [2] 5/9 121/19 <b>contested</b> [1] 78/23 <b>context</b> [8] 2/7 86/10 86/20 87/2 115/12 161/4 163/21 164/9 <b>continuation</b> [1] 7/21 <b>continue</b> [12] 32/18 35/21 41/18 43/10 43/24 47/3 72/19 89/9 89/23 128/24 147/9 154/8 <b>continued</b> [3] 106/16 144/16 155/1 <b>continuing</b> [3] 55/13 67/2 159/14 <b>contract</b> [2] 12/16 112/16 <b>contracted</b> [5] 65/6 96/1 131/16 131/17 147/18 <b>contracting</b> [4] 18/19 68/24 76/25 77/4 <b>contraction</b> [1] 95/17 <b>contrast</b> [1] 113/25 <b>contributed</b> [3] 47/23 141/22 143/7 <b>contribution</b> [2] 154/1 155/3 <b>contributions</b> [1] 98/16 <b>contributors</b> [1] 88/25 <b>control</b> [11] 10/20 10/23 10/24 11/18 66/12 94/25 95/12 103/9 115/5 144/23 153/13 <b>controls</b> [3] 93/4 95/11 95/21 <b>controversial</b> [1] 74/11 <b>controversy</b> [2] 22/19 22/21 <b>convened</b> [3] 57/16 74/16 100/20 <b>convenient</b> [2] 46/10 136/24 <b>conversation</b> [1] 40/20 <b>convert</b> [1] 128/15 <b>convince</b> [1] 149/4 <b>convinced</b> [4] 17/18 58/23 64/8 112/19 <b>Cook</b> [1] 92/3 <b>coordinated</b> [1] 59/1 <b>copy</b> [1] 128/20 <b>copyright</b> [1] 91/16 <b>core</b> [29] 3/14 4/1 4/7 4/13 6/17 34/1 77/2 78/18 79/1 83/21 90/17 93/23 94/5 94/9 94/11 94/13 94/21 95/4 95/13 96/3 97/6 97/10 97/14 98/4 98/7 98/11 98/21 101/15 121/7 <b>core antigen</b> [1] 96/3 <b>corner</b> [2] 59/20 137/11 <b>corollary</b> [1] 144/20 <b>Corporation</b> [1] 152/3 <b>correct</b> [6] 11/9 116/11 118/21 118/23 131/19 145/13 <b>corrected</b> [1] 16/13 <b>correction</b> [1] 20/17 <b>correlation</b> [3] 80/13 95/8 96/2 <b>correlations</b> [1] 98/20 <b>correspondence</b> [1] 42/6 <b>cost</b> [11] 71/20 71/23 81/1 82/3 82/11 82/25 90/1 97/1 97/20 119/17 150/14 <b>costly</b> [2] 98/1 107/6 <b>costs</b> [11] 60/16 71/18 71/21 71/25 72/2 97/20 97/23 97/23 98/1 98/2 108/16 <b>could</b> [86] 6/10 7/10 19/8 21/6 21/11 22/1 22/8 25/6 32/23 33/1 33/20 34/6 34/21 35/4 38/6 39/5 42/1 42/23 47/12 57/20 58/2 58/12 58/15 63/3 63/16 65/18 66/1 67/20 69/19 75/17 76/14 79/12 80/24 81/5 83/9 83/11 83/25 87/16 88/4 88/23 92/11 92/14 92/18 92/20 92/20 93/11 96/17 97/18 101/2 102/15 105/16 105/18 106/14 106/23 108/18 110/16 114/8 119/11 119/12 119/13 121/23 125/9 126/21 127/1 130/14 137/9 139/24 140/11 140/18 143/11 145/9 148/19 148/22 149/25 150/11 151/18 151/19 152/2 152/19 152/23 153/9 154/6 156/19 156/23 160/5 161/12 <b>couldn't</b> [1] 86/5 <b>Council</b> [2] 12/21 99/13 <b>counsel</b> [7] 1/3 42/12 46/21 115/7 116/10 125/5 166/2 <b>countries</b> [5] 130/20 132/18 137/24 138/6 138/7 <b>country</b> [5] 37/14 37/16 66/13 106/13 137/24 <b>couple</b> [6] 45/2 65/17 85/25 120/5 124/24 159/25 <b>course</b> [15] 2/21 16/12 24/22 25/2 49/1 68/16 79/16 86/5 91/25 98/19 100/18 110/21 111/22 117/4 133/9
----------	---

(48) comes... - course

F:



<p><b>C</b></p> <p><b>cover</b> [1] 150/17</p> <p><b>coverage</b> [1] 2/18</p> <p><b>covering</b> [4] 49/7 50/19 51/8 65/19</p> <p><b>Craske</b> [6] 49/6 49/23 50/5 50/18 51/7 114/19</p> <p><b>create</b> [1] 5/19</p> <p><b>created</b> [2] 81/10 160/13</p> <p><b>criteria</b> [4] 86/1 107/12 107/13 151/16</p> <p><b>criterion</b> [1] 86/3</p> <p><b>criticised</b> [1] 117/18</p> <p><b>Cross</b> [10] 12/20 26/1 37/19 37/24 85/20 86/7 90/13 99/12 156/17 163/6</p> <p><b>cryo</b> [2] 63/12 71/11</p> <p><b>cryoprecipitate</b> [16] 27/25 28/23 51/24 55/8 70/25 71/7 71/9 71/19 72/11 77/11 104/25 107/8 107/14 109/15 109/18 132/16</p> <p><b>crystallised</b> [1] 22/16</p> <p><b>culpa</b> [1] 75/9</p> <p><b>Curran</b> [5] 15/21 16/24 28/18 30/6 49/12</p> <p><b>current</b> [6] 149/3 154/8 154/13 158/3 158/6 158/15</p> <p><b>currently</b> [1] 29/4</p> <p><b>customer</b> [1] 127/22</p> <p><b>customers</b> [3] 128/2 128/11 135/22</p> <p><b>cut</b> [1] 91/14</p> <p><b>cuts</b> [4] 86/10 119/3 119/10 119/20</p> <p><b>Cutter</b> [52] 1/17 1/18 12/6 39/16 40/2 40/5 40/19 42/21 42/25 46/8 57/17 58/1 59/23 60/13 60/14 61/1 61/1 61/3 61/4 61/18 62/11 62/14 82/10 82/22 82/23 87/14 89/3 89/8 90/2 90/5 99/4 101/13 104/13 112/25 113/7 113/14 113/15 117/3 130/1 130/9 130/13 133/5 133/11 133/20 139/16 141/17 142/18 148/18 149/14 152/4 154/2 154/4</p> <p><b>cutting</b> [1] 7/2</p> <p><b>CVHB0000042</b> [4] 32/23 47/11 83/9 92/19</p>	<p><b>D</b></p> <p><b>Dallas</b> [1] 120/9</p> <p><b>data</b> [25] 28/19 33/10 35/3 43/10 44/3 44/23 46/4 56/3 80/6 83/17 84/5 84/12 84/21 85/5 87/23 88/19 89/16 89/24 93/7 105/4 106/12 119/23 130/24 154/25 159/22</p> <p><b>date</b> [10] 16/1 16/6 16/14 20/18 57/22 128/21 137/12 138/11 139/8 139/10</p> <p><b>dated</b> [4] 87/18 130/13 161/14 162/25</p> <p><b>dates</b> [1] 16/3</p> <p><b>Dave</b> [1] 65/20</p> <p><b>David</b> [1] 119/3</p> <p><b>day</b> [14] 33/3 33/6 33/8 56/12 57/13 63/20 84/3 85/14 87/25 100/11 109/12 119/4 119/11 135/1</p> <p><b>days</b> [9] 5/24 18/12 18/23 28/6 55/24 57/23 98/23 120/5 161/11</p> <p><b>DDAVP</b> [1] 106/23</p> <p><b>deal</b> [6] 88/21 106/14 143/12 145/23 148/10 165/17</p> <p><b>dealing</b> [6] 43/13 65/12 89/10 112/20 130/22 153/6</p> <p><b>dealt</b> [1] 9/21</p> <p><b>Dear</b> [1] 66/8</p> <p><b>death</b> [3] 23/13 28/10 35/10</p> <p><b>deaths</b> [3] 86/23 87/12 151/5</p> <p><b>debate</b> [20] 6/8 13/13 23/1 55/15 73/17 74/12 74/25 78/12 81/24 82/24 83/4 141/22 142/3 142/8 142/9 147/8 163/21 164/12 165/6 165/15</p> <p><b>December</b> [20] 19/25 20/18 23/14 49/14 51/10 55/24 56/7 56/11 57/13 57/23 63/21 64/5 64/14 64/17 65/16 68/21 70/8 72/6 72/21 126/12</p> <p><b>December 10</b> [1] 19/25</p> <p><b>December 1982</b> [5] 64/17 68/21 70/8 72/6 72/21</p>	<p><b>decide</b> [1] 165/1</p> <p><b>decided</b> [2] 64/19 156/13</p> <p><b>deciding</b> [1] 163/14</p> <p><b>decipher</b> [1] 59/18</p> <p><b>decision</b> [12] 38/9 38/14 40/15 69/7 70/23 120/21 133/12 133/15 149/18 152/21 155/25 159/7</p> <p><b>decisions</b> [6] 36/6 43/8 44/21 154/10 159/1 160/19</p> <p><b>decrease</b> [1] 32/10</p> <p><b>decreased</b> [1] 28/7</p> <p><b>decreasing</b> [1] 51/14</p> <p><b>defeated</b> [1] 85/15</p> <p><b>defects</b> [1] 51/3</p> <p><b>defend</b> [1] 149/2</p> <p><b>defendable</b> [1] 148/12</p> <p><b>defer</b> [1] 102/4</p> <p><b>deferral</b> [1] 114/11</p> <p><b>deferred</b> [2] 65/25 68/6</p> <p><b>deficiency</b> [4] 30/16 35/14 66/11 117/10</p> <p><b>define</b> [1] 117/10</p> <p><b>defined</b> [1] 131/6</p> <p><b>definite</b> [5] 78/17 79/17 97/9 134/7 155/13</p> <p><b>definitely</b> [1] 156/4</p> <p><b>definition</b> [2] 30/22 162/9</p> <p><b>definitions</b> [1] 132/21</p> <p><b>definitive</b> [1] 134/1</p> <p><b>deflect</b> [1] 102/12</p> <p><b>deformities</b> [1] 35/10</p> <p><b>degree</b> [4] 3/22 144/2 157/24 162/2</p> <p><b>delay</b> [1] 119/19</p> <p><b>demand</b> [1] 98/7</p> <p><b>demonstrate</b> [1] 50/4</p> <p><b>demonstrated</b> [3] 29/24 58/10 158/11</p> <p><b>demonstrating</b> [1] 52/22</p> <p><b>denied</b> [1] 127/9</p> <p><b>Dennis</b> [1] 38/4</p> <p><b>department</b> [6] 8/25 9/2 9/10 26/8 126/17 133/1</p> <p><b>departs</b> [1] 7/24</p> <p><b>depend</b> [3] 67/1 85/22 133/16</p> <p><b>dependence</b> [1] 153/21</p> <p><b>depending</b> [1] 130/5</p> <p><b>depends</b> [2] 41/19 129/5</p> <p><b>deployment</b> [1] 8/10</p> <p><b>derivative</b> [2] 154/16</p>	<p>162/7</p> <p><b>derivatives</b> [2] 123/10 156/3</p> <p><b>derived</b> [3] 27/24 29/19 156/10</p> <p><b>Derrick</b> [3] 156/17 156/21 157/3</p> <p><b>described</b> [13] 49/9 53/7 64/18 70/12 75/24 76/16 92/7 94/18 113/11 115/7 115/15 153/3 156/25</p> <p><b>describes</b> [2] 52/20 109/9</p> <p><b>describing</b> [2] 92/9 92/22</p> <p><b>description</b> [3] 19/24 92/11 157/1</p> <p><b>Desforges</b> [1] 109/13</p> <p><b>designed</b> [1] 145/22</p> <p><b>desirability</b> [2] 77/21 77/25</p> <p><b>desirable</b> [1] 77/15</p> <p><b>desk</b> [1] 111/13</p> <p><b>deshmopressin</b> [1] 72/23</p> <p><b>destroyed</b> [2] 97/17 97/21</p> <p><b>destruction</b> [2] 82/5 162/1</p> <p><b>detail</b> [3] 32/7 107/22 161/1</p> <p><b>detailed</b> [2] 32/8 33/8</p> <p><b>details</b> [2] 113/13 135/7</p> <p><b>detecting</b> [1] 45/21</p> <p><b>determine</b> [5] 31/11 32/9 56/24 100/24 101/2</p> <p><b>determined</b> [2] 67/8 97/16</p> <p><b>develop</b> [10] 7/14 22/17 28/23 40/24 43/13 79/4 81/2 105/7 109/4 143/20</p> <p><b>developed</b> [17] 17/7 17/15 24/18 29/8 41/4 47/24 53/17 78/8 80/14 80/15 80/22 104/22 127/11 143/21 153/25 156/8 160/11</p> <p><b>developing</b> [6] 53/24 89/25 129/22 134/19 143/5 144/5</p> <p><b>development</b> [6] 8/9 16/8 28/3 32/19 106/17 159/19</p> <p><b>devoted</b> [1] 87/22</p> <p><b>DHHS</b> [2] 9/3 11/16</p> <p><b>DHSC0002229</b> [2] 137/10 139/23</p> <p><b>DHSC0002231</b> [1]</p>	<p>163/1</p> <p><b>DHSS</b> [12] 9/4 23/9 124/5 126/17 129/9 130/6 133/1 137/13 139/12 140/21 142/3 165/4</p> <p><b>diagnosed</b> [5] 72/17 94/24 120/12 125/4 127/6</p> <p><b>diagnosis</b> [5] 53/9 127/14 145/2 155/14 162/3</p> <p><b>diagnostic</b> [1] 21/4</p> <p><b>dialogue</b> [1] 109/10</p> <p><b>dictate</b> [1] 155/17</p> <p><b>did</b> [30] 2/22 13/16 17/23 21/15 26/14 34/25 35/5 38/17 38/25 39/8 50/8 51/13 55/17 57/4 57/5 65/15 81/1 88/22 90/19 99/4 113/21 118/1 122/8 122/13 123/19 123/20 132/8 138/22 154/24 160/25</p> <p><b>didn't</b> [6] 39/25 46/21 68/14 82/14 132/7 140/23</p> <p><b>died</b> [2] 23/16 64/2</p> <p><b>difference</b> [2] 53/22 54/13</p> <p><b>differences</b> [2] 36/22 40/9</p> <p><b>different</b> [16] 6/15 13/4 13/12 13/12 16/16 33/19 33/19 35/22 38/16 68/16 83/24 93/20 104/4 111/11 117/3 156/6</p> <p><b>differentiated</b> [1] 10/17</p> <p><b>difficult</b> [3] 47/1 88/17 159/7</p> <p><b>difficulties</b> [6] 56/25 57/8 88/15 130/22 151/11 158/19</p> <p><b>difficulty</b> [4] 13/7 42/1 145/6 146/16</p> <p><b>dilemma</b> [2] 107/7 132/17</p> <p><b>direct</b> [9] 76/23 82/5 98/1 100/5 105/25 111/13 111/25 112/10 139/15</p> <p><b>directed</b> [1] 88/10</p> <p><b>directive</b> [2] 24/8 138/21</p> <p><b>directives</b> [1] 139/6</p> <p><b>directly</b> [7] 56/4 57/6 59/14 65/1 68/4 68/15 112/2</p> <p><b>director</b> [9] 15/8</p>	<p>17/25 38/4 69/24 76/22 82/18 90/20 117/21 135/5</p> <p><b>Directors</b> [1] 114/20</p> <p><b>disabling</b> [3] 162/13 162/16 162/19</p> <p><b>disadvantages</b> [2] 73/1 96/24</p> <p><b>disagreement</b> [1] 13/3</p> <p><b>disappointed</b> [1] 32/21</p> <p><b>disapprove</b> [1] 38/9</p> <p><b>discarded</b> [1] 154/15</p> <p><b>discarding</b> [1] 154/8</p> <p><b>discern</b> [2] 50/2 53/12</p> <p><b>discerned</b> [1] 35/25</p> <p><b>disclaimed</b> [1] 157/25</p> <p><b>disclosed</b> [3] 1/20 60/2 60/3</p> <p><b>discontinuing</b> [1] 144/22</p> <p><b>discouraging</b> [3] 48/1 84/3 103/19</p> <p><b>discovered</b> [1] 125/3</p> <p><b>discrete</b> [1] 161/25</p> <p><b>discrimination</b> [2] 59/6 88/17</p> <p><b>discriminatory</b> [1] 77/6</p> <p><b>discuss</b> [10] 45/4 51/13 67/16 102/14 121/2 124/7 143/14 148/2 150/5 163/3</p> <p><b>discussed</b> [23] 5/17 6/14 45/20 49/16 51/11 51/19 51/21 55/6 62/10 76/15 103/22 107/25 108/22 114/21 116/1 120/8 133/7 141/24 144/21 147/24 150/19 150/25 163/12</p> <p><b>discusses</b> [1] 45/7</p> <p><b>discussing</b> [3] 19/21 32/24 148/22</p> <p><b>discussion</b> [33] 26/22 46/1 62/15 63/2 70/24 71/16 71/18 72/4 81/19 84/5 96/14 98/15 102/25 103/20 107/22 114/19 115/10 115/18 115/21 115/22 117/15 118/13 120/15 149/13 151/15 151/21 153/25 157/4 157/5 158/9 160/9 160/12 161/4</p> <p><b>discussions</b> [2] 20/7 144/10</p> <p><b>disease</b> [31] 10/20 10/23 10/24 11/18</p>
---	--	---	--	---	--

(49) cover - disease

F:



<b>D</b>	63/15 66/5 68/2 68/9 78/9 86/9 87/19 88/23 107/18 109/16 111/15 111/15 111/16 112/4 134/24 136/21 137/13 139/25 140/16 141/3 142/12 146/2 146/14 149/23 153/24 161/2 161/2 164/16 <b>documentary</b> [1] 92/8 <b>documentation</b> [5] 3/4 15/13 39/24 47/5 47/5 <b>documented</b> [1] 66/12 <b>documents</b> [36] 1/17 1/21 2/1 2/14 3/5 3/12 3/16 3/23 3/25 4/14 9/9 9/23 10/6 11/3 11/20 12/3 13/15 23/3 26/24 40/13 42/17 47/2 65/10 65/17 66/2 67/23 67/25 69/10 78/11 78/25 117/2 129/14 130/3 133/6 137/14 146/6 <b>does</b> [13] 42/15 44/11 48/18 58/11 79/24 91/19 116/21 134/9 134/12 137/20 143/24 158/7 160/12 <b>doesn't</b> [11] 2/17 4/9 31/23 60/5 80/17 80/19 92/1 109/21 116/19 116/23 164/14 <b>doing</b> [7] 72/15 112/8 113/24 114/1 132/19 149/5 150/5 <b>dollars</b> [1] 119/18 <b>dollars'</b> [1] 35/1 <b>dominant</b> [1] 2/23 <b>Don</b> [2] 78/15 121/19 <b>don't</b> [27] 3/4 3/9 8/20 12/7 23/13 49/25 59/19 59/23 60/1 60/1 71/16 80/3 81/13 93/15 117/4 119/6 119/7 119/23 120/1 120/2 124/17 130/2 132/1 134/4 161/1 164/19 165/12 <b>Donald</b> [2] 76/21 90/16 <b>donate</b> [2] 41/25 67/10 <b>donated</b> [2] 45/22 50/25 <b>donating</b> [5] 68/6 69/12 101/24 101/25 127/9 <b>donation</b> [6] 48/2 80/10 111/20 127/11	145/24 162/4 <b>donation'</b> [1] 159/9 <b>donations</b> [24] 5/3 7/16 13/24 48/1 57/10 62/17 66/24 71/6 71/9 71/22 77/1 77/20 79/25 82/12 90/7 95/16 108/16 114/16 120/9 121/16 126/14 144/3 145/22 152/18 <b>done</b> [18] 2/18 7/15 22/7 42/9 65/17 70/10 70/20 86/6 88/13 96/20 100/22 100/23 109/7 110/2 142/8 147/14 160/7 160/8 <b>Donohue</b> [29] 38/4 38/6 38/17 39/12 39/15 40/11 40/21 40/21 57/16 58/4 58/11 58/15 61/22 62/3 62/7 62/17 63/19 100/17 102/6 116/2 117/4 117/7 119/25 142/25 149/2 149/7 149/10 161/9 161/15 <b>Donohue's</b> [2] 40/25 162/22 <b>donor</b> [77] 3/3 5/2 7/1 7/9 7/13 7/17 13/14 13/14 13/24 34/19 37/8 37/22 42/22 47/21 47/22 57/2 57/3 63/12 66/8 68/1 68/4 68/15 70/12 78/1 83/20 89/22 96/22 100/3 102/17 103/5 106/9 106/25 107/23 108/1 108/21 110/20 111/5 111/14 111/16 113/12 114/4 116/5 117/16 120/9 120/12 120/16 120/20 120/22 121/4 123/14 125/4 126/24 127/7 131/20 133/13 142/7 143/6 143/17 144/12 144/14 144/15 144/17 146/24 149/8 149/10 149/16 150/12 152/5 152/17 152/18 152/20 155/13 156/12 157/15 158/22 160/11 161/23 <b>Donor'</b> [1] 89/6 <b>donor's</b> [7] 100/5 127/16 127/22 128/1 128/8 128/9 145/3 <b>donors</b> [98] 5/6 5/10 5/16 29/13 29/13 29/15 29/19 34/14 35/17 36/12 38/20 40/23 41/6 41/20	46/23 47/25 51/20 55/10 56/14 56/20 56/24 57/1 57/5 59/3 59/14 59/15 62/2 62/19 63/10 64/22 64/23 64/25 65/24 65/25 66/6 68/21 69/2 69/3 69/12 69/16 69/19 73/22 73/24 76/24 77/15 78/20 78/21 78/22 79/7 79/22 79/24 80/4 80/4 80/5 80/10 80/12 80/25 81/1 83/23 93/8 96/7 97/3 97/11 97/13 99/24 101/19 101/23 101/23 105/23 106/15 106/23 110/9 110/11 110/13 111/7 113/1 113/7 113/15 114/7 114/12 117/10 122/5 123/1 123/2 123/6 123/7 123/9 127/6 129/19 129/22 132/20 132/23 133/2 134/18 149/6 152/8 153/9 154/9 <b>Dorothea</b> [1] 117/23 <b>double</b> [1] 146/25 <b>doubling</b> [1] 52/3 <b>doubt</b> [1] 19/8 <b>down</b> [18] 7/2 12/22 26/21 33/5 44/24 47/12 58/3 61/21 63/16 65/13 67/24 77/23 91/20 91/22 92/21 121/4 141/21 143/11 <b>Dr</b> [232] <b>Dr Aledort</b> [1] 157/23 <b>Dr Aledort's</b> [1] 155/3 <b>Dr Aronson</b> [2] 119/10 120/1 <b>Dr Ashworth</b> [1] 130/15 <b>Dr Ashworth's</b> [1] 135/3 <b>Dr Bloom's</b> [1] 135/9 <b>Dr Bove</b> [6] 118/13 119/5 119/12 119/23 120/2 160/3 <b>Dr Bruce</b> [1] 14/25 <b>Dr Carr</b> [4] 121/1 121/8 142/19 150/24 <b>Dr Clyde</b> [1] 69/24 <b>Dr Craske</b> [5] 49/6 50/5 50/18 51/7 114/19 <b>Dr Curran</b> [4] 16/24 28/18 30/6 49/12 <b>Dr David</b> [1] 119/3 <b>Dr Dennis Donohue</b> [1] 38/4	<b>Dr Derrick</b> [2] 156/21 157/3 <b>Dr Don</b> [1] 78/15 <b>Dr Donald</b> [1] 76/21 <b>Dr Donohue</b> [19] 38/6 38/17 39/12 39/15 40/11 40/21 40/21 57/16 58/4 58/15 100/17 102/6 116/2 117/4 117/7 119/25 142/25 161/9 161/15 <b>Dr Donohue's</b> [2] 40/25 162/22 <b>Dr Duncan</b> [1] 115/4 <b>Dr Duncan Thomas</b> [1] 163/24 <b>Dr Edward Brandt</b> [1] 74/17 <b>Dr Edward Brandt Jr</b> [1] 9/8 <b>Dr Eibl</b> [1] 100/13 <b>Dr Evatt</b> [38] 15/7 15/16 16/24 17/16 17/22 26/13 28/18 30/6 30/18 32/16 32/21 33/1 34/3 34/22 38/15 47/15 48/18 49/12 49/20 50/6 52/1 52/9 52/20 53/3 53/13 64/3 76/13 83/6 83/14 92/22 96/11 100/16 117/13 121/24 122/1 122/6 122/10 151/12 <b>Dr Evatt's</b> [6] 17/1 35/22 47/8 54/17 81/23 92/19 <b>Dr Fauci</b> [1] 11/25 <b>Dr Fowler</b> [7] 130/14 133/7 163/1 164/3 165/4 165/8 165/10 <b>Dr Fowler recorded</b> [1] 162/24 <b>Dr Fowler referred</b> [1] 164/5 <b>Dr Fowler wrote</b> [1] 129/17 <b>Dr Fowler's</b> [2] 130/17 133/21 <b>Dr Francis</b> [7] 87/8 87/8 91/1 91/12 92/10 92/16 117/13 <b>Dr Gerald</b> [1] 90/12 <b>Dr Gerety</b> [1] 82/18 <b>Dr Hershberger</b> [4] 40/19 40/19 43/1 43/3 <b>Dr Hink</b> [3] 82/22 88/24 89/5 <b>Dr Hink's</b> [3] 87/20 89/2 90/4 <b>Dr James</b> [1] 15/21 <b>Dr Jane</b> [1] 109/13 <b>Dr JB Derrick</b> [1] 156/17	<b>Dr Jeffrey Koplan</b> [1] 74/21 <b>Dr JN</b> [1] 130/11 <b>Dr Joseph Bove</b> [1] 117/20 <b>Dr Joseph Smith</b> [1] 124/4 <b>Dr Keith</b> [1] 124/5 <b>Dr Kingdon</b> [7] 7/6 19/12 19/16 19/21 22/2 22/10 112/18 <b>Dr Kingdon's</b> [3] 21/9 23/2 24/14 <b>Dr Koplan</b> [1] 74/22 <b>Dr L Aledort</b> [1] 157/18 <b>Dr Louis</b> [3] 28/13 119/20 154/17 <b>Dr McAuley</b> [1] 121/8 <b>Dr Meyer</b> [2] 26/14 163/4 <b>Dr Meyer's</b> [1] 24/8 <b>Dr Michael</b> [1] 151/24 <b>Dr Mike</b> [1] 26/15 <b>Dr Ojala</b> [12] 57/19 101/12 101/13 103/17 104/12 108/8 142/19 148/18 148/20 148/24 154/9 157/1 <b>Dr Ojala's</b> [2] 102/2 104/8 <b>Dr Oscar Ratnoff</b> [1] 77/9 <b>Dr Penny</b> [1] 149/22 <b>Dr Petricciani</b> [9] 122/17 142/24 146/20 147/9 150/1 150/2 151/10 161/9 161/11 <b>Dr Robert Gerety</b> [1] 82/14 <b>Dr Rodell</b> [18] 20/8 26/15 37/3 38/3 38/13 40/3 40/14 56/12 56/15 57/7 59/9 101/17 142/20 142/21 152/5 153/8 154/1 157/1 <b>Dr Rodell's</b> [6] 28/12 28/17 30/5 37/18 38/7 153/25 <b>Dr Sandler</b> [1] 37/18 <b>Dr Steven</b> [3] 57/17 154/2 154/4 <b>Dr Thomas</b> [1] 115/8 <b>Dr Walford</b> [5] 129/10 137/6 137/11 139/11 140/4 <b>Dr Walford's</b> [1] 153/18 <b>Dr William Miller</b> [1] 160/3
----------	--	---	---	--	---

(50) disease... - Dr William Miller

F:

<b>D</b>	150/21	<b>empathy [1]</b> 88/21	10/9	42/15 54/22 58/10	75/17 93/11 127/1
	<b>economics [1]</b> 103/18	<b>emphasis [2]</b> 36/14	<b>estimate [3]</b> 71/21	64/10 64/11 72/11	<b>expect [1]</b> 80/9
<b>Dr William O'Connor [1]</b> 92/7	<b>ed [1]</b> 85/24	43/21	71/24 152/25	74/23 76/13 82/6	<b>expedient [4]</b> 38/9
<b>draft [5]</b> 19/15 19/16	<b>editorial [2]</b> 109/13	<b>emphasized [1]</b> 162/7	<b>estimated [3]</b> 71/19	83/17 84/21 90/24	38/14 43/7 44/21
22/11 112/17 122/4	109/21	<b>employ [1]</b> 133/6	82/11 152/15	95/24 99/17 104/16	<b>expedite [1]</b> 106/16
<b>drafted [1]</b> 36/23	<b>educate [2]</b> 58/20	<b>employed [1]</b> 103/5	<b>estimates [1]</b> 152/17	112/19 118/2 121/14	<b>expeditiously [1]</b>
<b>dramatic [2]</b> 113/3	61/8	<b>employee [1]</b> 104/13	<b>et [1]</b> 155/16	125/25 129/12 149/9	128/18
119/7	<b>educating [1]</b> 73/24	<b>employees [1]</b> 76/6	<b>eternal [1]</b> 32/14	153/18	<b>expense [3]</b> 82/4
<b>draw [6]</b> 2/5 14/23	<b>education [4]</b> 57/3	<b>empt [1]</b> 100/10	<b>etiological [2]</b> 33/11	<b>evidenced [1]</b> 87/25	96/24 97/22
49/13 90/24 106/9	59/6 110/11 152/6	<b>encourage [1]</b> 65/8	131/10	<b>evident [2]</b> 13/13	<b>expensive [1]</b> 77/9
125/8	<b>educational [3]</b> 28/5	<b>encouraged [3]</b> 32/18	<b>etiology [3]</b> 31/1 31/8	73/11	<b>experienced [1]</b> 59/8
<b>drawing [3]</b> 52/9 55/2	58/25 89/7	35/21 64/24	62/8	<b>ex [1]</b> 135/25	<b>expertise [1]</b> 102/11
122/23	<b>educational-voluntary [1]</b> 89/7	<b>end [8]</b> 41/10 46/2	<b>euphemistically [1]</b>	<b>exact [2]</b> 81/4 93/15	<b>experts [3]</b> 48/11
<b>drawn [7]</b> 3/5 10/7	<b>Edward [2]</b> 9/8 74/17	73/3 73/4 81/10 85/14	36/12	<b>exactly [2]</b> 34/4 147/5	87/23 88/1
50/8 81/5 96/21	<b>effect [7]</b> 14/15 29/10	99/1 160/1	<b>Europe [4]</b> 127/23	<b>examination [5]</b> 111/9	<b>explain [5]</b> 8/20 22/21
110/17 149/10	39/8 87/11 95/17	<b>endangered [1]</b> 131/4	128/12 148/25 153/19	113/1 113/5 113/6	34/6 50/22 107/21
<b>drew [3]</b> 15/12 80/6	108/5 162/5	<b>endorsed [1]</b> 77/13	<b>European [2]</b> 128/15	146/25	<b>explained [2]</b> 105/6
121/24	<b>effective [3]</b> 68/17	<b>engaged [1]</b> 136/4	141/12	<b>examinations [1]</b>	107/23
<b>Drink [1]</b> 9/15	96/23 103/6	<b>England [3]</b> 20/1	<b>evaluate [1]</b> 89/24	132/22	<b>explains [1]</b> 21/19
<b>driven [1]</b> 44/22	<b>effectively [1]</b> 126/5	104/18 109/12	<b>evaluation [3]</b> 106/5	<b>examine [1]</b> 123/2	<b>explanations [1]</b> 47/4
<b>drug [20]</b> 5/6 17/10	<b>effectiveness [1]</b> 90/2	<b>enhanced [4]</b> 65/15	106/21 107/3	<b>example [6]</b> 83/21	<b>explore [1]</b> 58/6
17/11 27/3 30/11 31/3	<b>effects [2]</b> 35/4 36/15	135/20 136/9 160/14	<b>Evatt [39]</b> 14/25 15/7	88/3 97/5 103/4	<b>explored [1]</b> 142/2
33/16 33/23 48/23	<b>effort [3]</b> 38/19 58/19	<b>enigmatic [1]</b> 130/19	15/16 16/24 17/16	149/15 150/11	<b>exponential [2]</b> 21/2
51/20 56/16 58/21	107/8	<b>enough [6]</b> 155/17	17/22 26/13 28/18	<b>examples [2]</b> 131/1	52/3
59/4 61/14 66/22	<b>efforts [4]</b> 42/13	155/17 159/1 160/17	30/6 30/18 32/16	148/8	<b>export [1]</b> 135/16
67/12 76/7 78/3 94/8	105/22 106/16 107/15	160/19 160/22	32/21 33/1 34/3 34/22	<b>exceeds [2]</b> 162/13	<b>exported [1]</b> 135/25
106/3	<b>eg [2]</b> 138/17 155/15	<b>ensure [2]</b> 66/25	38/15 47/15 48/18	162/20	<b>exporting [1]</b> 135/12
<b>Drugs [3]</b> 9/22 18/1	<b>Eibl [1]</b> 100/13	145/22	49/12 49/20 50/6 52/1	<b>exception [1]</b> 141/7	<b>exposed [3]</b> 71/5 71/8
128/5	<b>eight [8]</b> 37/11 52/13	<b>entered [1]</b> 31/4	52/9 52/20 53/3 53/13	<b>exchange [2]</b> 118/9	77/3
<b>dual [1]</b> 148/16	84/17 103/7 103/8	<b>entering [1]</b> 109/9	64/3 76/13 83/6 83/14	158/5	<b>exposure [2]</b> 29/18
<b>due [6]</b> 49/1 79/16	103/8 103/14 103/15	<b>enthusiastic [1]</b> 102/7	92/22 96/11 100/16	<b>exclude [15]</b> 38/19	58/13
91/14 91/25 98/19	<b>either [8]</b> 5/7 27/23	<b>entire [2]</b> 153/9	117/13 121/24 122/1	56/16 58/16 58/22	<b>expressed [17]</b> 11/11
107/1	49/12 61/5 128/11	153/12	122/6 122/10 151/12	61/23 62/3 64/24	34/9 35/2 36/20 38/1
<b>dumping [3]</b> 135/10	132/16 157/22 160/19	<b>entirely [2]</b> 43/23 81/7	<b>Evatt's [6]</b> 17/1 35/22	77/15 83/22 89/9	40/4 52/4 63/10 86/16
135/16 136/5	<b>elected [1]</b> 112/15	<b>entitled [2]</b> 14/25	47/8 54/17 81/23	89/18 89/21 101/18	98/3 108/1 108/3
<b>Duncan [2]</b> 115/4	<b>elective [1]</b> 73/2	93/12	92/19	105/22 131/20	118/4 135/15 146/7
163/24	<b>electronic [8]</b> 21/12	<b>entrants [1]</b> 27/3	<b>even [11]</b> 7/21 11/11	<b>excluded [9]</b> 65/3	155/18 156/2
<b>during [4]</b> 87/11	47/11 75/7 75/8 75/11	<b>entries [1]</b> 60/7	13/9 13/21 21/3 32/1	69/12 69/14 69/19	<b>expressing [2]</b> 34/7
121/14 129/17 145/16	75/14 105/17 161/13	<b>environment [1]</b>	40/5 59/21 69/13 71/6	83/20 95/16 97/10	82/20
<b>E</b>	<b>element [1]</b> 54/21	109/25	80/25	111/19 144/13	<b>expressive [1]</b> 130/18
	<b>elements [1]</b> 13/5	<b>epidemic [4]</b> 52/2	<b>event [1]</b> 74/11	<b>excluding [5]</b> 55/10	<b>extensive [2]</b> 15/13
<b>each [17]</b> 33/12 74/20	<b>elicit [1]</b> 99/24	84/4 85/21 118/24	<b>events [6]</b> 3/2 15/10	56/14 80/25 106/14	162/11
78/4 84/8 97/3 97/21	<b>eligible [2]</b> 67/15	<b>epidemiologic [1]</b>	19/20 45/2 74/4	126/13	<b>extent [4]</b> 73/9 81/11
97/25 115/14 115/15	67/16	106/11	117/19	<b>exclusion [10]</b> 5/10	133/3 159/23
137/22 138/10 138/12	<b>eliminate [1]</b> 32/10	<b>epidemiological [2]</b>	<b>eventuality [1]</b> 143/20	13/14 34/16 57/3 89/7	<b>external [1]</b> 75/11
141/11 141/15 152/6	<b>eliminating [1]</b> 96/23	53/10 64/10	<b>eventually [1]</b> 124/8	96/7 108/2 108/15	<b>extract [1]</b> 164/8
154/10 156/11	<b>else [2]</b> 42/3 120/18	<b>epidemiology [4]</b>	<b>ever [4]</b> 68/4 68/13	114/11 122/5	<b>extraordinary [1]</b>
<b>earlier [16]</b> 1/11 15/11	<b>elsewhere [3]</b> 135/10	49/10 98/9 112/21	111/14 119/7	<b>executive [2]</b> 64/17	89/13
43/15 46/21 50/12	142/2 153/5	151/12	<b>every [4]</b> 22/4 52/3	70/7	<b>extremely [2]</b> 43/4
52/9 84/10 104/21	<b>elusive [1]</b> 131/20	<b>equally [1]</b> 41/22	119/4 119/11	<b>exercise [1]</b> 106/24	92/25
111/4 133/7 136/7	<b>embarrass [1]</b> 47/25	<b>equipment [1]</b> 71/25	<b>everybody [3]</b> 1/22	<b>exhaustive [1]</b> 4/9	<b>F</b>
139/8 140/6 147/16	<b>embarrassment [1]</b>	<b>equivalent [4]</b> 9/3	31/23 118/23	<b>exhibit [1]</b> 59/21	
158/5 160/4	157/24	12/23 12/24 123/15	<b>everyone [4]</b> 58/23	<b>exist [3]</b> 42/16 58/11	<b>face [3]</b> 42/16 132/17
<b>early [4]</b> 35/10 108/25	<b>emerge [2]</b> 5/1 144/11	<b>erroneous [1]</b> 130/25	103/2 117/8 117/12	114/16	159/10
111/6 152/7	<b>emerged [2]</b> 6/22	<b>essence [1]</b> 64/20	<b>everything [1]</b> 91/22	<b>existence [2]</b> 37/11	<b>faced [1]</b> 66/24
<b>easier [2]</b> 91/1 137/16	84/22	<b>essential [2]</b> 150/3	130/18	85/22	<b>facilities [3]</b> 89/8
<b>easily [1]</b> 152/19	<b>emerges [2]</b> 6/5 13/1	162/6	<b>evidence [36]</b> 2/9	<b>existential [1]</b> 142/9	89/11 128/16
<b>east [1]</b> 34/14	<b>emerging [2]</b> 1/14	<b>essentially [1]</b> 84/9	4/18 7/6 8/24 19/3	<b>existing [2]</b> 27/11	<b>fact [7]</b> 14/4 22/22
<b>economic [3]</b> 150/8	74/24	<b>establish [1]</b> 27/16	19/12 22/12 23/2	42/9	24/17 35/20 52/10
150/13 151/2	<b>emotional [2]</b> 89/16	<b>established [2]</b> 15/18	24/16 29/22 34/11	<b>exists [4]</b> 27/4 130/18	103/22 156/5
<b>economically [1]</b>	150/9	156/4	34/17 39/10 42/12	134/25 161/21	<b>factor [68]</b> 2/24 7/20
		<b>establishments [1]</b>		<b>expand [5]</b> 33/13 63/3	27/10 28/1 28/2 28/23

(51) Dr William O'Connor - factor

F:



<b>F</b>	38/5 38/13 38/25 39/8 41/1 42/20 48/9 57/15 58/5 63/18 70/18 70/23 85/12 100/16 102/6 102/13 103/13 116/2 121/15 121/21 122/16 123/12 123/16 123/19 124/3 124/13 125/13 126/25 135/13 138/2 138/21 138/23 139/6 141/10 141/16 142/17 142/24 143/4 144/8 146/20 149/15 154/11 163/2 <b>FDA directives [1]</b> 139/6 <b>FDA's [6]</b> 17/25 82/19 85/18 90/21 122/3 161/10 <b>FDA-licensed [1]</b> 138/2 <b>feared [2]</b> 35/6 47/24 <b>feasibility [3]</b> 107/4 144/21 150/5 <b>features [3]</b> 8/16 26/23 99/24 <b>February [13]</b> 102/23 109/25 111/6 112/24 113/2 113/13 113/19 114/3 114/23 120/5 135/19 136/1 136/15 <b>February 1982 [1]</b> 111/6 <b>February 1983 [7]</b> 109/25 113/2 113/13 113/19 114/3 114/23 120/5 <b>February 24 [1]</b> 135/19 <b>fed [1]</b> 165/15 <b>federal [2]</b> 8/25 86/9 <b>feed [1]</b> 91/20 <b>feeding [1]</b> 164/3 <b>feel [3]</b> 13/1 69/18 140/14 <b>feeling [1]</b> 39/3 <b>feels [4]</b> 40/22 143/19 148/10 158/1 <b>fellow [1]</b> 102/21 <b>felt [8]</b> 19/18 58/19 62/20 83/7 86/24 88/20 88/22 155/7 <b>fever [1]</b> 113/4 <b>few [5]</b> 45/19 65/10 90/18 98/23 161/11 <b>field [1]</b> 121/5 <b>fields [1]</b> 88/1 <b>fifth [3]</b> 32/13 36/18 105/17 <b>fight [1]</b> 66/16 <b>figure [8]</b> 15/7 74/24 78/19 79/21 95/4	97/15 101/22 104/23 <b>figures [17]</b> 17/22 73/15 74/8 74/19 78/23 78/24 79/13 80/20 94/8 94/9 94/15 95/6 96/6 98/19 101/1 126/10 153/8 <b>file [1]</b> 97/8 <b>final [8]</b> 33/2 43/1 62/15 127/14 138/10 138/16 154/13 162/1 <b>finally [2]</b> 123/7 127/6 <b>find [8]</b> 2/1 38/8 81/16 121/4 126/21 131/19 159/7 160/25 <b>finding [2]</b> 27/10 30/7 <b>findings [2]</b> 4/18 127/12 <b>firm [3]</b> 2/12 36/6 59/7 <b>firmer [1]</b> 59/11 <b>firmly [1]</b> 150/2 <b>firms [6]</b> 74/20 101/7 140/22 140/25 141/6 141/7 <b>first [52]</b> 4/22 4/24 5/2 6/24 8/1 15/16 15/22 16/2 16/4 16/22 19/22 20/2 22/13 23/12 25/4 25/7 25/10 25/16 33/15 33/21 34/21 36/1 45/3 53/22 56/15 58/2 58/25 61/7 63/3 65/14 66/3 69/12 69/16 75/17 77/6 83/11 92/6 94/1 95/2 99/9 102/20 110/15 115/13 124/11 125/6 126/22 130/8 140/7 142/12 143/12 145/11 148/20 <b>firstly [2]</b> 91/21 161/6 <b>fist [1]</b> 87/10 <b>Fitch [3]</b> 135/4 135/17 136/3 <b>fits [1]</b> 117/11 <b>five [10]</b> 16/2 18/12 29/10 32/6 49/24 52/15 55/24 76/17 97/12 140/3 <b>Five days [1]</b> 18/12 <b>five people [1]</b> 49/24 <b>five per cent [1]</b> 97/12 <b>floated [2]</b> 145/11 145/19 <b>floor [1]</b> 158/6 <b>flu [1]</b> 86/21 <b>focus [9]</b> 1/15 2/3 2/13 45/11 95/20 115/17 142/6 160/9 164/14 <b>focused [3]</b> 3/7 110/10 162/11	<b>Foege [1]</b> 90/20 <b>follow [8]</b> 20/20 52/6 57/12 69/10 96/12 125/16 125/21 133/9 <b>followed [10]</b> 33/10 54/1 54/2 57/4 104/3 117/15 120/20 121/12 144/14 145/13 <b>following [16]</b> 8/13 20/13 30/14 38/18 57/13 58/5 63/1 67/10 68/25 100/11 130/6 140/25 145/21 147/25 154/10 158/10 <b>follows [1]</b> 161/18 <b>followup [1]</b> 156/9 <b>Food [3]</b> 9/15 76/7 78/2 <b>footage [2]</b> 87/5 92/4 <b>footnoted [1]</b> 15/13 <b>force [6]</b> 15/18 15/20 16/8 26/3 84/18 120/6 <b>forced [1]</b> 148/11 <b>forearms [1]</b> 56/17 <b>forego [1]</b> 73/19 <b>foresaw [1]</b> 108/25 <b>forest [1]</b> 4/11 <b>forgive [1]</b> 64/22 <b>forgotten [1]</b> 13/25 <b>form [4]</b> 23/10 30/22 137/14 140/3 <b>forma [1]</b> 83/16 <b>formal [8]</b> 25/16 36/13 76/2 96/13 98/15 151/19 156/15 157/3 <b>formally [4]</b> 10/3 25/13 35/24 75/23 <b>formulated [2]</b> 59/7 154/25 <b>formulating [1]</b> 148/6 <b>forth [1]</b> 32/13 <b>forthcoming [1]</b> 134/23 <b>fortunate [1]</b> 43/4 <b>forum [3]</b> 84/6 143/22 151/8 <b>forward [7]</b> 41/17 41/24 86/11 98/20 109/17 146/17 154/2 <b>found [11]</b> 7/13 31/18 43/7 51/25 85/8 104/18 134/24 143/7 143/19 144/12 152/20 <b>Foundation [16]</b> 14/7 14/10 14/17 18/13 26/1 28/15 48/22 55/25 76/11 98/24 105/5 116/3 128/23 129/7 143/23 154/18 <b>four [29]</b> 1/16 2/3 2/15 5/1 33/15 33/18 34/6 42/21 47/16 49/21	53/13 53/14 53/15 53/18 54/5 54/6 56/1 58/5 72/17 76/9 103/10 103/16 120/13 123/13 151/24 152/8 152/9 153/8 163/8 <b>fourth [3]</b> 6/22 36/14 143/11 <b>Fowler [11]</b> 124/5 129/17 130/14 133/7 162/24 163/1 164/3 164/5 165/4 165/8 165/10 <b>Fowler's [2]</b> 130/17 133/21 <b>Fraction [1]</b> 63/2 <b>Fraction V [1]</b> 63/2 <b>fractionate [1]</b> 39/25 <b>fractionated [5]</b> 127/17 127/21 127/25 138/13 152/10 <b>fractionating [3]</b> 39/20 40/5 107/4 <b>fractionation [18]</b> 10/19 12/1 18/2 57/8 67/21 73/14 74/20 101/7 103/21 114/9 116/8 116/14 116/18 123/13 139/13 142/17 143/7 153/2 <b>fractionations [1]</b> 103/1 <b>fractionators [54]</b> 6/25 12/12 13/11 13/15 13/18 14/3 14/20 18/11 23/4 26/15 26/19 38/18 38/24 48/17 48/20 57/15 63/19 65/14 68/14 73/23 98/25 100/13 100/22 101/10 102/21 103/24 105/11 105/16 105/21 107/25 108/10 108/14 108/22 109/24 113/24 115/1 115/15 115/19 116/7 116/13 116/24 117/6 117/18 118/7 121/17 122/21 123/24 129/18 137/7 137/16 142/10 147/2 147/4 148/15 <b>fractionators' [1]</b> 12/9 <b>Francis [10]</b> 76/21 78/15 87/8 87/8 91/1 91/12 92/10 92/16 117/13 121/19 <b>Francis' [2]</b> 90/16 90/19 <b>Francisco [10]</b> 6/2 52/18 53/1 58/17 62/25 63/22 64/4 112/14 114/5 138/18	<b>frank [1]</b> 109/9 <b>Franklin [1]</b> 117/23 <b>frankly [1]</b> 122/1 <b>free [1]</b> 54/21 <b>freedom [1]</b> 29/1 <b>frequency [2]</b> 85/6 93/12 <b>frequent [1]</b> 152/17 <b>frequently [3]</b> 14/24 66/21 150/7 <b>fresh [4]</b> 27/24 29/5 29/9 72/12 <b>Friday [1]</b> 58/6 <b>from [273]</b> <b>from Haiti [1]</b> 48/24 <b>frozen [2]</b> 27/24 72/12 <b>frustrating [1]</b> 84/3 <b>frustration [4]</b> 48/13 48/16 75/12 75/16 <b>full [11]</b> 53/17 53/21 54/2 54/2 75/17 91/24 101/2 101/4 104/14 113/5 158/12 <b>full-blown [4]</b> 53/17 53/21 54/2 54/2 <b>fully [1]</b> 131/7 <b>fund [1]</b> 86/14 <b>funding [2]</b> 32/14 86/10 <b>further [30]</b> 2/10 36/6 39/23 41/4 46/11 50/14 54/22 74/3 78/24 87/16 88/14 89/20 89/23 90/8 97/2 97/22 99/23 104/8 110/1 110/12 112/7 114/23 116/5 128/9 134/22 148/17 149/20 151/15 158/20 161/1 <b>future [5]</b> 42/8 73/20 139/3 141/15 146/6
				<b>G</b>	
				<b>gain [1]</b> 80/12 <b>gained [2]</b> 6/16 159/10 <b>garbled [1]</b> 23/10 <b>gave [8]</b> 19/14 37/9 43/22 48/19 59/11 111/15 129/12 133/20 <b>gay [23]</b> 5/10 5/16 20/24 26/2 26/5 30/11 32/12 33/17 33/24 33/25 34/20 38/20 46/23 48/23 51/21 56/20 59/15 59/16 73/22 76/10 77/5 89/20 112/1 <b>gays [1]</b> 88/18 <b>general [9]</b> 13/4 77/14 78/20 79/5 79/22 97/12 107/25 132/21	

(52) factor... - general

F:



<b>G</b>	47/7 49/4 52/8 56/25 57/18 63/1 63/9 65/16 66/5 70/17 75/1 82/4 91/9 91/11 91/18 107/8 124/13 124/16 134/21 136/7 143/9 165/2	<b>grow</b> [2] 45/24 121/10 <b>growing</b> [1] 52/3 <b>growth</b> [2] 21/2 21/3 <b>guarantee</b> [1] 158/21 <b>guidance</b> [1] 72/22 <b>guidelines</b> [8] 122/9 122/12 122/15 122/17 122/20 122/21 141/16 144/14 <b>gulf</b> [1] 74/6 <b>Gury</b> [1] 65/20	17/6 17/12 18/4 19/5 21/24 22/14 23/20 23/22 24/18 25/15 25/22 27/14 28/14 28/20 30/9 31/25 32/13 32/20 33/17 36/10 41/16 41/17 51/18 52/7 52/14 56/2 64/1 71/5 72/8 72/18 72/18 72/24 84/17 85/7 104/25 105/2 110/6 114/19 129/1 131/24 132/4 132/6 151/6 151/14 159/13 163/7 <b>Haemophilia Society</b> [2] 132/4 132/6 <b>haemophilic</b> [3] 70/3 127/18 134/15 <b>haemophiliacs</b> [9] 22/17 31/18 51/2 51/5 77/11 88/11 129/4 131/16 133/8 <b>haemophilic</b> [2] 17/18 127/18 <b>haemorrhage</b> [1] 162/19 <b>Haemostasis</b> [1] 15/3 <b>Haiti</b> [4] 5/8 48/24 57/7 106/4 <b>Haitian</b> [2] 5/7 27/2 <b>Haitians</b> [8] 31/4 33/16 58/21 66/22 67/11 94/11 95/6 95/8 <b>half</b> [3] 4/24 152/9 163/8 <b>halfway</b> [1] 77/23 <b>hampered</b> [1] 47/22 <b>hand</b> [10] 36/2 36/4 47/13 59/20 80/1 83/12 92/21 93/20 93/24 137/11 <b>handle</b> [1] 143/20 <b>happen</b> [6] 42/7 44/8 81/9 116/19 116/19 150/11 <b>happened</b> [4] 70/22 83/8 92/10 136/8 <b>happening</b> [2] 2/7 164/13 <b>happens</b> [1] 39/15 <b>hard</b> [2] 6/19 43/8 <b>Harry</b> [1] 17/25 <b>has</b> [55] 1/20 2/14 3/15 11/16 11/21 18/9 20/9 27/22 28/2 28/7 30/25 31/7 50/25 58/9 61/15 62/6 66/9 66/18 67/4 80/13 81/12 85/20 87/7 91/2 91/21 117/8 119/6 119/13 119/14 124/2 127/6	127/24 131/8 131/14 133/14 136/6 139/15 141/15 142/2 143/2 143/17 144/14 144/21 145/1 145/24 145/25 150/12 154/1 154/14 154/20 154/22 156/4 158/22 158/23 159/9 <b>hate</b> [1] 119/16 <b>hats</b> [1] 108/11 <b>have</b> [174] <b>Haven</b> [1] 117/21 <b>haven't</b> [7] 4/5 70/21 94/24 119/5 134/24 136/4 165/11 <b>having</b> [14] 14/1 14/22 24/22 35/7 38/8 55/16 94/2 94/3 94/24 113/20 125/2 151/6 154/21 157/23 <b>hawkish</b> [1] 13/6 <b>HBC</b> [6] 6/18 79/10 80/8 80/16 82/12 95/24 <b>HBs</b> [2] 38/11 89/11 <b>HBsAg</b> [1] 96/21 <b>he</b> [107] 15/7 15/9 15/10 15/12 15/13 17/3 18/3 18/4 19/13 19/18 20/5 20/19 21/10 22/15 22/21 24/8 26/16 26/17 26/18 32/16 32/22 33/7 33/14 34/4 35/18 37/5 37/5 37/9 37/12 37/15 38/3 41/1 41/19 41/20 41/20 43/20 44/11 48/18 49/8 49/8 49/9 50/5 50/8 50/8 50/20 52/2 52/4 52/13 52/21 52/25 53/4 53/7 54/17 56/17 57/1 57/5 58/18 59/4 59/11 62/19 62/20 62/22 64/6 74/23 74/23 76/15 76/25 78/14 78/15 79/16 82/14 82/16 82/20 82/23 82/24 83/7 83/24 87/9 87/15 88/3 88/25 92/9 92/23 93/5 104/9 109/3 109/9 112/18 116/2 116/4 116/6 117/5 117/5 117/12 118/20 127/9 127/11 133/5 147/11 149/3 150/3 150/7 154/23 158/1 158/1 163/24 164/2 <b>he's</b> [3] 44/16 53/14 146/20 <b>heading</b> [1] 33/4	<b>heads</b> [1] 118/18 <b>health</b> [30] 9/2 9/11 9/11 9/14 10/22 11/15 11/17 11/20 11/24 20/11 25/14 26/8 48/10 59/5 74/17 76/8 78/4 102/13 118/19 121/22 122/1 122/8 126/18 129/4 131/8 131/9 133/2 133/18 151/10 159/13 <b>healthy</b> [1] 127/10 <b>hear</b> [1] 18/25 <b>heard</b> [10] 1/11 2/21 19/13 38/17 39/11 98/16 110/2 121/13 124/2 160/3 <b>hearing</b> [7] 163/15 164/4 164/9 164/15 165/9 165/11 165/22 <b>heat</b> [15] 8/2 8/5 29/6 45/5 45/7 45/10 45/11 104/6 115/11 115/13 115/16 124/11 124/14 124/17 128/16 <b>heat-treated</b> [6] 8/2 115/13 124/11 124/14 124/17 128/16 <b>Heathrow</b> [1] 114/21 <b>Heathrow Airport</b> [1] 114/21 <b>heavily</b> [2] 26/6 115/24 <b>heavy</b> [1] 153/21 <b>Heckler</b> [1] 9/5 <b>held</b> [12] 20/10 25/19 57/24 74/13 75/21 76/4 114/25 120/24 143/4 147/3 148/25 163/2 <b>help</b> [5] 4/19 43/12 66/23 66/25 165/2 <b>helped</b> [1] 66/23 <b>helpful</b> [7] 8/15 73/4 75/3 75/20 96/13 130/8 140/19 <b>Hematology</b> [1] 15/9 <b>Hemofil</b> [1] 124/12 <b>Hemofil-T</b> [1] 124/12 <b>hemophilia</b> [35] 14/7 14/10 14/17 18/13 20/2 26/1 27/5 27/7 27/19 27/21 27/21 28/8 28/10 28/15 29/2 29/15 29/21 29/23 30/2 31/6 33/9 34/24 35/2 48/21 55/25 76/11 78/6 98/24 105/5 116/3 128/23 129/6 143/22 154/18 158/15 <b>hemophilic</b> [1]
----------	---	--	--	--	--

(53) general... - hemophilic

F:

<b>H</b>	112/4 113/9 113/17 113/21 114/13 122/5 123/9 126/13 127/8 131/17 132/21 140/9 145/22 145/24 152/8 <b>high risk</b> [1] 98/10 <b>high-risk</b> [14] 5/4 5/4 30/1 69/19 77/15 83/19 96/7 110/14 111/16 113/9 113/17 122/5 131/17 145/24 <b>high-titred</b> [1] 101/19 <b>higher</b> [6] 95/8 104/24 108/16 112/2 123/24 147/3 <b>highlight</b> [5] 34/21 47/12 92/20 105/18 149/25 <b>highlighted</b> [1] 43/21 <b>highly</b> [1] 96/5 <b>Hill</b> [1] 1/6 <b>him</b> [5] 17/17 52/5 87/10 120/19 135/7 <b>Hink</b> [8] 60/7 60/10 60/15 60/20 82/22 87/15 88/24 89/5 <b>Hink's</b> [3] 87/20 89/2 90/4 <b>hints</b> [1] 43/15 <b>his</b> [45] 9/8 15/12 17/2 17/16 22/6 22/11 24/15 24/16 32/22 34/4 37/2 37/10 38/6 40/20 49/7 50/7 50/19 51/7 52/21 52/23 64/3 64/6 64/14 77/5 78/15 79/8 82/15 82/15 82/23 83/6 83/7 87/10 89/5 92/11 101/13 108/8 112/17 127/14 132/7 144/12 149/2 149/11 157/4 162/24 163/25 <b>his initial</b> [1] 49/7 <b>historical</b> [1] 15/11 <b>histories</b> [1] 33/8 <b>history</b> [17] 15/1 15/15 16/9 17/1 32/23 40/7 47/8 52/22 54/17 64/3 81/23 83/6 92/19 99/25 100/3 110/13 110/17 <b>HIV</b> [2] 8/11 19/15 <b>hoc</b> [1] 76/1 <b>hold</b> [2] 40/22 120/14 <b>Hollywood</b> [3] 6/4 58/17 112/17 <b>home</b> [2] 28/3 28/8 <b>homosexual</b> [11] 5/6 27/2 31/3 35/7 61/12 61/24 69/11 85/8 89/10 94/4 110/22	<b>homosexuals</b> [19] 19/25 33/17 33/22 34/13 34/15 38/12 58/20 59/4 66/22 67/13 68/11 95/2 95/9 102/19 106/2 111/17 113/10 113/18 149/12 <b>honorific</b> [1] 134/4 <b>hope</b> [2] 91/18 91/25 <b>Hospital</b> [2] 26/9 117/22 <b>hospitalised</b> [1] 42/22 <b>hospitalization</b> [1] 28/7 <b>hospitals</b> [1] 10/16 <b>hostility</b> [1] 118/6 <b>hot</b> [3] 74/1 99/2 108/6 <b>hour</b> [1] 124/21 <b>hours</b> [1] 163/8 <b>Houston</b> [1] 112/15 <b>how</b> [28] 3/23 5/3 16/11 19/1 40/10 48/20 54/23 56/25 57/4 62/11 65/18 70/13 79/24 83/7 87/11 87/12 90/12 96/16 98/19 105/12 105/14 117/5 121/16 130/5 134/13 136/21 137/22 153/24 <b>however</b> [16] 22/19 24/5 55/16 57/5 74/5 88/15 98/5 100/4 105/3 118/8 120/12 141/16 142/7 143/24 154/24 155/14 <b>HS</b> [1] 19/12 <b>HS Kingdon</b> [1] 19/12 <b>HTLV</b> [1] 8/10 <b>HTLV-III</b> [1] 8/10 <b>human</b> [4] 9/3 9/11 133/2 140/23 <b>Hyland</b> [48] 1/16 1/17 7/7 12/6 19/11 19/24 20/9 20/13 26/16 39/24 40/3 46/8 56/12 56/15 56/23 57/4 58/18 59/13 99/4 101/17 102/22 104/10 111/4 111/15 112/8 112/13 112/24 113/15 115/13 116/12 117/3 124/25 126/20 126/23 127/4 127/24 128/4 128/14 128/22 130/4 130/5 139/20 142/14 142/18 142/22 143/10 152/5 157/10 <b>Hyland's</b> [1] 124/11 <b>hyperimmunised</b> [1] 62/2	<b>hypothesis</b> [5] 27/11 30/8 31/15 50/22 52/23 <b>hypothetical</b> [2] 33/11 103/4 <b>I</b> <b>I address</b> [1] 8/8 <b>I ask</b> [1] 50/3 <b>I believe</b> [1] 88/5 <b>I can</b> [3] 20/15 50/17 164/15 <b>I don't</b> [9] 8/20 12/7 49/25 59/19 60/1 80/3 119/6 124/17 134/4 <b>I follow</b> [1] 96/12 <b>I have</b> [1] 54/10 <b>I haven't</b> [1] 4/5 <b>I hope</b> [1] 91/25 <b>I intend</b> [1] 164/8 <b>I make</b> [1] 45/13 <b>I mean</b> [1] 119/13 <b>I mention</b> [1] 45/2 <b>I mentioned</b> [1] 46/20 <b>I pause</b> [1] 48/15 <b>I provide</b> [1] 4/19 <b>I quote</b> [8] 38/7 50/21 55/11 103/1 117/7 117/25 118/14 128/18 <b>I refer</b> [2] 14/2 39/2 <b>I say</b> [4] 22/11 51/11 75/15 90/23 <b>I see</b> [1] 146/5 <b>I should</b> [7] 3/11 23/17 28/17 46/20 66/2 75/23 125/18 <b>I summarise</b> [1] 37/4 <b>I suppose</b> [1] 60/20 <b>I suspect</b> [1] 136/18 <b>I think</b> [26] 16/1 16/5 16/13 21/5 21/10 23/11 23/12 43/21 44/24 46/9 50/19 54/3 54/15 60/18 60/22 61/10 63/12 80/8 80/22 91/1 109/15 116/23 132/8 153/11 162/18 164/18 <b>I use</b> [1] 4/9 <b>I was</b> [2] 75/12 95/15 <b>I will</b> [6] 1/24 2/12 4/14 6/19 8/6 112/6 <b>I won't</b> [2] 3/19 107/22 <b>I would</b> [1] 41/11 <b>I'll</b> [8] 9/12 16/13 26/22 81/14 81/16 87/5 126/21 156/20 <b>I'm</b> [31] 4/4 6/17 6/21 9/16 9/16 11/1 15/15 21/5 22/1 23/19 25/6 33/13 38/15 39/10 46/11 47/7 53/12	53/12 59/23 60/1 65/16 66/5 75/1 81/3 81/6 81/13 117/13 124/16 134/3 134/4 164/20 <b>I've</b> [5] 1/10 2/3 16/3 17/20 77/22 <b>iceberg</b> [1] 3/25 <b>idea</b> [1] 145/12 <b>idealized</b> [1] 84/23 <b>ideas</b> [3] 33/19 145/10 145/18 <b>identical</b> [1] 85/7 <b>identifiable</b> [1] 141/14 <b>identification</b> [1] 105/25 <b>identified</b> [27] 5/5 6/3 6/7 14/22 47/16 47/19 51/5 63/25 64/9 64/25 88/9 94/2 94/3 102/18 108/18 111/16 115/22 127/7 139/15 149/16 151/4 151/6 151/15 154/21 157/15 158/9 158/22 <b>identify</b> [8] 57/1 75/25 86/4 95/18 96/9 106/6 138/9 165/11 <b>identifying</b> [5] 36/21 49/21 61/5 79/2 80/24 <b>ie</b> [4] 48/6 59/4 89/11 158/4 <b>if</b> [149] 4/19 11/15 15/25 16/6 16/13 19/8 20/15 20/17 20/25 21/2 21/3 21/5 21/11 22/1 22/8 22/24 24/4 24/20 25/6 26/21 27/6 31/11 32/23 33/1 33/13 34/21 39/6 40/25 41/13 41/16 41/19 41/24 42/23 44/7 44/12 46/10 47/12 50/2 50/5 50/6 53/20 57/20 58/2 58/15 59/3 59/15 60/25 61/22 62/21 63/3 63/15 64/24 65/1 65/2 65/18 66/1 67/16 68/5 75/17 78/25 79/15 79/23 80/8 81/8 81/22 83/9 83/11 83/25 87/19 88/4 88/23 89/1 91/19 91/19 92/11 92/14 92/18 92/19 92/20 93/11 93/15 93/18 95/16 95/21 95/23 96/17 97/5 99/8 101/2 103/5 103/13 105/15 105/16 105/17 106/5 106/20 108/17 111/8	111/18 112/1 121/4 124/17 125/9 126/6 126/16 126/21 126/25 130/14 132/22 133/14 134/4 134/25 136/24 137/9 137/21 138/1 138/5 138/15 138/25 139/2 139/7 139/9 139/24 140/11 140/18 143/11 144/9 144/13 144/15 145/12 145/15 146/8 146/13 147/21 148/19 148/22 149/25 151/18 151/19 152/2 153/24 154/19 156/19 156/23 157/21 160/5 161/12 161/21 165/1 <b>ignored</b> [1] 64/12 <b>ii</b> [4] 26/21 105/18 107/12 158/18 <b>iii</b> [1] 8/10 <b>ill</b> [1] 131/6 <b>ill-defined</b> [1] 131/6 <b>illness</b> [3] 119/8 134/11 144/16 <b>illnesses</b> [2] 48/5 134/19 <b>imagine</b> [1] 136/20 <b>immediate</b> [4] 36/3 46/5 55/17 162/5 <b>immediately</b> [2] 58/12 107/10 <b>immense</b> [1] 75/12 <b>imminent</b> [1] 115/12 <b>immune</b> [12] 17/15 30/2 30/16 35/3 35/14 66/11 66/15 83/22 85/6 93/3 101/19 117/10 <b>immunity</b> [1] 5/20 <b>Immuno</b> [14] 2/12 2/17 2/20 2/22 2/24 3/6 3/8 100/13 139/20 141/2 141/7 141/12 141/19 153/17 <b>immunodeficiency</b> [4] 31/7 48/7 161/18 161/24 <b>immunologic</b> [1] 29/24 <b>immunological</b> [1] 92/24 <b>immunosuppressive</b> [1] 18/19 <b>impatience</b> [1] 48/13 <b>imperative</b> [1] 131/20 <b>implement</b> [3] 39/4 59/13 90/17 <b>implementation</b> [7] 69/13 82/25 90/1 106/5 114/4 123/20 163/11
----------	--	---	---	---	--

(54) hemophiliac... - implementation

F:



<b>I</b>	146/25 148/3 148/8 162/8	<b>industry-wide [1]</b> 69/6	<b>insights [1]</b> 87/16	10/19 11/2 11/8 12/3 32/11 39/20 39/25	22/23 34/20 43/16 46/2 62/12 79/23
<b>implemented [4]</b> 65/4 90/22 110/25 123/14	<b>inclusion [1]</b> 156/12	<b>inevitably [2]</b> 3/22 36/25	<b>insisted [1]</b> 147/18	<b>instance [4]</b> 26/11 44/13 50/7 95/22	92/14 95/15 110/25 111/21 120/7 121/2
<b>implicate [2]</b> 64/10 118/25	<b>incompletely [1]</b> 162/10	<b>infant [4]</b> 52/18 53/1 63/22 76/16	<b>instead [5]</b> 1/24 36/21 57/2 77/12 78/2	49/10 50/10 85/18 97/19 109/9 116/8	121/3 121/6 121/10 147/10 147/16 150/9
<b>implicated [3]</b> 37/22 158/24 159/9	<b>inconclusive [1]</b> 99/18	<b>infected [5]</b> 4/7 53/25 63/23 82/6 83/23	<b>instigates [1]</b> 135/20	120/25 127/17 156/13 165/15	150/19 164/11
<b>implication [1]</b> 163/3	<b>incorporated [2]</b> 12/12 155/13	<b>infection [7]</b> 29/22 34/8 53/24 55/7 83/19	<b>institute [7]</b> 39/2 86/18 86/19 89/6	<b>intravenous [8]</b> 5/6 27/3 30/11 31/3 48/23	<b>issued [1]</b> 18/13
<b>implications [1]</b> 20/8	<b>increase [1]</b> 88/14	<b>infections [10]</b> 19/5 25/15 25/21 27/1	90/14 115/4 138/22	51/20 56/16 106/3	<b>issues [13]</b> 5/1 8/9 15/23 35/10 45/4
<b>implies [1]</b> 134/22	<b>increased [8]</b> 6/25 7/3 8/3 31/2 56/5 106/23	109/18 134/16	<b>instituted [1]</b> 139/7	<b>intrinsic [1]</b> 30/2	109/2 109/22 110/15 124/7 130/23 147/24
<b>importance [3]</b> 45/25 52/19 121/11	109/14 134/14	<b>informal [2]</b> 57/14 58/4	<b>institutes [10]</b> 11/20 11/21 11/24 20/11	<b>introduce [4]</b> 8/16 8/22 80/8 91/12	148/2 162/12
<b>important [5]</b> 16/14 18/18 35/18 43/17 78/21	<b>increases [1]</b> 19/1	28/19 28/24 28/25 30/4 30/21 34/5	48/10 76/8 78/3 102/13 121/22 151/10	<b>introduced [10]</b> 69/5 74/3 101/16 109/24	<b>it's [76]</b> 1/8 1/19 4/10 7/21 8/11 11/6 11/11
<b>importantly [1]</b> 133/17	<b>increasing [3]</b> 52/6 66/12 88/8	<b>infectious [11]</b> 18/15 19/7 31/1 31/17 32/2	<b>instituting [1]</b> 119/19	111/5 112/25 113/11 126/11 139/1 151/11	16/7 21/12 24/4 24/6 25/8 25/10 26/4 41/5
<b>imported [4]</b> 2/11 153/15 153/17 153/23	<b>increasingly [3]</b> 43/17 85/21 102/10	32/10 34/2 34/12 45/22 110/7 123/11	<b>institutions [1]</b> 111/3	<b>introducing [3]</b> 77/25 82/12 111/9	41/8 42/16 43/1 43/23 45/5 47/1 47/2 49/5
<b>imports [1]</b> 141/5	<b>incubation [11]</b> 50/24 53/4 53/6 53/20 54/12	<b>infective [2]</b> 86/2 158/23	<b>insufficient [3]</b> 46/4 56/3 62/9	<b>introduction [2]</b> 8/1 15/5	52/22 53/14 53/17 53/20 53/21 55/1
<b>imposed [4]</b> 112/1 123/4 123/5 123/24	54/23 55/14 63/24 80/18 85/4 99/21	<b>infectivity [1]</b> 51/14	<b>intangible [1]</b> 98/2	<b>intrusion [1]</b> 85/18	57/21 59/10 59/21 60/5 60/18 60/18
<b>imposing [1]</b> 147/12	<b>indeed [15]</b> 6/7 24/14 34/12 34/17 36/20	<b>inference [3]</b> 80/23 130/3 140/15	<b>intend [1]</b> 164/8	<b>inverted [1]</b> 127/13	60/20 61/4 61/18 70/13 73/3 75/7 75/15
<b>impossible [1]</b> 48/3	39/6 50/5 54/11 86/23 99/8 118/6 124/1	<b>informal [2]</b> 57/14 58/4	38/11 55/7 59/2 100/9 111/2 128/15 162/18	<b>investigated [1]</b> 47/19	78/20 79/18 80/3 80/4 83/9 87/18 95/22
<b>impression [4]</b> 63/5 63/7 87/20 161/10	134/25 139/13 145/25	<b>informally [1]</b> 10/3	<b>intending [1]</b> 59/13	<b>investigation [2]</b> 45/19 76/19	96/15 101/21 105/17 108/17 109/20 114/12
<b>inactivate [1]</b> 106/17	<b>indefensibly [1]</b> 145/7	<b>information [36]</b> 18/7 23/8 28/13 30/6 31/9	<b>intensive [1]</b> 162/11	<b>investigations [5]</b> 46/12 47/22 52/2	114/17 115/7 116/13 116/23 118/10 122/19
<b>inactivated [1]</b> 29/6	<b>independent [5]</b> 3/20 12/14 12/15 65/6 89/25	36/6 37/6 37/7 37/9 37/10 41/13 55/2	<b>intensively [1]</b> 20/2	89/25 133/9	126/18 130/3 130/8 130/13 132/2 134/4
<b>inactivation [4]</b> 45/8 55/9 115/11 115/17	<b>indicate [3]</b> 6/12 114/8 133/10	59/11 63/14 64/21 64/23 87/7 87/23	<b>intention [3]</b> 4/6 42/17 143/5	<b>investigators [1]</b> 90/13	139/22 142/21 146/14 148/21 149/23 161/9
<b>inadequate [3]</b> 84/12 85/5 132/20	<b>indicated [7]</b> 57/1 62/6 62/22 63/25 79/9	88/24 89/24 93/17 93/18 98/5 104/5	<b>Inter [1]</b> 26/9	<b>invited [2]</b> 14/19 25/24	161/12 161/13 165/1 <b>item [1]</b> 62/15
<b>inappropriate [2]</b> 100/6 112/12	99/2 108/14	111/7 113/8 123/1 126/23 130/5 134/8	<b>Inter-Hospital [1]</b> 26/9	<b>invoking [1]</b> 47/20	<b>items [1]</b> 49/16
<b>incidence [11]</b> 5/14 6/2 71/12 85/3 92/25	<b>indicates [1]</b> 66/14	134/23 137/8 148/5 148/17 159/22 163/23	<b>interaction [1]</b> 2/14	<b>involved [22]</b> 1/5 12/13 12/14 12/18	<b>its [33]</b> 2/20 8/8 9/2 9/4 10/9 20/7 22/20
93/2 99/6 106/11 113/21 114/13 128/25	<b>indication [1]</b> 72/15	<b>informed [9]</b> 17/14 18/3 54/10 56/1	<b>interagency [2]</b> 15/22 16/22	18/8 20/6 22/5 24/20 26/6 36/5 56/25 73/13	32/18 35/21 55/13 56/1 56/13 66/17 67/4
<b>incident [2]</b> 156/12 161/25	<b>indicative [1]</b> 149/12	102/16 102/17 123/8 165/6 165/8	<b>interest [3]</b> 22/6 51/17 144/6	100/12 102/11 109/3 111/12 138/6 145/13	69/7 74/4 85/22 86/11 96/16 102/16 102/22
<b>include [4]</b> 66/21 86/3 105/24 110/21	<b>indirect [4]</b> 98/1 100/5 111/20 112/11	<b>infringement [1]</b> 91/17	164/21	151/11 152/1 164/13 166/3	105/6 107/23 107/24 127/5 128/15 128/24
<b>included [21]</b> 3/18 16/17 25/24 32/7 37/7	<b>individual [10]</b> 6/13 14/4 84/6 87/23 114/2	<b>infusion [1]</b> 88/12	<b>interesting [1]</b> 118/9	<b>involvement [1]</b> 70/1	134/19 135/20 147/17 151/16 157/12 157/19
70/24 72/16 99/23	154/20 154/21 157/22 159/6 161/19	102/16 102/17 123/8 165/6 165/8	<b>interestingly [2]</b> 40/2 56/7	<b>involves [2]</b> 3/22 128/2	<b>itself [8]</b> 7/22 13/9 14/19 38/8 39/24
100/13 101/6 104/17 111/7 113/2 120/25	<b>individually [1]</b> 12/22	<b>inhalants [1]</b> 33/24	<b>interim [1]</b> 146/23	<b>involving [2]</b> 143/22 159/1	90/11 158/7 162/10
122/5 127/16 136/17 138/10 140/5 142/24 163/25	<b>individuals [11]</b> 10/7 11/23 36/22 36/23	<b>inhibitor [1]</b> 127/19	<b>internal [12]</b> 3/4 19/10 39/18 40/2 40/20	<b>IOM [2]</b> 87/1 87/3	<b>ITV [2]</b> 92/2 92/5
<b>includes [2]</b> 154/19 157/22	47/20 87/24 106/1 106/7 106/12 122/12 152/16	<b>inhibitors [1]</b> 128/3	42/25 61/18 72/4 75/10 87/19 129/10	<b>irresponsibly [1]</b> 119/2	<b>IV [2]</b> 27/3 94/8
<b>including [30]</b> 3/13 11/25 13/17 13/23	<b>indulge [1]</b> 96/8	<b>initial [1]</b> 49/7	137/13	<b>Irwin [3]</b> 62/23 62/24 114/5	<b>IX [7]</b> 39/21 40/6 51/1 51/15 70/3 127/19
28/4 32/12 37/16 40/18 51/20 52/16	<b>industry [29]</b> 7/22 10/11 12/25 13/11	<b>initiated [1]</b> 152/6	<b>international [1]</b> 140/8	<b>is: [1]</b> 95/16	128/7
54/12 55/8 74/19 76/6 100/16 100/16 110/12	34/18 35/13 48/9 48/19 52/25 69/6 74/6	<b>initiation [1]</b> 159/2	<b>interpret [1]</b> 42/2	<b>is: which [1]</b> 95/16	
111/17 113/10 113/17 117/20 127/12 127/18 132/18 133/17 139/20	74/20 77/7 100/8 100/15 100/21 101/1 101/5 104/6 107/19	<b>initiative [1]</b> 128/4	<b>interpretation [1]</b> 161/16	<b>isn't [4]</b> 44/14 60/8 117/12 146/7	<b>J</b>
	108/24 115/25 118/5 146/24 150/25 152/16 153/2 154/3 164/19	<b>injected [1]</b> 7/10	<b>interrupt [1]</b> 143/25	<b>isolate [1]</b> 86/4	<b>James [1]</b> 15/21
		<b>inner [1]</b> 37/16	<b>intersect [1]</b> 23/12	<b>isolation [1]</b> 8/13	<b>Jane [1]</b> 109/13
		<b>input [1]</b> 32/11	<b>interview [2]</b> 87/8 90/25	<b>issue [32]</b> 5/11 6/5 6/22 7/12 7/17 7/18	<b>January [22]</b> 19/19 20/13 72/22 72/25
		<b>Inquiry [11]</b> 1/3 40/13 42/12 46/21 51/13 116/10 124/2 125/5 139/15 142/2 166/2	<b>into [24]</b> 2/11 7/7 9/22	13/22 14/21 17/22 19/23 20/1 20/14	

(55) implemented - January

F:



<b>J</b> <b>January...</b> [18] 74/5 74/13 75/22 76/5 84/2 87/18 93/16 98/23 99/10 100/11 100/20 109/11 109/24 110/3 111/6 112/24 114/18 121/18 <b>January 1983</b> [16] 19/19 20/13 72/22 72/25 74/5 74/13 76/5 84/2 87/18 93/16 98/23 99/10 100/11 100/20 114/18 121/18 <b>JB</b> [1] 156/17 <b>Jeffrey</b> [1] 74/21 <b>jeopardise</b> [1] 153/9 <b>jeopardize</b> [1] 155/21 <b>Jersey</b> [2] 6/4 112/15 <b>JN</b> [1] 130/11 <b>job</b> [1] 88/22 <b>jobs</b> [1] 149/5 <b>Joe</b> [1] 119/4 <b>John</b> [3] 60/7 60/10 60/15 <b>joint</b> [1] 99/10 <b>Joseph</b> [2] 117/20 124/4 <b>journal</b> [5] 15/3 20/1 22/4 104/18 109/12 <b>Jr</b> [1] 9/8 <b>JREE0000019</b> [4] 25/7 96/15 105/17 161/13 <b>judgment</b> [2] 3/23 154/22 <b>July</b> [33] 4/25 8/7 15/18 17/2 17/13 17/24 18/11 18/12 18/23 19/4 20/4 20/14 21/23 22/13 23/4 23/8 23/15 23/18 23/19 24/8 25/4 25/18 64/2 84/10 124/9 142/1 148/2 150/10 151/8 151/13 161/14 162/25 163/3 <b>July '82</b> [1] 23/15 <b>July 16</b> [1] 20/4 <b>July 1981</b> [1] 15/18 <b>July 1982</b> [12] 17/2 18/12 18/23 20/14 21/23 22/13 23/4 23/8 23/18 23/19 24/8 84/10 <b>July 27</b> [1] 25/18 <b>June</b> [16] 4/25 8/7 16/1 16/14 17/2 17/13 21/15 130/13 135/2 135/3 135/4 137/6 137/12 142/15 148/20	151/3 <b>June 1981</b> [2] 16/1 21/15 <b>June 1983</b> [5] 135/2 135/3 135/4 137/6 137/12 <b>June/July</b> [2] 4/25 8/7 <b>jurisdiction</b> [1] 60/3 <b>just</b> [51] 2/8 3/3 3/9 8/22 9/25 12/12 15/25 16/9 19/20 20/15 21/11 22/1 22/2 22/13 23/12 28/11 31/14 32/3 32/24 33/3 33/13 34/21 43/19 45/1 49/18 50/17 55/15 62/10 65/16 73/4 77/22 79/12 79/15 80/4 85/25 91/10 96/13 111/2 116/4 117/11 122/23 125/11 126/21 136/11 139/25 147/14 147/21 148/21 156/20 157/2 164/2 <b>Justice</b> [5] 75/19 78/14 82/3 123/22 153/6 <b>justify</b> [3] 85/22 96/6 96/6	<b>K</b> <b>Kaposi's</b> [6] 15/20 20/24 26/10 26/25 30/20 100/1 <b>keep</b> [2] 103/10 103/11 <b>Keith</b> [1] 124/5 <b>key</b> [2] 3/19 5/4 <b>kick</b> [1] 91/19 <b>kicked</b> [1] 91/15 <b>kind</b> [4] 42/18 43/9 43/24 59/8 <b>Kingdom</b> [3] 2/6 49/5 141/23 <b>Kingdon</b> [8] 7/6 19/12 19/12 19/16 19/21 22/2 22/10 112/18 <b>Kingdon's</b> [3] 21/9 23/2 24/14 <b>knew</b> [1] 87/24 <b>know</b> [32] 2/10 23/13 26/12 28/12 28/18 37/3 44/1 49/19 49/25 54/22 58/11 59/19 59/23 59/24 93/15 117/4 120/1 120/2 124/17 130/2 130/19 134/4 135/19 137/14 139/19 139/20 145/20 164/19 165/7 165/12 165/12 165/14 <b>knowing</b> [1] 54/11	<b>knowledge</b> [13] 1/4 23/18 23/19 133/4 133/19 154/13 158/7 158/25 159/11 160/18 161/7 163/20 166/2 <b>known</b> [26] 1/16 1/18 6/1 8/11 14/10 15/24 25/2 29/4 29/9 30/2 36/9 41/23 44/7 66/10 66/17 66/18 78/17 79/17 97/9 98/21 114/10 123/11 126/13 131/11 159/19 160/11 <b>knows</b> [2] 119/23 157/16 <b>Koate</b> [2] 133/10 133/13 <b>Koch's</b> [2] 84/20 85/25 <b>Koplan</b> [3] 74/21 74/22 85/13 <b>KREV0000001</b> [1] 75/7 <b>Kreuer</b> [9] 75/2 75/10 75/14 78/14 82/3 99/4 122/24 123/22 153/11 <b>Kreuer's</b> [2] 75/19 153/7 <b>KS</b> [1] 30/1 <b>KW</b> [2] 135/4 135/17 <b>L</b> <b>lab</b> [1] 86/15 <b>labile</b> [1] 29/6 <b>laboratories</b> [4] 98/14 126/19 152/4 154/4 <b>laboratory</b> [5] 32/8 96/19 97/6 98/12 106/6 <b>labour</b> [2] 71/21 71/23 <b>Labs</b> [1] 141/17 <b>lack</b> [5] 73/11 88/19 109/6 159/22 161/6 <b>Lancet</b> [1] 134/13 <b>landmarks</b> [1] 16/16 <b>landscape</b> [1] 8/16 <b>large</b> [13] 29/16 34/14 34/19 49/16 76/9 95/24 98/6 110/24 144/3 145/9 158/20 159/2 160/20 <b>large-scale</b> [2] 110/24 160/20 <b>larger</b> [1] 69/13 <b>largest</b> [1] 140/12 <b>last</b> [7] 1/8 12/23 15/17 43/20 49/18 60/6 91/13 <b>lasted</b> [1] 163/8 <b>later</b> [22] 18/12 18/23 20/17 26/16 45/19 47/24 57/23 60/21	65/10 69/11 78/23 99/10 116/12 120/5 124/15 125/4 143/7 143/18 151/8 154/20 157/15 161/11 <b>latest</b> [1] 133/18 <b>latter</b> [1] 114/7 <b>lead</b> [4] 16/7 16/25 82/5 154/6 <b>leader</b> [1] 49/9 <b>leadership</b> [1] 85/24 <b>leading</b> [6] 14/13 15/7 17/24 28/14 73/15 74/8 <b>leaflet</b> [1] 111/7 <b>leaflets</b> [2] 64/22 64/23 <b>learn</b> [1] 17/6 <b>learned</b> [1] 26/23 <b>learning</b> [1] 17/8 <b>least</b> [13] 7/18 38/15 45/9 47/5 54/4 73/14 79/6 82/13 96/8 116/11 129/18 153/20 165/14 <b>leave</b> [8] 22/2 43/19 63/15 78/9 98/22 103/16 120/4 164/17 <b>led</b> [4] 15/21 17/16 86/22 114/19 <b>left</b> [4] 47/13 83/12 93/20 144/18 <b>left-hand</b> [3] 47/13 83/12 93/20 <b>legal</b> [2] 8/21 39/6 <b>legality</b> [1] 144/21 <b>legitimacy</b> [1] 88/19 <b>lend</b> [1] 158/7 <b>lengthy</b> [4] 1/23 54/12 115/20 117/15 <b>lesions</b> [1] 113/6 <b>less</b> [13] 32/1 36/25 62/18 84/11 114/16 123/7 125/19 125/22 126/2 126/7 134/1 158/16 158/22 <b>Lest</b> [1] 19/8 <b>let</b> [2] 34/12 163/18 <b>let's</b> [2] 91/4 124/20 <b>letter</b> [29] 49/7 50/20 51/8 56/13 56/14 56/21 57/2 59/12 68/18 68/24 113/22 126/16 126/22 128/13 128/20 130/11 132/7 134/3 134/5 134/9 134/13 134/22 134/25 135/1 135/3 135/6 136/2 136/6 136/18 <b>letters</b> [4] 129/24 130/1 130/4 130/6 <b>level</b> [1] 41/9	<b>levels</b> [1] 131/22 <b>leverage</b> [1] 62/18 <b>Liaison</b> [1] 58/6 <b>licence</b> [1] 124/12 <b>licensed</b> [1] 46/5 <b>licensed</b> [5] 82/17 82/17 138/2 138/7 141/10 <b>licensing</b> [3] 8/2 115/12 124/10 <b>life</b> [9] 28/4 84/15 84/16 118/22 129/4 155/10 162/12 162/16 162/19 <b>life-sustaining</b> [1] 155/10 <b>life-threatening</b> [3] 162/12 162/16 162/19 <b>lifestyle</b> [1] 27/21 <b>light</b> [5] 54/23 72/8 154/13 163/10 164/20 <b>like</b> [9] 4/10 6/3 16/12 90/24 91/20 119/5 124/18 129/23 134/11 <b>likelihood</b> [1] 51/4 <b>likeliness</b> [1] 38/21 <b>likely</b> [4] 60/18 155/21 163/15 163/16 <b>limb</b> [1] 7/12 <b>limbs</b> [1] 6/24 <b>limit</b> [1] 102/15 <b>limited</b> [1] 131/5 <b>line</b> [4] 43/8 44/13 107/7 110/17 <b>lines</b> [1] 146/19 <b>link</b> [10] 21/21 23/21 24/1 31/25 56/4 61/24 81/5 81/13 86/2 95/14 <b>linking</b> [1] 48/2 <b>list</b> [3] 57/25 143/3 164/1 <b>listed</b> [1] 107/12 <b>listen</b> [1] 147/10 <b>listening</b> [1] 50/9 <b>lists</b> [1] 47/23 <b>literature</b> [5] 16/5 68/11 111/24 130/21 153/6 <b>liters</b> [3] 89/15 152/9 152/12 <b>litigation</b> [8] 3/6 3/7 19/15 59/21 59/25 60/4 60/6 60/21 <b>little</b> [8] 29/9 66/16 78/12 87/24 88/1 116/12 120/18 148/17 <b>live</b> [4] 28/4 91/14 91/20 143/16 <b>lives</b> [1] 67/1 <b>lobbying</b> [1] 26/5 <b>located</b> [2] 6/1 37/15 <b>locations</b> [3] 37/17	112/17 138/4 <b>logic</b> [8] 41/13 41/17 41/22 96/12 125/21 125/24 136/12 146/1 <b>logistical</b> [1] 109/21 <b>long</b> [15] 7/8 33/3 33/6 33/8 39/4 54/23 55/13 69/2 69/25 85/4 85/20 99/21 144/4 150/12 162/6 <b>long-term</b> [2] 69/2 162/6 <b>longer</b> [2] 64/11 86/9 <b>look</b> [20] 2/2 7/25 47/3 49/1 50/1 50/10 57/18 60/5 60/15 93/5 96/13 105/15 118/10 127/2 130/8 136/20 136/21 140/7 164/17 165/1 <b>looked</b> [12] 19/16 23/4 39/12 53/4 56/21 56/22 57/11 109/16 116/4 122/18 139/21 140/1 <b>looking</b> [17] 3/24 15/10 33/1 39/14 41/8 49/10 75/4 78/11 78/21 79/18 79/25 80/1 83/4 112/3 140/24 164/2 164/18 <b>Los</b> [1] 138/18 <b>lose</b> [1] 80/9 <b>losing</b> [3] 14/4 34/18 81/1 <b>loss</b> [8] 69/3 80/11 97/1 97/21 100/1 113/4 123/3 150/23 <b>losses</b> [1] 107/1 <b>lost</b> [4] 4/11 77/22 147/15 157/12 <b>lot</b> [13] 3/7 70/14 124/25 125/1 128/2 133/13 133/16 154/13 155/12 156/1 157/10 157/20 161/20 <b>lots</b> [8] 29/11 70/13 120/13 128/6 144/4 156/6 156/7 158/21 <b>loud</b> [1] 150/7 <b>Louis</b> [3] 28/13 119/20 154/17 <b>low</b> [2] 51/6 129/1 <b>lower</b> [4] 24/24 51/22 95/7 98/10 <b>Ltd</b> [3] 126/19 134/3 135/5 <b>lunch</b> [5] 81/20 83/3 87/6 91/2 95/15 <b>luncheon</b> [1] 91/7 <b>lymph</b> [2] 111/10 113/5
---	---	---	--	---	---	--

(56) January... - lymph

<b>L</b>	137/20 150/13 150/23	<b>market</b> [4] 2/24 14/2 153/14 154/14	<b>meant</b> [3] 41/19 53/13 117/12	21/10	<b>millions</b> [1] 34/25
<b>lymph nodes</b> [1] 111/10	<b>manufactured</b> [11] 7/4 7/16 125/3 125/17 125/19 126/2 128/7 139/4 141/18 145/5 150/18	<b>marketable</b> [1] 103/15	<b>Meanwhile</b> [3] 43/12 92/22 92/24	<b>men</b> [9] 5/16 20/24 27/2 30/11 31/3 33/17 38/20 48/23 51/21	<b>mind</b> [2] 24/16 144/1
<b>lymphadenopathy</b> [7] 85/8 94/18 100/1 120/18 123/3 127/14 155/15	<b>marketing</b> [2] 86/12 126/6	<b>marketing</b> [2] 86/12 126/6	<b>measure</b> [1] 69/20	<b>mention</b> [2] 35/18 45/2	<b>mine</b> [1] 81/8
<b>lyophilized</b> [1] 107/5	<b>manufacturer</b> [6] 144/13 144/16 144/17 145/12 150/20 154/22	<b>marks</b> [1] 56/17	<b>measures</b> [16] 6/25 7/1 7/5 44/22 65/9 65/15 69/5 69/8 73/24 76/20 77/13 109/23 110/12 112/22 128/14 147/17	<b>mentioned</b> [6] 12/23 17/21 27/14 46/20 78/14 95/1	<b>minimal</b> [1] 18/20
<b>M</b>	<b>manufacturers</b> [30] 12/2 12/13 18/2 26/18 58/5 58/12 59/1 61/25 62/12 76/10 103/9 105/20 106/8 107/9 107/15 123/8 142/16 143/16 147/12 148/4 148/9 149/4 150/3 151/25 153/10 153/22 154/7 154/16 158/11 163/7	<b>material</b> [10] 29/14 29/19 39/20 40/6 154/20 156/6 157/22 159/8 160/22 165/15	<b>media</b> [1] 163/17	<b>mentioning</b> [1] 14/6	<b>minimize</b> [3] 58/7 58/12 110/9
<b>machine</b> [1] 87/7	<b>materials</b> [2] 82/8 98/4	<b>matter</b> [10] 8/8 19/8 40/10 43/20 52/10 79/18 108/20 136/15 141/24 148/12	<b>medical</b> [24] 10/8 14/11 21/17 22/4 28/16 36/4 66/9 67/17 68/3 69/23 72/15 76/22 99/25 105/8 110/13 110/16 113/3 117/24 128/9 128/23 130/20 133/4 154/22 157/19	<b>method</b> [2] 77/17 162/8	<b>minus</b> [1] 72/3
<b>made</b> [43] 3/20 19/17 23/17 32/6 39/15 42/8 42/13 43/9 49/2 56/19 56/23 57/19 59/2 59/19 59/22 60/19 70/14 72/6 88/16 96/3 98/17 101/12 105/15 105/22 110/10 116/5 120/23 121/15 136/14 136/16 142/14 143/10 146/15 147/6 148/18 152/21 153/7 153/10 154/10 157/18 157/24 163/11 164/22	<b>manufacturing</b> [2] 103/6 152/1	<b>matters</b> [8] 8/1 10/10 11/4 12/8 51/12 61/6 92/16 137/8	<b>medical-scientific</b> [1] 133/4	<b>methods</b> [7] 45/21 51/14 78/1 106/17 136/9 160/14 160/23	<b>minutes</b> [7] 46/1 54/16 70/7 70/13 70/16 71/16 107/21
<b>Mail</b> [1] 131/1	<b>many</b> [30] 3/13 4/14 4/15 6/19 16/3 16/16 20/6 29/6 29/13 36/13 49/17 51/11 52/24 57/17 69/8 69/18 70/13 83/1 87/10 87/11 87/12 88/19 97/3 98/13 125/1 130/19 130/23 133/16 152/19 156/7	<b>maximize</b> [1] 106/24	<b>medicine</b> [8] 20/1 39/2 86/18 86/20 90/14 104/18 109/12 131/18	<b>mid</b> [3] 7/24 19/4 65/16	<b>mission</b> [1] 149/2
<b>main</b> [6] 5/11 6/3 6/22 12/16 14/8 145/10	<b>map</b> [2] 4/19 8/15	<b>may</b> [71] 4/19 6/12 7/14 8/15 8/23 13/1 15/25 15/25 16/9 16/12 20/19 22/7 22/17 22/18 23/13 24/5 40/1 41/25 43/22 46/24 47/4 50/3 52/6 53/22 54/10 56/5 61/17 67/15 67/16 69/18 71/11 79/3 81/7 81/9 81/22 81/23 81/24 90/6 90/11 96/22 97/2 97/15 98/10 107/6 110/7 113/23 115/8 118/8 118/23 118/24 124/24 126/18 129/7 131/7 132/7 132/11 132/12 134/13 136/17 140/14 143/18 144/17 146/8 146/13 149/17 153/13 161/23 163/23 164/2 164/16 165/3	<b>Medicines</b> [2] 124/5 141/25	<b>mid-1984</b> [1] 7/24	<b>mistakenly</b> [1] 11/7
<b>maintain</b> [1] 161/8	<b>march</b> [25] 15/22 16/22 121/13 121/15 122/10 122/15 122/18 123/16 124/10 125/12 125/20 126/1 126/25 135/10 136/1 136/5 136/16 138/21 139/6 141/18 141/24 146/22 160/7 163/12 163/22	<b>May</b> 1983 [4] 113/23 124/24 129/7 134/13	<b>meet</b> [4] 107/12 139/10 148/4 148/16	<b>mid-December</b> [1] 65/16	<b>MMWR</b> [10] 16/2 20/20 20/21 21/2 21/15 22/7 22/15 23/23 50/1 63/21
<b>maintained</b> [1] 59/4	<b>March</b> '83 [2] 141/18 163/12	<b>McAuley</b> [2] 69/24 121/8	<b>meeting</b> [175] <b>meetings</b> [13] 11/25 14/18 14/19 20/10 26/6 57/19 89/23 101/3 101/5 111/4 148/24 148/25 163/25	<b>mid-July</b> [1] 19/4	<b>mode</b> [1] 27/8
<b>maintaining</b> [1] 146/10	<b>March 1982</b> [2] 15/22 16/22	<b>me</b> [7] 1/23 16/14 64/22 79/16 118/21 118/22 124/18	<b>member</b> [5] 9/6 113/9 127/8 127/10 151/24	<b>mid-1984</b> [1] 7/24	<b>moderate</b> [1] 72/24
<b>major</b> [10] 28/9 34/13 85/21 99/11 100/21 101/7 130/22 138/17 144/6 164/14	<b>March 1983</b> [7] 121/13 123/16 124/10 125/12 126/25 138/21 139/6	<b>mean</b> [8] 10/12 31/23 34/25 35/5 41/13 71/22 119/13 162/18	<b>members</b> [11] 26/19 56/1 100/18 113/16 115/23 118/5 128/24 155/11 156/1 159/7 163/5	<b>mid-1984</b> [1] 7/24	<b>modest</b> [1] 22/20
<b>majority</b> [1] 163/13	<b>March 24</b> [1] 146/22	<b>meaning</b> [2] 125/1 125/1	<b>membership</b> [1] 12/6	<b>mid-December</b> [1] 65/16	<b>moment</b> [7] 16/11 20/21 31/14 81/3 81/6 82/23 91/10
<b>make</b> [15] 4/15 8/6 38/9 38/23 43/8 45/13 46/20 49/22 68/1 79/24 80/7 89/25 112/6 116/19 133/12	<b>Margaret</b> [1] 9/5	<b>meaningful</b> [2] 58/19 88/7	<b>memo</b> [5] 65/22 65/23 65/24 66/3 85/19	<b>mid-July</b> [1] 19/4	<b>monitors</b> [1] 22/20
<b>makes</b> [3] 61/10 61/11 152/17	<b>Margaret Heckler</b> [1] 9/5	<b>means</b> [2] 9/25 60/19	<b>memoranda</b> [2] 98/17 129/10	<b>middle</b> [1] 150/10	<b>monolithic</b> [1] 13/2
<b>making</b> [2] 105/21 111/20	<b>marginal</b> [2] 59/17 61/6		<b>memorandum</b> [20] 19/10 19/10 19/19 22/12 23/3 40/2 40/20 41/12 42/2 42/25 57/17 61/2 87/15 87/18 101/13 104/9 105/3 108/8 161/11 161/14	<b>mid-July</b> [1] 19/4	<b>monolith</b> [1] 13/2
<b>male</b> [13] 5/6 19/25 59/15 64/25 66/22 67/13 68/4 68/10 106/2 111/13 111/17 113/10 113/17	<b>mandatory</b> [1] 159/21		<b>Memorial</b> [2] 62/24 114/5	<b>mid-July</b> [1] 19/4	<b>monolith</b> [1] 13/2
<b>males</b> [1] 110/22	<b>mark</b> [2] 122/2 122/13		<b>memory</b> [2] 15/12	<b>mid-July</b> [1] 19/4	<b>monolith</b> [1] 13/2
<b>man</b> [5] 19/13 65/2 68/5 68/13 111/14	<b>markedly</b> [1] 28/7			<b>mid-July</b> [1] 19/4	<b>monolith</b> [1] 13/2
<b>management</b> [1] 9/14	<b>marker</b> [1] 82/16			<b>mid-July</b> [1] 19/4	<b>monolith</b> [1] 13/2
<b>managing</b> [1] 135/4	<b>markers</b> [2] 6/12 93/9			<b>mid-July</b> [1] 19/4	<b>monolith</b> [1] 13/2
<b>mandated</b> [1] 55/22				<b>mid-July</b> [1] 19/4	<b>monolith</b> [1] 13/2
<b>manner</b> [1] 158/14				<b>mid-July</b> [1] 19/4	<b>monolith</b> [1] 13/2
<b>manufacture</b> [6] 73/20 89/18 128/16				<b>mid-July</b> [1] 19/4	<b>monolith</b> [1] 13/2

(57) lymph nodes - more

F:



<b>M</b>	<b>naming</b> [1] 35/19 <b>narrative</b> [3] 2/5 3/22 14/23 <b>national</b> [31] 11/20 11/24 14/7 14/10 14/17 18/1 18/12 20/10 25/25 26/1 26/2 28/15 48/9 48/21 55/25 76/7 76/11 78/3 98/24 102/13 105/5 115/4 116/3 121/22 128/5 128/23 129/6 138/8 143/22 151/10 154/17 <b>naturally</b> [1] 16/8 <b>nature</b> [1] 73/9 <b>navigate</b> [1] 4/11 <b>nearly</b> [1] 156/5 <b>necessarily</b> [7] 21/4 21/20 25/2 35/5 48/17 80/3 80/17 <b>necessary</b> [5] 19/18 40/22 41/2 74/9 92/1 <b>need</b> [18] 31/11 32/9 44/8 44/9 60/15 82/8 114/14 143/20 144/14 145/14 146/10 148/3 149/9 155/9 156/8 158/13 158/18 161/8 <b>needed</b> [5] 64/13 87/12 90/22 103/13 125/13 <b>needing</b> [1] 60/10 <b>needle</b> [2] 24/6 56/17 <b>needs</b> [1] 85/21 <b>negative</b> [2] 44/17 47/1 <b>negotiable</b> [1] 62/5 <b>NEJM</b> [4] 20/19 21/18 22/3 22/6 <b>neutral</b> [2] 3/21 74/24 <b>never</b> [2] 46/25 46/25 <b>new</b> [32] 6/2 6/4 6/4 20/1 26/8 26/9 26/10 35/6 56/1 58/17 64/20 65/4 68/2 69/23 70/9 74/4 77/25 86/15 90/2 98/13 104/18 109/12 112/15 112/15 112/17 114/6 117/21 117/24 118/19 138/18 147/24 163/10 <b>New Jersey</b> [2] 6/4 112/15 <b>New Orleans</b> [2] 6/4 112/15 <b>New York</b> [9] 6/2 26/8 26/9 26/10 58/17 112/17 114/6 118/19 138/18 <b>New York University</b> [1] 117/24	<b>newly</b> [1] 72/17 <b>news</b> [2] 84/8 120/7 <b>newsletters</b> [1] 69/21 <b>next</b> [15] 5/23 21/6 22/1 22/8 49/13 58/14 83/25 88/4 94/17 118/24 144/9 152/2 155/23 157/17 163/16 <b>NHF</b> [18] 14/11 14/20 18/16 23/24 24/12 56/7 56/13 57/7 59/12 72/6 99/1 100/12 100/18 100/25 105/21 109/25 154/24 157/19 <b>NHS</b> [1] 131/19 <b>night</b> [3] 99/25 113/4 155/16 <b>NIH</b> [2] 11/24 25/25 <b>nitrate</b> [2] 33/23 33/24 <b>no</b> [54] 4/3 29/22 30/1 35/16 37/21 42/8 42/12 44/13 44/14 44/16 45/10 47/2 47/4 47/5 48/22 61/11 61/15 61/25 62/6 62/12 64/11 66/18 68/10 72/10 73/8 77/16 77/18 89/13 89/15 105/3 109/4 110/24 112/3 112/6 113/19 116/7 116/17 116/20 116/23 127/20 132/17 134/18 135/24 136/19 139/9 145/14 147/23 149/9 153/20 158/16 158/21 158/21 161/9 164/6 <b>nobody</b> [2] 108/24 157/16 <b>nodes</b> [1] 111/10 <b>non</b> [8] 28/24 28/24 45/21 62/5 97/24 97/25 122/20 138/5 <b>non-A</b> [2] 28/24 97/24 <b>non-B</b> [2] 28/24 97/25 <b>non-binding</b> [1] 122/20 <b>non-negotiable</b> [1] 62/5 <b>non-specific</b> [1] 45/21 <b>non-USA</b> [1] 138/5 <b>none</b> [3] 77/13 128/10 133/10 <b>nor</b> [4] 4/4 13/18 113/21 116/21 <b>normal</b> [5] 28/4 77/4 95/11 95/12 95/20 <b>normally</b> [1] 29/5 <b>not</b> [143] 1/11 3/18 6/7 6/8 6/19 8/23 12/12 13/2 16/17 18/20 21/4 21/15 22/7 25/2 27/15 33/22 33/25 34/25 35/5 35/13 37/20 39/10 40/12 40/22 41/2 42/15 42/15 42/16 43/11 43/22 44/1 44/4 44/22 48/17 49/17 51/11 53/12 53/17 53/25 54/1 55/17 58/9 58/23 59/15 63/8 63/17 64/22 65/12 67/10 68/21 68/23 69/6 70/13 72/2 72/13 72/14 78/22 80/18 80/20 81/1 82/11 83/1 84/18 88/5 90/11 90/16 90/19 95/20 96/9 100/3 101/9 101/11 102/7 103/15 106/13 107/11 110/14 110/20 111/2 112/16 113/9 113/16 114/9 115/3 115/20 115/25 116/13 116/25 117/8 117/11 117/13 118/1 119/13 119/13 120/12 120/21 120/22 120/25 120/25 122/25 123/10 123/19 123/20 125/16 125/22 126/4 127/6 128/4 131/7 131/11 131/14 131/22 131/23 133/12 134/3 134/10 138/16 141/8 141/19 142/25 143/10 143/24 144/15 144/23 145/23 149/12 149/18 150/9 150/17 154/24 155/16 156/4 156/8 157/8 158/7 159/1 159/21 160/3 160/8 160/17 160/18 160/25 165/2 <b>notable</b> [2] 45/6 142/21 <b>notably</b> [1] 123/19 <b>note</b> [55] 18/18 26/4 28/11 28/12 28/17 28/17 28/21 30/5 35/23 36/23 37/2 37/8 37/10 37/18 38/7 45/17 46/8 48/15 49/5 55/1 55/20 60/6 61/3 62/10 63/17 65/20 68/19 68/19 70/5 75/23 82/10 82/22 90/6 90/8 101/21 102/3 104/8 114/1 120/10 121/6 122/19 123/22 143/10 147/22 148/18 148/20 149/21 150/9 150/17 153/5 156/16 156/20 157/4	160/16 164/16 <b>noted</b> [17] 16/6 39/17 51/16 51/24 66/9 82/16 85/21 99/22 102/6 103/17 105/3 107/2 110/25 121/7 128/25 135/2 154/24 <b>notes</b> [4] 59/17 59/22 61/7 126/24 <b>nothing</b> [4] 71/11 147/11 159/9 163/10 <b>notice</b> [7] 17/12 19/4 19/6 23/5 39/23 102/20 113/8 <b>noting</b> [1] 114/18 <b>Notwithstanding</b> [1] 99/18 <b>November</b> [2] 1/1 165/23 <b>now</b> [26] 8/15 20/25 44/25 46/14 53/12 64/8 66/1 66/24 67/6 79/8 91/9 91/11 92/12 95/10 99/15 101/13 109/17 111/4 117/12 121/17 124/15 130/20 141/21 142/10 143/9 164/16 <b>nuance</b> [1] 78/12 <b>number</b> [26] 10/4 11/13 11/21 12/18 19/1 28/6 35/25 41/23 41/24 47/19 49/16 57/25 64/19 66/12 69/14 88/8 89/14 97/24 100/17 129/10 129/14 137/8 137/18 144/3 144/3 152/7 <b>number 1</b> [1] 137/18 <b>number come</b> [1] 41/24 <b>number of</b> [6] 11/21 49/16 97/24 144/3 144/3 152/7 <b>numbers</b> [7] 1/23 1/25 3/15 75/10 75/12 88/14 94/16	<b>obscured</b> [1] 85/4 <b>observations</b> [1] 37/1 <b>observed</b> [3] 27/6 30/8 30/10 <b>obtain</b> [2] 5/16 116/14 <b>obtained</b> [12] 7/8 38/20 40/13 56/19 57/9 68/20 70/11 73/21 92/4 106/9 136/9 137/25 <b>obtaining</b> [2] 31/9 117/1 <b>obvious</b> [2] 145/1 146/15 <b>obviously</b> [2] 20/17 103/16 <b>occasion</b> [1] 84/11 <b>occasionally</b> [1] 26/22 <b>occasions</b> [4] 2/13 13/19 114/22 127/9 <b>occur</b> [2] 107/1 133/15 <b>occurred</b> [2] 45/14 68/11 <b>occurrence</b> [5] 25/20 29/20 31/5 51/18 66/10 <b>occurring</b> [2] 27/1 27/4 <b>occurs</b> [1] 66/20 <b>October</b> [10] 1/12 5/18 5/23 7/7 19/13 48/21 49/2 56/22 57/11 140/2 <b>October 1982</b> [2] 48/21 49/2 <b>off</b> [3] 66/16 107/20 139/12 <b>offering</b> [1] 2/24 <b>official</b> [3] 45/9 85/20 86/8 <b>officials</b> [3] 85/12 123/6 142/3 <b>offset</b> [1] 69/3 <b>oft</b> [1] 130/25 <b>oft-times</b> [1] 130/25 <b>often</b> [11] 5/13 9/23 10/6 12/3 12/16 14/10 14/12 48/4 75/24 115/21 118/12 <b>Ojala</b> [16] 57/17 57/19 101/12 101/13 103/17 104/12 108/8 142/19 148/18 148/20 148/24 154/2 154/4 154/9 157/1 158/5 <b>Ojala's</b> [2] 102/2 104/8 <b>old</b> [3] 35/9 37/24 63/22 <b>once</b> [2] 39/15 149/10
----------	--	---	---	---

(58) more... - once

F:



<b>O</b>	<b>option [1]</b> 109/20 <b>or [114]</b> 3/6 5/7 5/14 6/8 6/11 7/9 7/13 9/15 9/24 9/25 17/19 18/16 20/10 23/13 24/6 24/6 24/7 27/25 28/2 28/23 29/7 30/3 30/7 32/10 37/21 38/15 40/23 41/3 41/21 42/2 42/10 42/13 47/5 47/25 48/23 49/12 49/17 50/23 51/1 51/12 53/17 53/17 55/18 57/6 59/4 59/13 59/14 61/1 61/5 66/17 69/16 72/2 72/11 72/24 73/9 73/14 73/20 77/20 77/25 78/1 79/3 79/4 80/18 82/15 83/20 83/22 88/11 88/11 89/19 94/4 96/8 100/3 100/5 106/23 110/20 112/16 112/17 112/17 117/1 119/13 124/18 125/18 128/12 129/23 132/16 134/10 134/19 134/24 136/1 137/24 138/13 139/6 141/8 143/18 144/1 145/4 145/17 152/15 154/21 155/25 156/3 157/7 157/9 157/23 159/2 160/11 160/20 161/2 162/1 162/12 162/16 162/19 164/16 165/2 <b>order [3]</b> 5/16 12/17 17/11 <b>organisation [10]</b> 9/25 11/10 11/12 11/13 11/19 26/5 72/5 72/10 110/8 131/8 <b>organisations [12]</b> 6/20 8/18 8/20 8/23 12/18 37/25 84/13 99/12 99/19 100/4 112/9 163/7 <b>organism [1]</b> 86/4 <b>organizations [3]</b> 26/2 85/10 85/16 <b>orientate [1]</b> 139/25 <b>orientated [1]</b> 163/17 <b>origin [4]</b> 138/9 138/15 138/20 141/14 <b>original [2]</b> 19/24 104/12 <b>Orlando [1]</b> 149/8 <b>Orleans [2]</b> 6/4 112/15 <b>Oscar [1]</b> 77/9 <b>other [69]</b> 2/16 3/9 13/7 14/6 16/24 17/24 23/3 26/19 26/19	26/24 27/8 27/13 29/25 30/1 30/10 31/8 33/10 33/22 33/25 36/4 37/8 37/15 38/2 40/6 42/5 44/6 44/7 48/5 50/11 51/4 53/25 61/25 62/12 67/20 67/21 67/23 67/25 68/6 68/11 68/14 72/19 73/5 73/16 73/24 75/4 78/6 79/11 80/2 88/1 89/13 97/19 98/16 98/19 117/2 122/7 123/22 128/14 131/17 132/18 137/14 139/13 139/19 141/25 143/23 147/18 156/1 156/7 163/5 163/25 <b>others [13]</b> 1/10 4/15 10/15 13/8 16/20 31/21 40/18 61/5 61/15 62/13 66/23 94/13 136/4 <b>otherwise [1]</b> 2/18 <b>ought [3]</b> 119/14 125/21 125/22 <b>our [22]</b> 2/8 9/20 12/8 20/8 58/3 62/2 64/12 67/2 67/6 67/17 69/4 70/3 75/3 85/5 89/14 89/18 133/9 133/14 135/23 149/2 149/8 150/15 <b>ourselves [1]</b> 139/25 <b>out [39]</b> 14/15 16/21 22/3 26/23 30/13 34/15 39/1 41/10 54/11 62/1 62/17 69/22 71/2 72/2 74/14 75/13 79/25 81/14 81/24 82/9 89/1 107/7 110/4 113/14 118/18 119/22 121/18 122/15 122/17 123/23 127/1 140/11 145/6 147/11 149/5 150/20 154/1 157/12 160/24 <b>outbreak [2]</b> 18/6 86/21 <b>outcome [1]</b> 121/20 <b>outlined [1]</b> 152/5 <b>output [1]</b> 81/11 <b>outside [4]</b> 13/9 131/7 136/14 136/17 <b>outspoken [1]</b> 118/16 <b>outweigh [2]</b> 29/4 158/19 <b>over [22]</b> 22/1 22/8 27/22 29/16 32/14 35/12 39/10 62/18 63/1 81/4 81/20 84/12 95/25 98/3 106/20	122/2 126/14 129/19 143/18 144/9 150/19 150/19 <b>overall [2]</b> 32/21 88/20 <b>overhead [2]</b> 97/1 97/23 <b>overreact [1]</b> 63/9 <b>overreaction [2]</b> 86/25 117/19 <b>overriding [1]</b> 72/15 <b>override [1]</b> 59/5 <b>overseas [2]</b> 140/15 149/4 <b>overseen [1]</b> 9/4 <b>oversees [1]</b> 11/14 <b>overview [2]</b> 4/8 151/12 <b>overviews [1]</b> 88/2 <b>overwhelmingly [2]</b> 60/18 153/16 <b>overzealous [1]</b> 91/14 <b>own [11]</b> 4/18 8/8 15/12 20/16 39/25 65/5 69/7 102/22 123/14 130/6 147/12	<b>P</b> <b>page [37]</b> 21/8 21/11 21/12 22/1 22/8 25/9 47/11 58/3 63/1 66/1 75/8 75/10 75/11 75/13 75/14 83/10 88/23 89/2 92/20 96/15 105/17 106/20 118/10 139/24 140/18 140/20 144/9 148/20 148/22 149/23 151/20 151/22 152/3 155/23 156/23 160/6 161/13 <b>page 111 [1]</b> 118/10 <b>page 2 [3]</b> 148/22 149/23 151/20 <b>page 25 [1]</b> 21/12 <b>page 26 [1]</b> 21/8 <b>page 280 [1]</b> 25/9 <b>page 289 [1]</b> 96/15 <b>page 293 [1]</b> 105/17 <b>page 3 [3]</b> 66/1 88/23 89/2 <b>page 313 [1]</b> 161/13 <b>page 5 [2]</b> 47/11 92/20 <b>page 6 [1]</b> 83/10 <b>page 752 [1]</b> 75/8 <b>page 8 [1]</b> 156/23 <b>page numbers [1]</b> 75/10 <b>page of [1]</b> 139/24 <b>page out [1]</b> 75/13 <b>page short [1]</b> 75/14 <b>pages [2]</b> 32/23 75/7	<b>paid [7]</b> 29/14 36/11 78/22 80/4 88/1 89/22 123/7 <b>panel [4]</b> 155/11 157/4 157/5 158/9 <b>panels [1]</b> 48/9 <b>panic [3]</b> 43/14 44/20 144/1 <b>paragraph [62]</b> 1/25 8/19 15/4 15/6 18/10 18/22 19/22 21/7 21/12 22/10 23/6 25/17 28/21 33/2 33/5 34/21 39/18 40/17 43/1 45/6 45/16 47/12 49/2 49/19 50/17 53/19 58/2 58/14 61/21 63/3 66/4 71/2 72/9 74/15 75/18 83/11 83/13 83/25 87/20 88/4 92/21 104/15 113/14 125/7 126/22 127/2 128/20 129/13 129/25 130/15 135/8 136/3 139/17 143/2 143/11 146/18 147/21 149/25 151/22 156/24 157/17 164/23 <b>paragraph 106 [1]</b> 113/14 <b>Paragraph 125 [1]</b> 125/7 <b>paragraph 128 [1]</b> 128/20 <b>paragraph 130 [1]</b> 129/13 <b>paragraph 131 [1]</b> 129/25 <b>paragraph 137 [2]</b> 135/8 136/3 <b>paragraph 139 [1]</b> 139/17 <b>Paragraph 142 [1]</b> 143/2 <b>paragraph 15 [1]</b> 156/24 <b>paragraph 163 [1]</b> 164/23 <b>paragraph 17 [1]</b> 15/4 <b>paragraph 19 [1]</b> 18/10 <b>paragraph 2 [1]</b> 127/2 <b>paragraph 20 [1]</b> 18/22 <b>paragraph 23 [1]</b> 21/7 <b>paragraph 24 [1]</b> 23/6 <b>paragraph 36 [1]</b> 39/18 <b>paragraph 37 [1]</b> 40/17 <b>paragraph 40 [1]</b> 45/6 <b>paragraph 41 [1]</b>	45/16 <b>paragraph 44 [1]</b> 49/2 <b>paragraph 45 [2]</b> 49/19 50/17 <b>paragraph 48 [1]</b> 53/19 <b>paragraph 58 [1]</b> 66/4 <b>paragraph 6 [2]</b> 15/6 151/22 <b>paragraph 70 [1]</b> 71/2 <b>paragraph 73 [2]</b> 21/12 72/9 <b>paragraph 75 [1]</b> 22/10 <b>paragraph 77 [1]</b> 74/15 <b>paragraph 9 [1]</b> 8/19 <b>paragraph 95 [1]</b> 104/15 <b>paragraph above it [1]</b> 83/13 <b>paragraph down [3]</b> 47/12 61/21 143/11 <b>paragraph E [1]</b> 28/21 <b>paragraph numbers</b> [1] 1/25 <b>paragraph of [1]</b> 126/22 <b>paragraph on [1]</b> 83/11 <b>paragraphs [4]</b> 37/4 143/12 148/23 156/25 <b>parameters [1]</b> 81/24 <b>parents [1]</b> 56/9 <b>part [14]</b> 3/4 7/9 10/21 11/15 17/8 19/14 24/20 67/9 67/14 69/6 133/25 143/24 159/20 165/14 <b>participant [1]</b> 82/11 <b>participants [9]</b> 3/14 4/2 4/7 4/13 25/24 73/16 77/14 132/15 156/1 <b>particular [9]</b> 1/15 2/15 5/1 21/16 26/10 70/15 88/10 90/6 131/21 <b>particularly [18]</b> 3/3 6/20 8/3 10/11 13/13 13/21 15/20 20/14 29/21 31/12 32/19 39/1 84/13 99/21 102/7 118/4 131/25 164/21 <b>parties [3]</b> 2/16 109/8 143/23 <b>partly [1]</b> 2/6 <b>parts [4]</b> 29/14 36/13 105/9 115/6 <b>Party [1]</b> 114/20 <b>pass [1]</b> 122/3
----------	--	---	---	--	--	--

(59) one - pass

<b>P</b>	118/17 126/12 129/1 144/25 151/5 151/14 165/1	38/24 39/6 39/9	141/25	plasmapheresis [16]	151/1 154/11
<b>passed</b> [2] 24/5 52/23		<b>persuaded</b> [2] 31/24 32/1	<b>plainly</b> [2] 90/9 93/17	5/13 10/18 12/14	<b>polite</b> [1] 84/11
<b>passes</b> [1] 45/25			<b>plan</b> [3] 133/14	29/15 38/10 58/22	<b>political</b> [5] 40/15
<b>passing</b> [1] 41/12		<b>persuading</b> [1] 13/8	144/20 145/6	65/7 68/19 78/22	43/14 44/20 44/23
<b>past</b> [5] 27/22 40/11	<b>people's</b> [2] 87/1	<b>persuasive</b> [2] 130/24	<b>planning</b> [1] 98/6	101/10 101/24 106/23	88/16
56/18 66/23 114/22	<b>per</b> [49] 20/25 29/17	155/16	<b>plans</b> [1] 146/16	111/2 112/14 113/20	<b>politically</b> [5] 38/9
<b>pathological</b> [1] 30/15	37/13 71/7 71/20	<b>pertaining</b> [1] 64/16	<b>plasma</b> [166] 2/22	123/23	38/14 43/7 44/21
<b>patient</b> [6] 7/10 18/13	71/22 78/17 78/19	<b>pertinent</b> [3] 131/25	2/25 5/3 5/16 5/19 7/8	<b>play</b> [3] 91/11 91/18	148/13
71/4 71/7 84/18 131/3	79/3 79/3 79/5 79/17	148/5 158/10	7/9 7/9 10/19 12/2	92/2	<b>pool</b> [18] 34/19 43/9
<b>patient's</b> [4] 48/2	79/21 80/9 80/12	<b>Petricciani</b> [10]	12/17 18/2 24/25	<b>played</b> [3] 86/13	69/17 83/20 102/25
66/15 120/15 120/16	80/15 81/12 82/13	122/17 142/24 146/20	26/17 27/24 29/6 29/9	91/13 92/13	103/5 103/21 106/12
<b>patients</b> [66] 17/6	89/15 94/5 94/6 94/9	147/9 149/7 150/1	29/12 36/11 37/11	<b>please</b> [45] 21/6 22/8	106/25 107/5 108/21
17/14 17/19 19/5	94/10 94/11 94/11	150/2 151/10 161/9	37/13 38/11 38/11	25/6 42/23 47/10	108/21 143/7 152/12
22/22 25/15 25/22	94/13 94/13 94/22	161/11	38/20 39/25 41/21	57/20 58/14 63/3	152/13 156/13 157/8
25/23 27/4 27/6 27/14	94/22 95/3 95/5 95/7	<b>pharmaceutical</b> [15]	42/9 42/15 42/22 43/5	63/16 65/19 66/1	161/22
27/22 27/23 28/4 28/8	95/7 95/11 95/21	1/4 1/7 1/9 12/4 19/3	46/23 48/22 50/25	67/16 75/6 75/17	<b>pooled</b> [10] 24/25
28/10 28/22 29/2 29/3	95/22 97/8 97/12	48/24 64/15 73/5 99/6	56/19 57/9 57/10	83/12 84/1 87/16	29/13 29/14 43/6 43/6
29/15 29/20 29/23	101/18 101/22 104/19	134/2 135/5 151/25	58/16 61/15 61/23	87/20 88/4 92/12	71/14 120/23 138/14
29/23 29/25 30/2	104/23 108/13 108/15	152/4 164/19 166/3	61/25 62/3 62/16	92/18 92/20 96/17	141/11 141/13
30/11 31/5 31/7 34/24	114/11 119/9 136/13	<b>philosophy</b> [1] 84/14	62/16 62/19 62/21	105/16 106/20 107/20	<b>pooling</b> [1] 152/24
35/4 35/8 35/11 35/16	140/15 152/15	<b>photocopied</b> [1]	65/7 66/24 67/3 67/15	125/9 127/1 137/9	<b>pools</b> [9] 37/8 121/1
47/18 48/4 48/11	<b>perceived</b> [4] 29/3	65/24	67/18 67/19 68/7	138/3 140/11 142/13	127/16 127/21 143/18
50/24 51/18 51/22	86/12 117/19 150/24	<b>phrase</b> [3] 24/12	68/20 70/11 72/12	144/9 148/19 148/22	144/13 145/5 152/20
51/25 52/7 52/10 56/9	<b>percentage</b> [5] 60/16	56/21 135/11	73/21 73/25 76/9 76/9	149/22 150/9 151/18	157/7
64/21 64/22 69/4	93/22 93/24 94/20	<b>phrased</b> [1] 65/18	77/7 82/5 82/6 89/8	151/20 152/3 155/23	<b>populated</b> [1] 115/24
72/13 72/19 72/24	119/21	<b>physical</b> [3] 29/7	89/9 89/11 89/17	156/19 156/23 156/24	<b>population</b> [14] 15/2
78/6 84/17 85/8 92/4	<b>performed</b> [1] 29/24	112/25 132/22	89/18 89/21 98/25	161/12	28/6 33/18 37/22
92/25 93/2 93/3	<b>perhaps</b> [12] 21/3	<b>physically</b> [1] 123/3	99/1 99/8 101/16	<b>plural</b> [2] 11/6 11/11	78/20 79/5 79/22 85/3
104/19 105/7 123/1	50/16 50/16 73/3	<b>physician</b> [3] 77/9	101/25 103/25 104/2	<b>pm</b> [6] 25/19 91/6	85/7 93/21 94/17
129/2 131/22 152/15	74/10 81/15 84/7	120/16 159/6	106/9 107/1 107/4	91/8 137/2 137/4	97/13 106/10 129/2
156/10 158/15 159/8	114/12 130/8 145/7	<b>physicians</b> [4] 72/23	107/10 110/9 110/11	165/21	<b>populations</b> [4] 27/2
159/13	146/19 165/5	76/12 105/10 109/19	113/22 114/8 116/8	<b>PMA</b> [7] 12/4 58/5	58/20 62/22 89/11
<b>pattern</b> [3] 52/6 53/10	<b>period</b> [32] 4/25 6/6	<b>pick</b> [6] 20/15 33/2	116/14 116/25 117/1	152/1 152/25 154/5	<b>pose</b> [1] 68/14
64/9	8/6 12/2 50/24 53/4	43/22 127/2 145/2	120/9 120/13 120/22	154/7 154/25	<b>posed</b> [8] 31/17 33/11
<b>pause</b> [7] 28/11 38/23	53/6 53/9 53/18 53/20	159/25	120/24 121/1 121/5	<b>PMA/FDA</b> [1] 58/5	100/2 121/3 123/7
48/15 59/9 62/10	53/24 53/25 54/1 54/6	<b>picked</b> [3] 21/20	122/25 123/4 123/8	<b>pneumocystis</b> [3]	137/18 139/11 140/4
132/1 153/5	54/12 54/23 63/24	145/15 165/3	125/17 126/2 127/6	17/7 20/23 25/21	<b>posing</b> [1] 129/18
<b>PCP</b> [9] 17/7 17/10	74/12 80/19 99/22	<b>picking</b> [1] 136/11	127/16 127/21 127/22	<b>pneumonia</b> [3] 17/7	<b>position</b> [20] 34/19
18/3 19/5 25/22 27/6	101/4 115/9 143/18	<b>picks</b> [1] 160/6	127/25 128/1 128/8	20/23 25/21	38/8 40/12 46/22 79/8
29/20 31/5 31/8	144/5 145/2 145/8	<b>piece</b> [2] 87/5 90/23	131/18 133/2 134/20	<b>point</b> [23] 3/11 8/7	84/25 88/18 90/7
<b>peer</b> [2] 22/4 22/5	145/15 145/16 146/17	<b>pieces</b> [1] 88/24	135/10 135/10 135/16	16/20 17/2 22/3 27/17	96/11 100/7 117/6
<b>pending</b> [1] 128/8	152/22 159/4 160/20	<b>pioneered</b> [1] 114/7	135/19 135/24 135/25	38/1 38/23 46/10 52/8	136/12 142/5 148/11
<b>Penny</b> [2] 147/14	<b>permit</b> [3] 28/3 30/3	<b>pipeline</b> [1] 7/8	136/5 136/8 136/13	56/23 62/5 64/5 80/7	151/2 155/20 158/2
149/22	106/24	<b>pivotal</b> [1] 17/4	136/16 137/25 138/1	81/6 90/8 104/8	158/4 158/8 164/10
<b>people</b> [61] 2/1 4/22	<b>permitted</b> [1] 29/1	<b>place</b> [42] 7/5 15/23	138/2 138/5 138/6	123/22 144/25 147/11	<b>positive</b> [15] 32/16
5/7 14/9 14/16 17/10	<b>persistent</b> [1] 155/15	16/23 25/5 25/18	138/10 138/12 138/13	153/7 160/5 160/5	78/18 80/11 80/16
17/12 18/4 21/23	<b>person</b> [7] 24/6 53/5	39/13 41/14 45/3	138/15 138/17 138/19	<b>pointed</b> [3] 62/1 62/17	86/14 93/22 93/24
22/14 23/20 24/17	53/5 55/3 55/3 92/6	49/14 57/14 63/20	138/24 139/2 139/5	145/6	94/5 94/20 95/3 95/12
24/18 24/21 28/19	111/13	63/24 64/20 65/15	141/11 141/13 141/13	<b>pointing</b> [1] 26/23	97/9 97/14 153/9
30/9 31/25 33/16	<b>person-to-person</b> [1]	67/19 68/2 69/9 70/9	141/14 141/18 141/24	<b>points</b> [11] 3/19 7/20	158/22
34/22 36/10 41/16	55/3	77/22 90/10 92/23	142/16 143/6 143/17	12/7 30/7 85/25 108/4	<b>positivity</b> [1] 98/10
41/16 41/20 41/23	<b>personal</b> [2] 93/13	96/14 98/24 99/9	144/13 145/3 145/5	134/6 144/11 158/10	<b>possibility</b> [12] 18/15
48/23 49/24 52/13	157/25	100/10 102/23 103/20	145/14 146/11 147/7	159/25 161/5	19/6 27/4 58/11 67/5
55/3 55/4 56/2 57/25	<b>personally</b> [1] 158/1	109/11 114/24 115/21	147/15 147/17 150/12	<b>policies</b> [2] 13/23	70/25 99/16 101/14
64/1 66/21 67/9 67/14	<b>personnel</b> [1] 65/23	118/9 124/9 126/21	152/9 152/12 152/17	154/8	106/22 112/3 157/8
72/7 72/17 79/3 80/14	<b>persons</b> [4] 27/18	136/10 142/3 142/11	152/19 154/9 154/15	<b>policy</b> [22] 14/21	163/10
80/15 80/22 81/8	47/23 76/5 77/3	142/15 147/17 151/7	154/16 155/13 156/3	43/13 48/13 49/15	<b>possible</b> [13] 27/8
91/21 94/2 94/17	<b>perspective</b> [6] 3/21	159/12 160/15 164/5	156/12 159/5 160/7	51/9 54/18 55/6 59/14	34/7 48/6 58/7 70/2
94/19 94/24 102/18	23/6 90/4 114/17	<b>placed</b> [8] 1/20 36/14	161/8 161/23 162/6	64/13 84/19 114/24	83/22 91/23 102/12
104/24 105/1 105/1	149/20 153/15	76/24 86/20 87/1	163/22	115/23 122/14 143/5	110/9 119/21 127/7
109/7 110/6 110/18	<b>perspicacity</b> [1] 50/4	103/24 128/8 141/23	<b>plasmapheresis</b> [1]	143/20 143/21 143/24	128/18 163/19
	<b>persuade</b> [4] 38/19	<b>places</b> [2] 136/16	144/17	144/5 148/7 148/15	<b>possibly</b> [5] 84/2

(60) passed - possibly



<b>P</b>	<b>preparations [1]</b> 29/18 <b>prepare [1]</b> 50/25 <b>prepared [7]</b> 27/25 29/12 45/18 65/12 86/17 137/6 150/10 <b>preparing [1]</b> 105/12 <b>presage [1]</b> 89/20 <b>presence [3]</b> 77/1 84/7 97/5 <b>present [27]</b> 13/20 29/5 33/21 33/25 34/2 50/22 63/17 76/5 98/18 100/17 103/23 106/18 107/7 108/24 109/7 115/20 115/25 116/2 133/3 156/18 157/6 158/13 158/25 159/10 159/14 160/18 163/24 <b>presentation [44]</b> 1/3 1/13 1/19 1/22 3/17 3/20 4/10 4/21 7/24 8/19 15/5 16/18 18/10 18/22 21/8 23/7 26/13 37/5 39/3 39/19 40/17 45/17 49/3 49/19 50/18 59/8 66/4 71/3 72/9 74/15 86/19 87/22 89/1 91/24 104/15 125/7 129/13 135/8 139/18 143/2 157/18 158/12 164/24 166/2 <b>presentations [3]</b> 1/9 1/25 157/6 <b>presented [7]</b> 28/19 33/9 50/9 76/13 78/15 154/5 154/17 <b>presenting [1]</b> 150/4 <b>presently [1]</b> 159/21 <b>president [1]</b> 130/12 <b>press [1]</b> 131/1 <b>pressure [3]</b> 44/23 89/20 133/1 <b>presumably [6]</b> 37/7 53/21 94/15 103/12 132/18 149/16 <b>pretend [1]</b> 4/9 <b>prevalence [2]</b> 51/6 105/1 <b>prevent [1]</b> 88/13 <b>preventative [2]</b> 44/9 44/10 <b>preventing [1]</b> 97/23 <b>prevention [5]</b> 10/20 10/23 10/25 76/1 78/5 <b>prevents [1]</b> 147/12 <b>previous [9]</b> 7/16 21/11 29/22 86/20 140/16 140/18 145/14 156/25 161/2	<b>pricked [1]</b> 22/6 <b>primarily [1]</b> 77/8 <b>primary [3]</b> 48/15 101/14 152/11 <b>principal [2]</b> 11/22 139/12 <b>prior [8]</b> 127/9 135/19 138/14 141/11 144/15 145/2 148/4 152/22 <b>priority [1]</b> 31/9 <b>prison [7]</b> 13/24 37/14 62/7 89/14 89/16 90/7 116/24 <b>prisoners [1]</b> 89/17 <b>prisons [6]</b> 5/21 37/12 61/23 73/25 116/9 116/14 <b>privacy [1]</b> 96/22 <b>privately [2]</b> 38/3 149/7 <b>pro [1]</b> 83/16 <b>probable [4]</b> 47/17 49/21 49/23 94/18 <b>probably [6]</b> 49/11 51/6 60/25 86/13 132/19 158/16 <b>problem [14]</b> 20/7 36/3 40/8 60/12 62/1 84/24 104/11 118/21 131/9 145/23 148/10 154/1 155/7 157/10 <b>problems [2]</b> 65/11 108/21 <b>procedure [2]</b> 84/15 103/18 <b>procedures [9]</b> 90/3 98/13 111/5 111/6 123/15 135/21 145/13 145/21 149/3 <b>proceed [1]</b> 90/12 <b>process [9]</b> 27/7 30/15 64/21 65/4 68/7 74/4 96/25 114/7 149/1 <b>processed [3]</b> 42/10 97/18 144/19 <b>processes [3]</b> 104/6 120/25 133/5 <b>processing [5]</b> 97/21 106/17 107/4 138/14 141/12 <b>procurement [1]</b> 132/15 <b>prodromal [2]</b> 53/25 54/5 <b>prodrome [1]</b> 53/8 <b>produce [3]</b> 83/16 83/19 152/13 <b>produced [14]</b> 37/3 42/14 49/6 70/10 87/15 111/15 114/11 129/11 129/15 135/13	145/16 153/1 160/14 160/23 <b>producers [1]</b> 29/11 <b>producing [1]</b> 67/2 <b>product [68]</b> 2/23 13/22 18/21 24/7 24/24 27/24 41/9 58/5 67/1 76/10 89/19 103/7 115/13 115/14 121/5 121/10 124/11 125/6 125/13 125/16 125/19 125/22 126/2 126/6 127/25 128/17 128/22 130/7 131/3 133/11 133/23 135/13 136/22 138/10 138/20 140/5 142/9 144/4 144/14 144/18 144/20 144/22 144/23 145/4 145/8 145/16 148/2 148/3 149/19 150/4 150/6 150/22 151/1 151/21 153/22 154/7 154/14 154/19 155/8 155/12 155/17 155/22 155/25 156/13 158/21 162/1 164/7 164/11 <b>product's [1]</b> 29/3 <b>production [7]</b> 29/8 98/6 107/13 108/22 123/10 152/25 162/6 <b>productions [4]</b> 58/18 62/4 107/16 159/3 <b>products [99]</b> 1/5 2/20 5/19 6/23 7/4 7/12 7/15 8/2 8/3 9/21 10/2 10/5 10/10 10/19 18/3 18/9 18/16 19/7 20/8 21/22 22/23 24/10 24/19 25/1 25/12 27/9 28/24 31/12 35/5 36/17 37/21 38/5 40/1 42/10 43/9 43/12 43/16 45/5 45/7 45/15 46/6 52/12 55/5 56/6 58/8 67/3 67/6 70/1 70/10 70/23 73/7 73/20 76/2 78/7 82/20 88/13 89/12 97/19 105/12 107/5 109/1 112/23 120/7 123/21 124/8 124/14 124/17 127/17 127/20 128/10 129/5 129/9 129/21 131/13 131/21 136/16 137/22 138/16 140/23 141/1 141/12 143/25 146/12 150/15 150/18 150/23 151/9 153/16 156/9 157/8 158/18 158/23 159/18 159/24 160/10 160/13	163/4 163/11 166/3 <b>professional [2]</b> 59/7 118/22 <b>Professor [7]</b> 117/23 128/21 131/23 132/3 135/6 135/7 135/11 <b>Professor Bloom [4]</b> 128/21 131/23 135/6 135/11 <b>Professor Bloom's [1]</b> 132/3 <b>Professor Dorothea [1]</b> 117/23 <b>profit [1]</b> 10/15 <b>Profits [1]</b> 92/4 <b>program [3]</b> 58/23 67/15 114/6 <b>programme [13]</b> 59/1 59/7 67/18 86/23 86/24 89/7 92/3 102/17 102/19 102/21 102/23 107/24 113/12 <b>programmes [4]</b> 79/10 107/24 114/4 152/6 <b>programs [2]</b> 28/8 58/22 <b>progress [2]</b> 88/16 104/5 <b>progresses [1]</b> 19/2 <b>project [2]</b> 49/9 121/9 <b>projects [1]</b> 6/14 <b>prolonged [1]</b> 35/4 <b>prominent [1]</b> 74/11 <b>promiscuous [1]</b> 68/10 <b>promised [1]</b> 163/17 <b>promote [1]</b> 30/3 <b>promptly [1]</b> 122/7 <b>pronounced [1]</b> 21/22 <b>proof [3]</b> 44/13 44/14 48/12 <b>properly [1]</b> 87/6 <b>proportion [1]</b> 104/24 <b>proposal [5]</b> 77/6 146/17 150/4 160/25 161/6 <b>proposals [4]</b> 86/11 88/20 116/4 146/9 <b>proposed [1]</b> 85/13 <b>proposing [1]</b> 124/6 <b>proposition [2]</b> 82/1 125/23 <b>prose [1]</b> 140/19 <b>prospect [1]</b> 79/2 <b>prospective [2]</b> 42/7 70/6 <b>protagonist [1]</b> 15/9 <b>protection [1]</b> 69/4 <b>protection' [1]</b> 84/7 <b>protective [2]</b> 7/1 95/17	<b>protein [1]</b> 27/25 <b>protocol [1]</b> 68/2 <b>prove [5]</b> 43/11 44/3 44/10 47/1 92/1 <b>proved [3]</b> 13/15 19/17 37/20 <b>proves [1]</b> 20/17 <b>provide [9]</b> 2/6 4/6 4/19 5/19 10/9 12/17 85/23 88/19 101/25 <b>provided [11]</b> 3/12 37/5 48/8 52/20 65/7 69/21 130/6 133/6 148/17 149/21 151/12 <b>provides [4]</b> 88/24 95/14 126/22 140/2 <b>providing [7]</b> 3/15 17/9 68/1 91/15 101/19 111/7 160/22 <b>proving [2]</b> 44/17 123/17 <b>provisions [1]</b> 146/25 <b>provoke [1]</b> 98/7 <b>PRSE0000411 [1]</b> 132/5 <b>PRSE00004496 [1]</b> 125/10 <b>PRSE0004496 [1]</b> 126/16 <b>psychology [1]</b> 112/6 <b>PTC [2]</b> 150/13 150/17 <b>public [16]</b> 4/8 9/11 9/13 10/22 11/15 11/17 14/21 25/14 59/5 60/4 74/18 101/4 122/8 122/13 143/21 150/8 <b>publication [1]</b> 23/23 <b>publications [1]</b> 132/10 <b>published [10]</b> 15/2 63/21 69/22 99/11 109/13 122/9 124/3 128/23 132/6 132/9 <b>publishes [1]</b> 18/24 <b>purchase [1]</b> 107/10 <b>purity [1]</b> 103/10 <b>purpose [4]</b> 5/18 10/9 43/2 125/14 <b>purposely [1]</b> 5/15 <b>purposes [4]</b> 9/20 67/21 103/9 103/12 <b>pursuits [1]</b> 28/5 <b>pushing [1]</b> 110/1 <b>put [21]</b> 7/5 7/21 36/12 38/16 64/20 65/14 67/19 68/2 69/9 96/16 98/20 109/17 110/4 120/14 122/8 126/10 136/10 146/8 146/13 147/17 160/15 <b>puts [5]</b> 43/20 44/6
----------	---	---	---	---	---

(61) possibly... - puts



<b>P</b>	120/10 120/17 122/10 128/18 129/3 135/17 141/3 146/15 161/15 <b>quoted</b> [4] 69/23 72/9 82/15 101/22 <b>quotes</b> [1] 34/22	128/22 130/7 133/23 142/9 144/18 145/4 145/14 148/3 149/9 149/18 150/5 151/1 151/21 152/21 154/6 154/6 154/10 155/17 155/21 155/25 157/10 158/2 158/20 159/2 159/10 159/21 160/10 160/20 164/7 164/12 <b>recalled</b> [8] 71/7 49/20 120/7 127/24 144/15 145/17 154/19 157/21 <b>recalling</b> [2] 43/16 144/23 <b>receipt</b> [1] 133/17 <b>receive</b> [1] 21/16 <b>received</b> [13] 24/17 24/19 47/20 48/5 52/16 55/3 55/4 76/17 120/9 129/20 129/22 133/10 134/15 <b>receiving</b> [6] 28/22 41/22 52/11 70/3 156/7 157/14 <b>recent</b> [3] 27/2 31/5 131/1 <b>recently</b> [5] 5/8 31/4 66/9 106/3 127/5 <b>receptionist</b> [2] 67/17 68/3 <b>receptive</b> [1] 114/3 <b>recipient</b> [2] 48/2 159/20 <b>recipient's</b> [1] 41/10 <b>recipients</b> [5] 47/24 78/7 93/10 155/9 156/9 <b>recited</b> [1] 49/19 <b>recognisable</b> [1] 53/23 <b>recognise</b> [1] 69/1 <b>recognised</b> [3] 16/5 113/20 131/8 <b>recollection</b> [2] 35/23 50/7 <b>recombinant</b> [2] 107/17 109/1 <b>recommend</b> [2] 55/17 123/19 <b>recommendation</b> [9] 48/25 49/1 73/1 88/7 90/17 101/15 121/21 154/5 154/18 <b>recommendations</b> [34] 14/15 32/6 36/19 48/12 56/13 72/7 78/5 78/8 83/19 85/14 89/3 105/6 105/9 105/15 105/19 105/20 107/19 110/10 111/1 121/15	121/17 121/23 121/25 122/4 122/7 123/12 124/3 125/12 125/15 125/18 126/6 126/25 135/14 146/23 <b>recommended</b> [8] 58/25 72/13 76/25 77/11 99/23 110/24 147/13 148/9 <b>recommending</b> [2] 18/20 112/10 <b>recommends</b> [1] 154/7 <b>record</b> [17] 25/16 26/24 36/13 36/24 45/9 46/1 63/2 70/16 71/16 96/14 96/16 98/15 100/23 101/12 128/19 142/14 151/20 <b>recorded</b> [11] 35/24 71/13 79/16 98/17 101/17 108/8 108/17 116/17 143/13 148/24 162/24 <b>recording</b> [2] 40/20 150/24 <b>records</b> [4] 36/1 57/19 144/15 147/22 <b>recovered</b> [6] 57/10 62/16 62/19 62/21 107/10 147/15 <b>recruited</b> [2] 38/21 73/22 <b>recruitment</b> [2] 35/1 56/20 <b>recurrent</b> [1] 113/4 <b>Red</b> [10] 12/20 26/1 37/19 37/24 85/20 86/7 90/13 99/12 156/17 163/6 <b>redirect</b> [1] 134/21 <b>reduce</b> [14] 34/8 55/7 64/13 70/2 72/12 73/18 76/20 77/16 78/1 88/8 112/22 114/15 131/22 152/7 <b>reducing</b> [4] 35/8 67/4 93/9 157/8 <b>reduction</b> [3] 29/1 62/19 106/25 <b>refer</b> [10] 1/24 4/14 6/18 14/2 15/15 39/2 48/18 110/19 134/6 136/5 <b>reference</b> [25] 8/6 15/4 16/6 20/19 21/1 21/7 41/12 45/10 45/13 45/23 49/11 52/17 60/7 64/6 70/14 104/17 109/8 128/19 129/14 132/2 140/22 147/2 157/7 158/3	165/7 <b>references</b> [9] 1/21 9/24 44/20 75/13 125/8 129/24 139/17 143/3 146/15 <b>referred</b> [20] 4/6 5/13 7/7 10/6 11/2 11/8 12/3 14/12 17/4 40/14 57/7 86/12 86/18 95/10 109/2 134/14 135/9 140/16 160/1 164/5 <b>referring</b> [6] 2/13 4/4 38/13 62/11 132/13 156/21 <b>refers</b> [5] 20/20 33/14 65/20 86/9 93/5 <b>reflected</b> [2] 35/4 85/19 <b>reflecting</b> [1] 144/8 <b>refusing</b> [1] 47/22 <b>regard</b> [1] 155/24 <b>regarded</b> [2] 12/9 84/20 <b>regarding</b> [2] 43/8 146/24 <b>regimens</b> [1] 28/3 <b>region</b> [1] 140/8 <b>regional</b> [1] 105/13 <b>regular</b> [2] 51/3 69/21 <b>regularly</b> [3] 21/14 28/22 121/14 <b>regulating</b> [1] 9/17 <b>regulation</b> [1] 9/2 <b>regulations</b> [5] 55/18 55/23 109/4 125/18 163/12 <b>regulators</b> [1] 2/16 <b>regulatory</b> [8] 35/12 38/25 55/18 55/23 122/3 132/25 138/8 155/20 <b>rejected</b> [3] 97/4 122/7 163/12 <b>rejection</b> [1] 69/2 <b>related</b> [8] 5/12 6/23 21/3 35/14 62/15 71/12 144/19 148/2 <b>relating</b> [6] 1/3 15/23 49/4 63/22 124/7 166/2 <b>relation</b> [3] 3/3 161/17 162/4 <b>relations</b> [2] 147/20 150/8 <b>relationship</b> [2] 27/16 65/13 <b>relatively</b> [5] 5/7 62/5 69/20 103/18 144/2 <b>release</b> [1] 120/21 <b>released</b> [1] 120/24 <b>relevance</b> [5] 3/2	12/19 16/21 45/10 51/12 <b>relevant</b> [19] 10/8 14/18 25/5 26/4 46/7 49/5 55/1 55/20 63/17 70/5 73/5 86/10 91/3 99/24 101/21 114/1 114/12 122/19 143/3 <b>reliance</b> [1] 36/11 <b>reluctance</b> [1] 34/10 <b>rely</b> [1] 57/2 <b>relying</b> [1] 55/8 <b>remain</b> [1] 62/5 <b>remained</b> [3] 85/10 85/12 147/24 <b>remaining</b> [1] 90/23 <b>remains</b> [1] 28/9 <b>remember</b> [2] 17/23 21/5 <b>repeat</b> [1] 1/11 <b>repeatedly</b> [1] 140/1 <b>replaced</b> [1] 122/16 <b>replied</b> [1] 139/19 <b>report</b> [24] 16/4 17/11 18/24 20/4 22/16 39/2 49/7 49/8 50/20 63/21 63/25 69/11 75/2 75/11 75/13 75/14 86/17 87/3 90/14 92/3 99/4 122/24 153/7 163/18 <b>reported</b> [17] 16/2 20/3 20/24 21/15 21/23 23/13 25/23 26/19 52/1 52/14 52/16 62/7 64/2 70/17 116/2 130/20 131/7 <b>reporters</b> [1] 84/8 <b>reporting</b> [3] 42/3 57/23 130/25 <b>reports</b> [9] 4/22 18/25 22/13 39/1 50/1 129/20 129/22 134/10 134/18 <b>represent</b> [1] 153/13 <b>representative</b> [6] 14/8 87/14 101/8 102/16 149/14 149/21 <b>representatives</b> [20] 16/23 25/8 25/25 38/2 57/14 76/8 77/5 77/7 98/25 100/12 100/14 100/21 101/6 101/11 108/3 115/1 115/24 142/16 149/14 163/6 <b>represented</b> [9] 10/12 12/4 35/16 46/9 95/25 142/18 142/25 151/24 152/19 <b>represents</b> [2] 27/7 97/22 <b>request</b> [4] 48/11
----------	---	--	--	--	---

(62) puts... - request

<b>R</b>	<b>resulting</b> [3] 36/3 36/5 89/3 <b>results</b> [3] 80/2 97/16 107/24 <b>results/consequences</b> [1] 80/2 <b>retention</b> [1] 103/12 <b>retrospectively</b> [1] 79/18 <b>retrospectivity</b> [2] 54/11 54/22 <b>return</b> [1] 63/12 <b>returning</b> [5] 28/21 46/19 47/7 61/21 70/7 <b>reverse</b> [2] 104/20 104/23 <b>reversion</b> [2] 70/25 71/6 <b>review</b> [5] 22/5 83/17 104/16 149/1 161/17 <b>reviewed</b> [1] 22/5 <b>reviewing</b> [1] 9/18 <b>revised</b> [1] 111/5 <b>rich</b> [2] 38/12 46/23 <b>Richard</b> [1] 142/18 <b>Richard Srigley</b> [1] 142/18 <b>right</b> [11] 1/8 8/8 11/7 20/19 59/20 87/4 92/21 93/24 119/25 137/11 151/21 <b>right-hand</b> [4] 59/20 92/21 93/24 137/11 <b>rights</b> [2] 26/5 89/20 <b>rise</b> [1] 36/25 <b>risk</b> [110] 1/4 1/7 1/14 5/4 5/4 5/14 5/21 5/25 6/13 7/2 17/19 18/19 24/23 30/1 30/10 31/2 31/12 33/10 33/12 33/16 34/5 34/6 34/9 35/16 36/9 36/9 36/16 41/25 43/9 43/24 44/7 51/19 55/7 55/10 56/14 58/7 58/13 58/16 58/20 59/3 61/8 62/19 62/22 64/13 64/25 69/19 70/2 71/14 72/8 72/12 73/6 73/10 73/19 76/21 76/25 77/4 77/15 77/16 77/19 78/2 80/25 83/19 89/6 93/2 93/9 94/23 95/24 95/25 96/7 96/9 98/10 98/21 102/15 104/1 106/1 106/7 106/12 109/18 110/9 110/14 110/21 111/8 111/16 111/18 112/4 113/9 123/17 114/15 122/5 123/7 123/9 126/13	127/8 131/17 132/21 145/22 145/24 147/6 152/8 155/8 156/2 157/14 159/13 159/19 159/23 161/7 161/19 162/13 162/20 166/2 <b>risk'</b> [2] 145/3 145/5 <b>risks</b> [6] 29/4 32/11 33/11 56/10 59/5 112/22 <b>risky</b> [1] 145/25 <b>Robert</b> [1] 82/14 <b>Rodell</b> [23] 20/8 26/15 26/15 37/3 38/3 38/13 40/3 40/14 56/12 56/15 57/7 58/18 59/2 59/9 101/17 142/20 142/21 151/24 152/5 153/3 153/8 154/1 157/1 <b>Rodell's</b> [6] 28/12 28/17 30/5 37/18 38/7 153/25 <b>role</b> [1] 86/14 <b>roles</b> [1] 8/21 <b>Ronald</b> [1] 9/6 <b>Ronald Reagan's</b> [1] 9/6 <b>route</b> [1] 4/19 <b>routine</b> [1] 83/16 <b>routinely</b> [2] 48/8 154/15 <b>row</b> [1] 140/7 <b>ruled</b> [1] 119/22 <b>run</b> [5] 6/15 10/14 10/15 79/1 79/9 <b>running</b> [2] 12/14 91/23 <b>runs</b> [1] 8/5	157/1 165/13 <b>sale</b> [2] 39/21 103/17 <b>sales</b> [4] 140/5 140/7 140/15 141/16 <b>same</b> [31] 17/23 27/7 30/9 31/7 31/20 52/6 53/9 56/12 63/20 63/25 70/24 84/9 104/1 113/12 125/11 128/20 128/21 129/8 129/17 131/16 132/17 135/1 135/15 147/6 147/7 148/13 148/21 149/24 156/7 156/22 163/16 <b>San</b> [10] 6/2 52/18 53/1 58/17 62/25 63/22 64/4 112/14 114/5 138/18 <b>San Francisco</b> [10] 6/2 52/18 53/1 58/17 62/25 63/22 64/4 112/14 114/5 138/18 <b>sand</b> [1] 118/19 <b>Sandler</b> [2] 37/18 90/13 <b>sarcoma</b> [6] 15/20 20/24 26/10 26/25 30/20 100/2 <b>sat</b> [1] 28/16 <b>save</b> [1] 84/16 <b>saving</b> [1] 84/15 <b>saw</b> [14] 19/16 25/4 37/8 52/25 82/22 104/20 111/12 114/3 115/10 115/18 126/12 129/8 149/9 153/18 <b>say</b> [27] 3/11 20/5 22/11 31/15 42/15 51/11 57/5 59/9 66/2 68/4 75/15 80/17 90/23 95/21 109/20 116/12 116/16 116/18 116/23 118/20 123/20 124/15 125/19 132/1 133/5 134/9 161/4 <b>saying</b> [17] 34/3 50/18 53/14 69/24 79/17 79/23 80/3 81/12 111/14 112/3 112/4 117/5 117/5 118/13 129/7 136/4 147/9 <b>says</b> [20] 19/21 21/13 22/15 25/17 26/24 34/4 34/23 42/3 61/10 64/3 66/7 92/23 119/3 122/10 127/3 134/5 134/17 141/4 151/22 157/3 <b>scale</b> [4] 110/24 158/20 159/2 160/20	<b>sceptical</b> [3] 84/9 115/21 118/12 <b>scepticism</b> [4] 38/1 82/20 108/3 118/4 <b>scheduling</b> [1] 148/1 <b>scheme</b> [2] 70/9 126/11 <b>School</b> [1] 117/24 <b>science</b> [3] 44/23 76/22 84/24 <b>scientific</b> [17] 14/12 21/16 28/16 34/10 36/4 40/16 63/13 83/2 85/23 105/8 130/12 133/4 146/7 146/13 150/9 157/19 161/6 <b>scientifically</b> [2] 81/4 148/12 <b>scientist</b> [1] 15/21 <b>scientists</b> [1] 85/1 <b>screen</b> [18] 21/6 42/23 47/10 57/20 65/18 75/6 83/9 91/3 92/18 105/16 107/20 110/9 125/9 137/9 148/19 149/22 156/19 161/12 <b>screened</b> [4] 68/22 68/23 89/17 133/3 <b>screening</b> [39] 3/3 5/2 7/1 8/10 13/14 13/24 35/1 64/20 74/4 78/1 93/8 97/7 102/17 102/19 107/23 108/1 109/23 110/12 111/5 113/1 113/12 114/4 116/5 117/9 117/16 123/15 126/24 132/20 135/21 136/9 142/8 144/14 146/24 149/1 149/5 152/6 154/8 160/14 160/23 <b>script</b> [1] 13/21 <b>second</b> [29] 5/11 5/21 7/12 8/9 9/12 17/14 30/24 32/16 33/2 33/5 36/8 43/20 45/13 56/17 61/9 63/5 66/2 77/8 87/19 92/21 93/6 93/22 124/16 130/14 139/24 145/15 148/23 155/4 160/5 <b>second-last</b> [1] 43/20 <b>secondary</b> [1] 48/7 <b>seconded</b> [1] 115/9 <b>secondly</b> [3] 91/22 150/15 161/8 <b>secretary</b> [3] 9/5 74/17 122/1 <b>section</b> [2] 26/21 50/18 <b>sector</b> [3] 76/9 108/12	123/6 <b>Security</b> [1] 126/18 <b>see</b> [60] 3/14 7/22 8/17 9/8 9/23 11/23 13/15 13/19 14/18 19/11 20/12 22/10 23/8 24/23 25/16 30/7 32/22 33/5 34/11 40/9 40/17 42/19 48/20 50/2 57/4 57/22 59/19 59/20 62/13 65/9 68/8 68/14 69/10 78/11 78/24 83/5 87/6 89/2 92/10 95/11 96/15 98/19 100/2 101/2 104/2 105/18 116/12 117/2 124/10 136/6 136/21 137/10 140/5 140/12 140/21 146/5 146/6 153/24 156/21 161/13 <b>seeing</b> [1] 38/13 <b>seek</b> [3] 8/20 13/20 73/18 <b>seeking</b> [3] 56/24 80/7 110/13 <b>seem</b> [5] 45/23 54/21 61/4 160/12 164/14 <b>seemed</b> [2] 48/11 84/22 <b>seems</b> [8] 53/10 59/12 66/14 79/23 101/9 153/3 160/10 161/4 <b>seen</b> [20] 12/15 21/20 24/14 27/7 31/7 40/14 42/12 44/19 47/6 50/12 52/6 76/15 108/4 123/13 126/4 131/1 135/9 144/7 146/10 163/24 <b>segregated</b> [1] 67/20 <b>select</b> [1] 3/23 <b>selection</b> [1] 94/1 <b>self</b> [5] 57/3 64/24 88/18 96/9 112/1 <b>self-exclusion</b> [1] 57/3 <b>self-serving</b> [1] 88/18 <b>sells</b> [1] 61/14 <b>senior</b> [3] 17/22 85/19 163/5 <b>sensationalistic</b> [1] 130/25 <b>sense</b> [4] 55/12 61/11 91/12 146/7 <b>sent</b> [17] 18/11 56/12 65/22 68/19 68/23 113/23 126/19 128/20 130/1 130/2 130/4 130/9 130/11 135/2 137/11 137/15 139/12
----------	--	---	--	---	---

(63) request... - sent



<b>S</b>	<b>sex</b> [2] 65/1 111/14 <b>sexual</b> [4] 47/25 68/5 68/13 100/6 <b>sexuality</b> [3] 56/24 110/18 112/11 <b>sexually</b> [1] 34/13 <b>shall</b> [2] 124/21 165/17 <b>share</b> [1] 47/22 <b>shared</b> [4] 14/1 31/24 67/2 104/5 <b>sharing</b> [1] 28/4 <b>she</b> [4] 118/1 129/11 129/12 150/24 <b>sheds</b> [1] 164/20 <b>shipped</b> [2] 70/16 127/22 <b>shipping</b> [2] 71/25 72/3 <b>shoe</b> [1] 118/16 <b>shoe-pounding</b> [1] 118/16 <b>short</b> [10] 4/19 46/17 49/25 71/3 75/14 85/22 122/11 137/3 145/7 145/7 <b>shortages</b> [1] 154/7 <b>shortcomings</b> [2] 145/1 146/16 <b>shortly</b> [4] 48/20 52/19 99/5 124/2 <b>should</b> [65] 1/10 2/1 3/11 7/15 7/17 10/17 23/17 28/17 30/15 31/9 34/25 37/22 43/12 46/20 48/22 56/9 62/20 62/21 66/2 68/23 70/20 72/14 75/23 84/18 88/13 89/5 90/5 101/16 103/25 105/7 105/12 105/14 105/22 105/23 106/8 106/16 106/21 107/3 107/9 107/13 107/15 109/7 109/19 112/21 114/9 119/18 120/7 121/16 125/18 133/15 135/2 135/18 141/23 142/8 143/21 147/5 150/17 154/3 154/10 154/12 156/13 157/21 158/2 161/24 162/2 <b>shouldn't</b> [1] 13/25 <b>show</b> [11] 33/14 33/19 47/2 48/3 65/17 74/5 87/6 96/2 119/1 119/11 144/15 <b>showed</b> [2] 78/17 92/25 <b>showing</b> [6] 35/3 51/22 79/15 94/19	99/7 164/9 <b>shown</b> [4] 28/25 85/11 93/16 131/14 <b>shows</b> [5] 40/25 93/20 93/22 93/24 148/20 <b>shred</b> [1] 118/1 <b>sic</b> [1] 158/8 <b>side</b> [3] 26/14 47/13 59/24 <b>sight</b> [1] 14/4 <b>sign</b> [1] 113/7 <b>significance</b> [3] 25/20 121/11 157/12 <b>significant</b> [4] 9/19 69/18 106/10 157/13 <b>significantly</b> [2] 83/18 96/1 <b>signs</b> [3] 94/19 144/15 155/14 <b>similar</b> [11] 29/25 51/24 53/10 68/18 68/18 95/4 112/21 113/14 134/19 158/3 158/4 <b>simple</b> [1] 69/20 <b>simply</b> [7] 58/16 59/23 95/20 158/7 158/25 160/17 160/18 <b>since</b> [8] 19/24 20/2 21/15 29/21 50/25 116/6 135/23 141/18 <b>single</b> [6] 13/20 35/14 53/18 63/12 140/12 152/18 <b>singling</b> [1] 34/15 <b>singular</b> [2] 10/23 11/8 <b>sir</b> [71] 1/8 2/19 3/11 4/16 7/6 16/10 16/15 21/5 26/4 32/3 32/24 37/3 42/1 43/15 44/5 44/11 44/16 44/19 46/10 48/15 49/14 50/10 50/16 52/8 59/9 59/18 63/15 67/18 67/25 69/18 70/5 70/21 74/10 75/1 75/9 75/23 81/15 83/3 85/25 90/6 90/23 91/9 92/14 93/15 93/19 98/16 101/21 114/12 116/10 120/4 124/16 126/10 129/16 130/2 132/1 136/24 137/6 140/6 140/14 145/10 149/13 153/5 153/15 156/15 159/25 160/6 163/20 164/8 164/16 164/23 165/19 <b>siting</b> [1] 5/12 <b>situation</b> [9] 63/9 64/16 66/25 70/17	119/6 119/8 134/21 158/13 164/22 <b>situations</b> [1] 143/6 <b>six</b> [7] 19/20 37/11 52/4 55/24 69/16 146/19 160/22 <b>six months</b> [4] 19/20 52/4 69/16 160/22 <b>size</b> [3] 106/25 108/21 157/8 <b>sizes</b> [1] 152/12 <b>skeptical</b> [1] 35/15 <b>sketch</b> [1] 15/12 <b>slamming</b> [1] 87/10 <b>slide</b> [2] 93/13 93/15 <b>slight</b> [2] 72/22 91/12 <b>slightly</b> [4] 12/11 23/10 59/11 111/11 <b>slow</b> [1] 122/13 <b>small</b> [7] 102/25 103/20 107/5 108/21 144/2 153/17 161/21 <b>Smith</b> [1] 124/4 <b>snippet</b> [1] 87/7 <b>so</b> [135] 1/22 1/25 2/18 3/2 3/8 6/3 9/3 10/25 11/4 11/15 12/5 14/3 15/10 16/8 16/13 16/22 17/10 17/20 18/23 19/18 19/19 20/12 21/19 22/5 22/5 23/1 24/13 24/21 25/23 30/17 31/14 32/13 33/15 35/22 37/23 38/11 38/13 38/18 40/9 41/8 44/6 44/12 44/14 45/11 47/2 51/7 52/8 52/22 54/17 54/21 55/24 57/23 59/21 60/17 60/25 61/2 62/11 63/5 65/6 65/12 65/13 65/15 68/8 69/16 69/18 69/19 69/25 71/21 71/22 72/14 72/15 75/13 78/7 79/22 80/11 81/12 87/3 87/6 89/4 91/2 91/18 94/2 94/18 94/23 95/7 95/21 98/15 99/4 99/5 100/19 101/1 103/14 104/25 107/4 109/6 109/11 109/19 110/4 111/11 111/20 112/24 113/24 115/22 117/17 118/4 118/12 120/11 120/23 122/15 122/19 123/12 124/15 124/17 124/24 126/5 126/17 126/19 129/6 132/12 133/12 135/15 138/25	139/11 139/25 145/10 146/12 149/13 151/8 153/20 163/20 164/2 165/5 165/12 165/14 165/20 <b>so-called</b> [1] 95/21 <b>social</b> [2] 126/18 150/8 <b>society</b> [5] 29/14 36/13 131/25 132/4 132/6 <b>sold</b> [3] 40/1 139/4 144/24 <b>solid</b> [1] 43/10 <b>solution</b> [1] 154/3 <b>solve</b> [1] 71/11 <b>some</b> [86] 1/17 2/6 2/19 6/21 8/16 8/18 8/22 9/9 10/14 10/15 10/16 11/19 13/6 13/7 13/10 15/18 23/8 26/23 31/24 32/1 39/1 40/18 43/10 43/24 47/21 48/20 50/5 50/14 51/13 51/17 51/18 52/19 53/16 55/7 58/10 65/6 65/9 65/11 68/11 71/18 73/18 74/22 75/4 76/11 78/24 79/8 79/9 79/11 81/1 81/12 82/1 82/7 83/7 84/11 84/15 85/12 86/13 86/23 86/24 87/16 90/10 98/5 98/16 99/20 100/2 103/5 104/5 107/21 111/24 114/2 115/3 117/2 118/5 120/10 120/11 126/10 126/22 127/11 139/13 140/17 147/23 148/11 157/12 157/24 160/12 164/20 <b>some of</b> [4] 8/22 10/14 39/1 140/17 <b>some were</b> [2] 10/15 10/16 <b>somebody</b> [9] 37/23 42/3 49/9 59/22 61/4 80/18 111/24 111/25 149/17 <b>someone</b> [1] 12/24 <b>something</b> [21] 5/22 8/5 8/11 20/16 30/18 39/7 46/20 47/3 48/25 50/4 57/11 60/11 75/24 81/15 81/20 104/21 112/6 114/15 116/19 118/18 162/15 <b>sometimes</b> [1] 84/11 <b>soon</b> [2] 110/8 163/18 <b>sop</b> [1] 89/19	<b>sorry</b> [10] 7/17 20/22 22/2 64/22 77/22 81/13 83/12 142/11 143/9 161/9 <b>sort</b> [1] 148/11 <b>sought</b> [1] 56/16 <b>Soumik</b> [28] 19/9 21/6 22/9 25/9 33/13 42/23 44/24 47/10 57/21 63/4 63/16 65/19 67/23 75/6 78/10 88/4 91/2 92/12 92/18 93/11 96/18 107/20 125/9 127/1 137/9 140/11 141/21 142/12 <b>sound</b> [1] 126/7 <b>soundly</b> [1] 85/15 <b>source</b> [15] 26/12 28/12 43/5 62/2 62/14 75/16 79/24 89/8 113/21 123/25 124/1 137/25 152/9 153/18 163/23 <b>sourced</b> [2] 2/25 48/22 <b>sources</b> [7] 37/14 48/7 63/11 74/14 75/5 81/17 81/25 <b>spare</b> [1] 153/20 <b>spared</b> [1] 1/23 <b>speaking</b> [3] 92/6 157/13 165/4 <b>speaks</b> [1] 92/9 <b>special</b> [6] 4/3 67/15 67/18 68/7 138/23 139/7 <b>specific</b> [6] 37/1 45/21 93/8 102/5 149/15 161/20 <b>specifically</b> [14] 23/19 38/10 41/5 58/9 58/15 59/3 62/23 63/19 64/4 73/22 106/2 132/24 134/12 164/11 <b>specificity</b> [1] 162/3 <b>specifying</b> [1] 112/5 <b>specimen</b> [1] 97/8 <b>specimens</b> [1] 96/20 <b>spelt</b> [1] 154/1 <b>spend</b> [1] 34/25 <b>spent</b> [1] 2/19 <b>sperm</b> [1] 33/21 <b>Speywood</b> [1] 140/24 <b>spite</b> [3] 64/8 127/4 162/10 <b>split</b> [1] 116/24 <b>spoke</b> [3] 38/3 149/7 163/2 <b>spoken</b> [2] 49/9 50/5 <b>sponsored</b> [1] 88/6 <b>spontaneous</b> [1] 28/9
----------	--	---	---	--	--

(64) sentence - spontaneous

F:



<b>S</b>	42/18 55/7 64/20 70/2 70/5 70/22 73/18 74/6 99/3 99/20 99/23 107/2 108/1 110/1 110/8 114/2 118/7 126/23 <b>sterility</b> [1] 103/11 <b>Steve</b> [1] 158/5 <b>Steven</b> [3] 57/17 154/2 154/4 <b>stigma</b> [2] 35/7 112/1 <b>stigmatize</b> [2] 34/16 97/2 <b>still</b> [13] 22/19 26/16 45/12 52/15 74/5 81/3 81/10 84/13 85/4 115/17 127/14 137/6 149/24 <b>stock</b> [2] 135/22 160/23 <b>stocks</b> [2] 42/9 135/25 <b>stop</b> [1] 44/8 <b>story</b> [1] 124/14 <b>straight</b> [1] 68/12 <b>strained</b> [1] 54/4 <b>strategy</b> [4] 100/10 100/24 101/3 116/3 <b>stream</b> [1] 91/14 <b>strengthen</b> [1] 27/11 <b>stress</b> [3] 78/21 97/13 128/13 <b>stressed</b> [3] 129/3 155/11 156/8 <b>strictly</b> [2] 7/25 12/7 <b>strike</b> [1] 146/9 <b>stringent</b> [2] 123/5 159/5 <b>strong</b> [1] 96/2 <b>strongly</b> [6] 10/12 34/19 69/2 84/14 154/23 157/23 <b>struck</b> [1] 155/8 <b>struggle</b> [1] 131/19 <b>struggled</b> [1] 59/18 <b>struggles</b> [1] 88/16 <b>struggling</b> [1] 81/7 <b>stuck</b> [1] 4/12 <b>studied</b> [3] 27/15 63/13 93/21 <b>studies</b> [7] 29/24 32/9 50/14 53/3 78/16 92/24 156/9 <b>study</b> [3] 26/9 51/21 111/1 <b>Subcommittee</b> [2] 124/6 142/1 <b>subject</b> [8] 20/11 20/16 48/16 84/19 87/25 148/5 163/9 163/16 <b>submission</b> [2] 23/7	75/20 <b>submissions</b> [3] 4/16 4/17 16/13 <b>submit</b> [2] 78/4 121/22 <b>subsequent</b> [3] 29/18 157/5 158/9 <b>subsequently</b> [5] 80/14 122/16 127/11 134/18 152/20 <b>subsidiaries</b> [1] 139/16 <b>subsidiary</b> [1] 126/20 <b>success</b> [1] 102/20 <b>successful</b> [2] 58/24 86/14 <b>such</b> [30] 4/4 5/14 14/19 28/2 30/3 39/17 39/25 42/14 42/15 44/22 46/25 58/16 68/3 73/24 89/18 93/8 97/25 99/3 99/25 101/3 101/5 105/1 113/22 125/6 127/10 130/3 158/7 161/5 162/2 163/13 <b>suffered</b> [1] 23/22 <b>suffering</b> [3] 29/1 31/19 98/2 <b>sufficient</b> [4] 63/14 64/10 99/19 145/23 <b>sufficiently</b> [1] 27/15 <b>suggest</b> [6] 46/4 60/17 61/4 110/6 136/13 150/6 <b>suggest:</b> [1] 54/5 <b>suggest:</b> four [1] 54/5 <b>suggested</b> [7] 62/3 76/20 93/7 120/16 123/16 159/4 160/20 <b>suggesting</b> [3] 34/8 76/14 101/17 <b>suggestion</b> [5] 44/21 62/1 90/10 111/23 145/21 <b>suggestions</b> [1] 90/19 <b>suggestive</b> [4] 7/14 154/23 155/15 157/23 <b>suggests</b> [7] 9/13 18/7 19/3 30/25 39/24 98/5 133/22 <b>Sullivan</b> [1] 119/20 <b>summarise</b> [3] 3/24 37/4 122/23 <b>summarised</b> [5] 32/3 45/16 66/3 82/24 145/12 <b>summarises</b> [1] 83/7 <b>summarising</b> [1] 31/14 <b>summary</b> [11] 31/15 31/22 39/16 73/4 75/1	75/19 140/19 149/24 151/19 155/5 159/17 <b>summation</b> [1] 162/22 <b>summer</b> [3] 8/12 69/15 126/14 <b>summing</b> [1] 109/1 <b>superiors</b> [1] 90/16 <b>supplied</b> [4] 135/19 135/22 136/22 137/22 <b>suppliers</b> [2] 131/18 140/25 <b>supplies</b> [4] 136/14 139/3 153/19 163/13 <b>supply</b> [26] 7/20 9/2 9/18 36/16 67/3 89/15 98/8 131/3 131/21 132/15 138/16 140/13 140/23 143/25 146/11 153/3 153/10 153/12 153/20 155/2 155/10 155/18 159/12 159/24 161/8 162/5 <b>support</b> [7] 34/19 79/8 82/1 89/16 90/19 102/4 108/1 <b>supported</b> [3] 23/2 90/17 125/24 <b>supporting</b> [1] 83/18 <b>supportive</b> [1] 96/6 <b>suppose</b> [1] 60/20 <b>suppression</b> [1] 35/3 <b>sure</b> [6] 24/20 38/15 59/22 116/10 117/13 134/4 <b>surely</b> [1] 41/17 <b>surface</b> [10] 93/25 94/6 94/7 94/10 94/12 94/14 94/22 95/5 95/13 96/21 <b>surgery</b> [2] 48/6 73/2 <b>surprise</b> [1] 40/4 <b>surrogate</b> [25] 6/6 6/10 13/25 45/23 55/9 78/13 79/1 79/11 80/13 80/23 83/21 90/22 92/15 93/9 96/8 96/19 97/6 106/6 108/13 110/23 117/16 119/16 119/17 122/6 123/20 <b>surveillance</b> [1] 32/8 <b>surveilling</b> [1] 32/19 <b>susceptibility</b> [1] 134/14 <b>suspect</b> [4] 132/2 136/18 154/9 154/15 <b>suspected</b> [5] 36/9 86/2 88/11 123/9 160/11 <b>suspects</b> [1] 160/21 <b>suspend</b> [1] 39/16 <b>suspension</b> [4] 39/22	41/14 41/18 160/21 <b>suspicion</b> [3] 86/13 86/15 157/11 <b>sustaining</b> [1] 155/10 <b>sweats</b> [3] 99/25 113/4 155/16 <b>swine</b> [1] 86/21 <b>switching</b> [1] 71/19 <b>symptomatic</b> [3] 54/1 54/1 54/13 <b>symptoms</b> [18] 7/14 15/19 21/3 53/16 53/22 53/23 100/3 113/3 120/11 120/11 120/15 120/18 123/2 129/23 149/11 149/17 155/14 162/4 <b>syndrome</b> [16] 19/25 30/16 34/11 34/25 35/6 53/23 62/8 66/11 85/9 130/19 131/6 131/15 131/17 161/18 161/24 162/9 <b>system</b> [5] 9/18 32/8 66/15 67/18 114/10 <b>systematically</b> [1] 33/9	<b>takes</b> [1] 118/9 <b>taking</b> [12] 39/13 44/9 44/10 70/1 104/10 114/2 118/7 122/4 126/24 128/14 129/19 142/3 <b>talk</b> [1] 134/13 <b>talked</b> [1] 27/13 <b>talking</b> [7] 23/19 41/20 41/20 49/23 50/6 119/8 150/21 <b>talks</b> [2] 24/9 118/23 <b>Tarbit</b> [3] 134/2 134/5 135/1 <b>targeted</b> [2] 5/16 56/20 <b>targeting</b> [1] 46/23 <b>task</b> [5] 15/18 15/20 16/8 26/2 120/6 <b>team</b> [1] 49/10 <b>technical</b> [1] 45/4 <b>techniques</b> [4] 29/8 32/10 55/9 103/6 <b>technology</b> [1] 107/17 <b>television</b> [1] 92/3 <b>tell</b> [2] 80/17 132/22 <b>telling</b> [2] 54/18 59/10 <b>tension</b> [3] 13/3 36/1 124/1 <b>tensions</b> [2] 13/10 35/25 <b>term</b> [3] 69/2 150/12 162/6 <b>termed</b> [3] 30/15 53/16 99/2 <b>terminology</b> [2] 60/2 68/8 <b>terms</b> [15] 3/25 7/21 13/5 38/16 56/24 71/23 73/14 83/4 90/9 116/11 126/24 150/11 150/14 150/15 153/21 <b>Terrence</b> [1] 23/15 <b>test</b> [22] 6/10 8/10 79/1 80/11 80/13 80/13 80/23 82/8 82/15 82/16 82/21 83/21 86/2 93/8 96/25 97/7 97/20 98/4 98/12 102/5 117/9 132/17 <b>test'</b> [1] 108/18 <b>tested</b> [2] 77/1 79/10 <b>testing</b> [32] 6/6 6/11 6/15 6/16 6/18 13/25 45/24 55/9 78/1 78/13 80/9 82/12 83/22 90/18 90/22 92/15 96/8 101/16 102/4 102/8 103/10 103/13 103/14 108/13 108/16 110/23 110/24 117/16 119/17 121/7 122/6
----------	--	---	--	---	--

(65) spots - testing

F:

<b>T</b>	66/3 68/22 76/25 103/8 105/10 111/8 111/18 114/14 115/3 122/19 122/24 123/25 137/19 142/19 147/6 147/19 <b>thematically</b> [1] 8/1 <b>theme</b> [3] 36/8 36/14 36/18 <b>themes</b> [3] 5/1 35/25 45/24 <b>themselves</b> [7] 13/18 58/22 61/5 69/14 69/17 102/18 126/14 <b>then</b> [53] 3/2 4/23 16/7 24/4 27/8 39/7 41/17 41/25 47/1 47/7 49/6 50/8 53/15 53/21 54/6 60/25 61/22 62/3 63/3 64/16 65/2 68/6 79/2 80/9 83/24 91/4 91/20 92/10 92/14 93/11 93/21 94/23 95/10 96/3 102/14 105/5 107/18 108/17 109/23 111/17 111/19 112/2 118/9 121/23 126/16 141/3 145/13 145/15 148/14 153/8 157/3 160/24 165/20 <b>theoretical</b> [2] 60/20 155/8 <b>theories</b> [1] 33/12 <b>therapeutic</b> [3] 127/17 127/20 152/3 <b>Therapeutics</b> [3] 127/5 128/4 152/5 <b>therapy</b> [3] 28/2 155/10 159/14 <b>there</b> [182] <b>there's</b> [1] 63/1 <b>thereabouts</b> [1] 124/23 <b>thereafter</b> [1] 99/5 <b>thereby</b> [1] 48/1 <b>therefore</b> [7] 6/9 22/23 32/17 51/4 110/7 150/21 161/21 <b>these</b> [54] 3/2 6/25 8/20 14/1 15/9 17/4 17/8 23/5 27/23 28/1 28/24 28/25 31/7 36/17 42/6 42/17 48/7 50/23 57/19 59/18 59/22 65/6 65/9 65/15 69/3 69/23 77/13 87/24 88/2 88/14 88/16 93/7 94/2 94/24 97/16 105/7 105/9 105/20 105/23 107/12 111/6 122/12 127/4 128/10 130/17 132/22	138/7 145/18 146/8 146/11 153/10 156/7 157/5 162/12 <b>they</b> [113] 2/1 7/17 7/19 8/22 10/17 10/21 12/22 13/7 13/20 13/21 14/4 16/21 17/9 24/19 32/7 34/17 34/25 35/6 35/6 38/21 39/19 40/1 40/10 42/7 43/6 43/6 47/24 51/13 51/19 51/21 57/6 57/9 59/2 59/3 59/15 59/15 62/4 63/8 64/20 64/24 65/1 65/2 65/2 65/12 65/22 68/6 68/20 68/23 69/6 69/7 73/22 80/7 80/11 80/21 80/21 84/9 86/3 87/13 88/10 90/19 96/2 96/22 96/24 97/2 97/18 99/3 99/8 99/22 101/2 102/24 103/11 103/24 105/12 105/14 110/14 111/1 111/8 111/17 111/19 112/10 113/8 113/21 113/23 114/16 115/16 116/16 116/17 118/7 120/24 122/9 122/16 122/20 122/20 125/1 125/3 126/5 128/17 129/19 129/20 129/21 132/7 132/8 134/21 138/25 139/12 141/8 147/3 149/8 149/9 156/4 156/8 157/13 158/12 <b>they're</b> [3] 30/17 74/14 113/16 <b>they've</b> [1] 79/19 <b>thicket</b> [1] 4/12 <b>thing</b> [1] 13/1 <b>things</b> [3] 49/4 51/13 99/25 <b>think</b> [35] 12/7 16/1 16/5 16/13 21/5 21/10 23/11 23/12 43/21 44/24 46/9 50/19 54/3 54/15 60/18 60/22 61/1 61/7 61/10 63/12 67/16 80/3 80/8 80/22 82/14 91/1 109/15 116/23 118/1 119/6 119/7 132/8 153/11 162/18 164/18 <b>thinking</b> [1] 40/25 <b>thinks</b> [1] 154/3 <b>third</b> [13] 5/25 6/5 17/14 36/11 47/12 56/23 60/6 61/21 65/24 105/13 133/22 148/23 149/25	<b>Thirdly</b> [1] 91/24 <b>this</b> [244] <b>Thomas</b> [3] 115/4 115/8 163/24 <b>thorough</b> [1] 163/9 <b>those</b> [103] 2/3 2/15 3/12 3/15 4/7 4/17 5/4 5/9 5/15 5/25 6/24 7/2 7/4 8/3 10/5 10/14 12/4 12/13 12/15 12/22 13/2 13/8 14/22 16/21 23/22 24/1 32/7 33/17 36/1 36/23 37/14 38/25 41/22 42/18 50/9 51/23 53/6 57/1 60/7 63/11 65/11 66/2 67/1 67/19 70/5 70/22 72/16 72/18 73/12 73/13 74/8 74/20 78/23 79/12 82/2 84/23 85/7 87/12 88/25 94/3 94/16 96/1 96/7 96/8 98/18 99/8 99/16 100/3 100/13 101/6 103/7 103/14 103/23 106/3 108/3 110/15 111/1 112/16 113/2 114/13 121/17 122/15 122/18 123/5 123/16 125/18 125/18 129/16 133/7 133/20 133/22 138/25 139/11 140/17 142/9 145/10 147/13 147/20 148/16 149/4 153/8 164/1 164/13 <b>those in</b> [1] 5/4 <b>though</b> [9] 11/11 42/19 51/6 60/5 66/16 73/8 80/25 97/15 127/6 <b>thought</b> [5] 33/1 34/15 61/2 74/1 123/6 <b>thought, [1]</b> 96/5 <b>thought, highly</b> [1] 96/5 <b>thousands</b> [1] 29/19 <b>threat</b> [3] 13/6 41/2 150/25 <b>threatened</b> [2] 7/19 34/18 <b>threatening</b> [4] 7/21 162/12 162/16 162/19 <b>three</b> [30] 5/4 5/9 17/20 18/3 18/14 18/24 20/2 25/22 25/23 27/6 29/20 31/5 31/18 33/22 34/1 40/23 41/3 41/15 52/14 57/23 64/1 64/25 69/13 70/11 102/20 105/9 113/9	126/12 143/12 148/8 <b>three days</b> [1] 57/23 <b>three weeks</b> [3] 69/13 102/20 126/12 <b>Thrombosis</b> [1] 15/3 <b>through</b> [32] 1/24 3/19 4/11 4/23 6/18 13/2 14/24 18/9 18/15 19/1 19/7 24/10 26/22 32/7 43/17 52/24 55/5 56/6 56/19 66/24 67/6 70/22 73/7 78/24 88/3 96/25 107/22 112/23 115/11 129/15 130/15 137/19 <b>throughout</b> [3] 8/5 37/16 106/13 <b>Thus</b> [1] 35/16 <b>time</b> [68] 2/19 5/5 5/11 6/22 8/11 11/4 18/18 19/1 21/21 24/13 24/16 25/3 26/7 26/16 37/22 39/4 41/1 42/11 43/10 43/25 45/11 45/25 47/9 48/16 49/5 50/1 50/5 53/16 54/19 55/14 55/19 60/19 62/9 68/12 78/25 85/5 86/6 86/25 91/13 98/23 110/25 112/13 113/19 116/15 123/14 127/11 129/15 132/22 135/24 136/24 142/22 143/18 145/2 145/7 145/15 145/16 146/17 147/23 148/13 151/3 151/13 152/22 153/16 153/20 162/3 162/4 164/10 164/16 <b>times</b> [2] 87/10 130/25 <b>timescale</b> [1] 116/21 <b>tip</b> [1] 3/25 <b>tired</b> [1] 101/19 <b>to</b> [903] <b>to 5</b> [1] 32/24 <b>today</b> [7] 1/13 3/24 4/4 4/14 4/20 12/8 118/3 <b>together</b> [1] 122/9 <b>told</b> [3] 52/13 90/13 122/25 <b>tomorrow</b> [3] 4/20 165/18 165/20 <b>tone</b> [2] 35/22 35/23 <b>too</b> [2] 6/19 77/9 <b>took</b> [24] 15/23 16/22 25/5 25/18 32/17 45/3 49/14 57/14 63/20 69/7 90/10 92/23 96/14 98/24 100/10	103/20 109/11 114/24 115/21 122/22 142/11 142/15 151/7 164/5 <b>top</b> [5] 57/22 96/17 144/9 147/13 156/21 <b>topic</b> [6] 4/8 50/16 120/6 151/7 151/11 164/14 <b>topics</b> [1] 51/11 <b>total</b> [2] 37/13 141/6 <b>totally</b> [1] 150/20 <b>touch</b> [1] 5/22 <b>toward</b> [1] 88/16 <b>towards</b> [4] 30/7 87/1 107/16 118/6 <b>trace</b> [1] 70/21 <b>tracing</b> [1] 103/12 <b>tracking</b> [1] 32/18 <b>traction</b> [1] 6/16 <b>trade</b> [6] 12/1 12/9 12/24 26/18 110/4 113/25 <b>Tragic</b> [10] 15/1 15/15 32/23 37/8 52/22 54/17 64/3 81/23 83/6 92/19 <b>training</b> [3] 82/9 85/1 98/13 <b>transcript</b> [2] 43/22 118/10 <b>transfused</b> [1] 48/4 <b>transfusion</b> [17] 24/7 24/24 52/4 52/15 52/17 52/21 53/2 63/23 71/12 76/17 76/18 84/18 99/17 114/9 118/25 122/14 156/3 <b>transfusion-associate</b> <b>d</b> [1] 76/18 <b>transfusions</b> [7] 24/2 24/22 47/20 48/5 52/11 73/8 84/14 <b>transmissible</b> [5] 18/7 27/12 37/21 52/23 77/19 <b>transmission</b> [16] 18/8 19/6 22/20 24/10 24/23 27/9 48/4 53/6 55/3 58/8 73/7 76/21 78/2 106/7 106/13 162/8 <b>transmission'</b> [1] 77/16 <b>transmit</b> [3] 28/25 105/23 123/11 <b>transmitted</b> [10] 18/15 34/13 43/11 44/1 44/4 56/6 67/5 76/14 118/2 131/13 <b>transmitter</b> [1] 97/4 <b>transmitters</b> [1] 96/23
----------	---	--	---	---	--



<b>T</b>	<b>typically [1]</b> 38/20	<b>undetermined [1]</b> 85/4	153/19	156/6	64/14 78/16 90/12
<b>transmitting [4]</b> 34/17	<b>U</b>	<b>undistributed [1]</b> 144/20	<b>until [14]</b> 10/22 21/17	<b>useful [1]</b> 93/9	103/23 134/20 144/11
106/2 112/22 161/19	<b>UK [26]</b> 2/11 9/4 19/14	<b>unduly [1]</b> 47/25	39/22 43/10 44/1 44/3	<b>user [1]</b> 61/14	144/25 153/13 159/22
<b>transpired [1]</b> 62/9	23/6 23/12 23/14	<b>unequivocal [2]</b> 52/20	46/15 63/14 67/8 91/5	<b>users [11]</b> 5/6 33/16	160/16 162/23
<b>transpose [1]</b> 75/10	113/23 115/4 126/17	53/1	102/5 137/1 141/19	48/23 51/21 56/16	<b>views [3]</b> 13/12 84/22
<b>traumatic [1]</b> 28/9	126/19 129/9 132/19	<b>unexpected [1]</b> 100/1	165/22	58/21 59/4 94/8 106/3	144/8
<b>Travenol [8]</b> 1/17	134/3 134/6 134/17	<b>unexplained [1]</b> 113/3	<b>unusual [2]</b> 27/13	129/21 144/2	<b>vigorous [1]</b> 118/15
19/11 20/9 20/13	135/11 135/13 136/17	<b>Unfortunately [2]</b> 84/2	108/10	<b>uses [1]</b> 52/21	<b>VIII [41]</b> 2/24 27/10
126/19 126/20 141/2	136/22 137/21 139/4	165/9	<b>unwilling [1]</b> 155/19	<b>using [15]</b> 51/22	28/2 28/23 29/2 29/5
142/14	139/16 140/5 140/17	<b>uniform [3]</b> 13/19	<b>up [30]</b> 10/22 11/19	51/23 70/11 71/7 71/9	29/8 29/11 29/12
<b>treat [3]</b> 17/10 152/14	141/1 165/15	78/8 106/13	19/9 20/15 21/20 25/6	72/20 80/21 80/21	29/16 31/12 32/11
159/7	<b>UK clinicians [1]</b> 113/23	<b>unilaterally [2]</b> 69/5	33/2 39/5 43/22 57/20	90/2 104/19 104/25	39/20 45/5 51/1 51/4
<b>treated [10]</b> 8/2 27/23	<b>UK-based [1]</b> 134/3	74/3	81/10 87/6 91/3 91/23	106/9 128/24 137/17	51/15 70/3 105/19
77/10 105/7 115/13	<b>ultimately [2]</b> 4/16	<b>uninterrupted [1]</b> 155/9	109/1 119/11 120/20	162/20	106/18 106/22 107/11
124/11 124/14 124/17	77/12	<b>unit [6]</b> 71/8 71/20	121/24 122/19 127/2	<b>usual [2]</b> 135/21	116/8 127/19 128/6
128/16 131/23	<b>unalterable [1]</b> 155/20	97/21 114/10 125/1	133/9 133/25 136/11	136/7	128/17 131/22 132/16
<b>treating [1]</b> 76/12	<b>unanswered [1]</b> 144/18	125/2	139/22 142/12 146/19	<b>usually [1]</b> 10/19	133/11 134/12 134/15
<b>treatment [18]</b> 8/5	<b>unbias [1]</b> 85/24	<b>united [29]</b> 1/15 2/4	148/15 159/25 160/6	<b>V</b>	140/9 140/10 141/5
28/3 28/8 29/7 35/11	<b>uncertain [1]</b> 144/4	2/6 2/22 9/14 10/13	165/4	<b>vaccination [2]</b> 86/22	141/17 157/21 159/3
45/5 45/7 45/10 45/11	<b>uncertainties [1]</b> 36/5	13/21 14/8 14/14	<b>up' [1]</b> 159/12	86/24	161/17 161/20 161/22
51/3 66/19 72/7 104/6	<b>uncertainty [2]</b> 24/15	15/17 26/5 27/19 31/4	<b>update [1]</b> 129/11	<b>variables [1]</b> 162/2	162/5
105/11 109/20 115/11	155/24	49/5 74/11 86/22	<b>upon [7]</b> 2/5 5/22	<b>various [17]</b> 6/14 6/15	<b>viral [3]</b> 55/8 115/10
115/16 131/3	<b>unclear [1]</b> 131/15	115/9 127/24 128/11	129/5 153/22 162/5	6/20 8/21 9/7 9/19	115/17
<b>treatments [1]</b> 152/16	<b>uncompromising [1]</b> 158/8	134/7 134/22 134/23	162/11 165/10	10/7 11/24 12/7 26/2	<b>virology [2]</b> 76/23
<b>trepidation [1]</b> 91/13	<b>unconfirmed [1]</b> 76/18	135/23 138/1 141/23	<b>urged [3]</b> 109/14	30/20 33/11 74/14	86/15
<b>tried [2]</b> 1/11 75/9	<b>unconvinced [2]</b> 85/10 85/12	142/4 149/1 151/5	110/8 128/24	81/17 88/24 140/22	<b>virus [9]</b> 6/6 6/8 6/11
<b>truth [1]</b> 85/17	<b>under [7]</b> 72/16 74/1	153/22	<b>urgency [1]</b> 55/12	152/24	8/11 8/13 93/1 95/18
<b>try [8]</b> 6/19 39/13	88/22 111/1 144/22	<b>United Kingdom [3]</b> 2/6 49/5 141/23	<b>urgent [3]</b> 32/9 64/12	<b>vary [1]</b> 97/15	112/20 131/11
43/12 81/14 81/16	159/5 159/14	<b>United States [21]</b> 1/15 2/4 2/22 9/14	65/21	<b>varying [1]</b> 27/19	<b>viruses [3]</b> 29/10 45/8
102/12 114/15 148/15	<b>under study [1]</b> 111/1	10/13 14/8 14/14	<b>urging [1]</b> 74/17	<b>vastly [1]</b> 29/3	106/18
<b>trying [4]</b> 4/10 21/5	<b>underestimated [1]</b> 85/2	15/17 27/19 31/4	<b>URN [2]</b> 1/23 3/15	<b>vein [1]</b> 125/11	<b>visitors [1]</b> 57/7
42/1 122/3	<b>underlined [1]</b> 104/12	74/11 115/9 127/24	<b>URN numbers [1]</b> 3/15	<b>vendors [1]</b> 147/15	<b>VIII [1]</b> 40/6
<b>Tuesday [2]</b> 1/1	<b>underlying [2]</b> 31/6	128/11 134/7 134/22	<b>us [23]</b> 2/8 3/6 3/8 9/1	<b>verified [1]</b> 106/5	<b>vocal [1]</b> 84/13
163/16	48/5	135/23 138/1 142/4	19/3 20/6 22/4 66/23	<b>version [2]</b> 75/15	<b>vocational [1]</b> 28/5
<b>turn [9]</b> 88/23 92/14	<b>undermine [1]</b> 151/1	151/5 153/22	66/25 74/10 76/9	137/16	<b>voice [1]</b> 37/23
124/16 126/16 137/19	<b>underneath [2]</b> 9/6	<b>units [18]</b> 29/17 42/21	84/19 84/22 88/9 92/8	<b>versus [1]</b> 63/11	<b>voiced [1]</b> 84/9
140/18 142/10 148/22	33/3	128/11 134/7 134/22	108/10 123/13 129/18	<b>very [27]</b> 14/12 45/12	<b>voluntarily [8]</b> 10/15
151/20	<b>undersecretaries [1]</b> 9/7	135/23 138/1 142/4	131/7 133/1 150/14	47/1 54/12 60/6 62/20	38/19 39/7 58/21
<b>turned [3]</b> 54/11 142/3	125/5	151/5 153/22	163/6 164/10	66/10 66/16 68/9 73/4	69/14 69/17 73/19
157/12	<b>understand [4]</b> 16/12	<b>units [18]</b> 29/17 42/21	<b>US administration [1]</b> 9/1	81/5 96/2 98/1 103/6	154/14
<b>turning [4]</b> 17/2 64/15	39/13 46/24 81/13	43/5 70/11 72/1 97/1	104/11 104/12 121/18	104/11 96/2 98/1 103/6	<b>voluntary [23]</b> 13/17
104/14 109/23	<b>understanding [10]</b> 17/3 17/3 17/5 20/16	97/17 119/21 120/3	129/1 131/5 145/7	129/1 131/5 145/7	38/24 39/22 55/21
<b>TV [1]</b> 84/8	20/21 46/22 75/3	140/9 140/9 141/6	145/9 145/25 153/21	145/9 145/25 153/21	58/23 62/18 63/11
<b>tweak [1]</b> 72/22	115/8 136/2 162/24	152/11 152/14 152/21	155/6 161/21 161/21	155/6 161/21 161/21	69/8 78/20 78/21 79/6
<b>twenty [1]</b> 81/8	<b>understands [1]</b> 125/5	152/23 153/1 154/15	163/9	163/9	79/22 79/24 80/4 80/5
<b>two [27]</b> 5/24 6/3 6/23	<b>understood [2]</b> 117/6	<b>universal [1]</b> 34/9	<b>via [2]</b> 27/9 58/8	<b>via [2]</b> 27/9 58/8	80/10 89/7 97/13
7/11 7/25 12/1 12/23	162/10	<b>university [3]</b> 37/17	<b>viable [1]</b> 157/9	<b>viable [1]</b> 157/9	97/13 100/15 101/22
18/23 29/23 35/18	<b>undertaken [2]</b> 46/12	77/10 117/24	<b>vials [8]</b> 70/15 103/7	129/1 131/5 145/7	123/5 123/6
36/1 40/23 41/3 47/18	121/9	<b>unknown [5]</b> 18/6	103/8 103/10 103/11	145/9 145/25 153/21	<b>vote [1]</b> 163/13
50/23 84/21 89/14	<b>undertaking [1]</b> 115/16	86/6 97/24 97/25	103/14 103/15 157/13	155/6 161/21 161/21	<b>W</b>
94/25 103/11 103/14	<b>undesirable [1]</b> 155/11	131/10	<b>vice [1]</b> 130/12	163/9	<b>wait [1]</b> 70/19
104/4 129/18 144/10		<b>unless [7]</b> 40/23 41/3	<b>vice-president [1]</b> 130/12	<b>via [2]</b> 27/9 58/8	<b>wake [1]</b> 128/22
145/10 145/18 157/5		54/8 72/14 97/18	<b>victim [3]</b> 127/7	133/14 157/15	<b>Walford [5]</b> 129/10
161/5		145/7 164/20	133/14 157/15	<b>video [8]</b> 87/5 87/9	137/6 137/11 139/11
<b>two days [2]</b> 5/24		<b>unnecessarily [1]</b> 34/16	<b>video [8]</b> 87/5 87/9	91/3 91/11 91/13	140/4
18/23		<b>unproven [2]</b> 99/17	91/3 91/11 91/13	91/18 92/2 92/13	<b>Walford's [1]</b> 153/18
<b>two or three months [2]</b> 40/23 41/3		132/19	<b>view [19]</b> 13/20 31/23	31/24 32/2 32/25	<b>want [2]</b> 32/25 118/20
<b>two years [1]</b> 7/11		<b>unsatisfactory [1]</b> 97/3	36/24 37/1 40/18		<b>wanted [2]</b> 58/11
<b>type [2]</b> 33/23 89/24		<b>unsuccessful [1]</b>			122/12
<b>types [2]</b> 6/15 29/6					<b>wants [1]</b> 16/6
					<b>warrant [1]</b> 99/20

(67) transmitting - warrant



<b>W</b>	104/7 111/3 116/16 118/15 124/20 130/5 131/3 132/11 132/12 134/17 136/17 139/14 139/20 146/17 147/5 147/8 147/9 157/9 165/3 165/17 <b>well-based [1]</b> 157/9 <b>went [6]</b> 69/7 102/14 112/9 122/15 122/17 126/5 <b>were [228]</b> <b>were positive [1]</b> 94/5 <b>were: [1]</b> 142/18 <b>were: Hyland [1]</b> 142/18 <b>weren't [1]</b> 24/20 <b>west [1]</b> 34/14 <b>Western [1]</b> 77/10 <b>Wethersby [1]</b> 142/22 <b>what [112]</b> 2/5 2/7 3/18 3/24 5/13 7/3 7/14 11/4 15/23 19/17 19/21 30/22 32/22 32/24 33/20 34/4 39/13 39/14 40/11 41/19 42/2 42/5 42/7 42/8 42/19 43/3 49/4 49/18 50/18 50/20 51/7 52/20 53/13 53/16 54/9 54/17 58/12 59/9 61/9 64/18 65/17 70/10 70/12 70/20 70/22 70/23 79/16 79/16 81/13 81/25 83/8 83/14 85/17 88/13 89/4 89/4 90/5 92/9 92/23 99/2 109/7 109/9 110/2 112/5 112/8 112/8 112/9 113/11 113/24 113/25 115/6 116/16 117/5 117/6 117/18 118/8 119/21 121/4 122/11 123/12 129/6 132/12 132/18 134/9 135/9 136/4 136/8 138/25 139/9 142/8 143/13 146/10 148/9 149/15 149/24 150/5 150/11 150/13 150/24 150/25 153/12 154/3 156/25 160/7 160/7 160/13 161/2 161/15 163/22 164/9 164/21 165/12 <b>what's [2]</b> 41/8 41/10 <b>whatever [2]</b> 79/19 103/23 <b>when [21]</b> 7/13 14/24 16/2 39/12 49/20 51/23 62/11 92/2	95/22 98/23 114/18 120/7 129/12 135/20 138/25 144/12 145/24 147/17 150/21 154/25 157/12 <b>whenever [1]</b> 102/12 <b>where [18]</b> 4/20 8/8 19/18 53/5 59/14 63/15 72/22 78/9 103/4 105/18 119/8 126/12 131/22 143/6 149/15 151/20 160/11 160/21 <b>whereas [5]</b> 38/14 39/6 49/23 110/18 111/15 <b>whereby [1]</b> 67/19 <b>whether [24]</b> 6/8 6/10 22/18 24/6 31/6 31/19 53/14 53/17 57/6 59/14 77/18 80/18 100/2 110/20 119/13 119/14 119/14 129/20 129/21 131/11 131/15 138/6 141/23 155/25 <b>which [156]</b> 1/11 1/19 3/6 3/23 4/14 6/1 6/12 9/19 10/18 11/5 11/19 11/21 13/20 15/2 15/13 20/24 21/7 22/24 24/20 24/25 25/5 26/12 27/14 27/15 28/3 30/8 30/25 31/17 33/21 35/12 36/19 39/2 39/18 42/3 42/20 45/13 45/18 45/23 46/2 49/11 50/6 50/8 50/25 52/18 52/24 55/2 55/15 55/22 59/24 60/4 60/7 66/21 66/25 67/25 70/15 72/2 75/2 75/3 75/19 79/10 81/4 81/6 83/6 86/10 86/18 86/22 87/5 87/7 87/15 88/3 88/7 88/24 89/14 90/9 91/15 92/15 92/15 93/5 95/10 95/14 95/16 96/1 103/24 104/18 105/6 106/10 107/24 109/25 110/5 110/21 111/23 112/6 114/7 115/13 115/15 115/19 116/8 116/22 117/9 118/25 120/13 120/22 120/23 120/24 120/24 121/23 121/25 122/9 123/15 123/22 123/25 124/11 125/8 125/16 125/23 126/6 126/11 129/11 132/4 133/6 133/11	135/2 135/20 137/17 137/24 138/11 138/16 140/2 143/16 143/24 144/2 144/6 144/21 144/23 145/2 145/21 146/1 148/5 148/12 151/20 152/10 153/12 153/13 155/12 155/21 157/20 158/19 158/21 158/23 159/8 159/18 160/25 161/22 163/13 165/10 165/15 <b>while [11]</b> 14/2 56/3 63/7 69/1 81/25 107/6 108/11 127/10 144/24 159/6 159/17 <b>white [1]</b> 108/11 <b>who [103]</b> 3/12 3/15 3/15 5/7 5/7 9/5 12/13 17/7 17/14 17/25 19/14 20/8 23/22 24/1 24/17 24/18 24/18 24/21 25/11 26/6 28/14 28/19 29/23 31/4 31/18 38/4 38/20 41/22 41/23 47/20 47/23 47/24 48/11 50/9 51/2 52/16 55/3 55/4 57/19 59/19 61/14 63/11 67/1 67/9 67/14 68/21 71/4 72/13 72/17 76/16 77/3 77/10 79/3 80/14 80/15 80/18 80/22 81/1 81/8 81/9 82/11 82/22 88/22 92/7 94/2 94/3 94/4 94/17 94/19 94/20 94/24 96/9 101/19 101/23 102/18 104/22 105/2 106/1 106/3 108/24 111/25 117/12 118/23 119/23 120/10 121/4 125/4 126/13 130/12 131/7 133/14 134/15 140/22 140/23 143/12 149/17 156/12 156/17 160/1 160/3 161/10 161/23 164/13 <b>whole [13]</b> 10/13 12/18 14/3 36/24 38/2 52/11 57/9 62/16 65/8 83/5 104/2 111/3 147/7 <b>whom [5]</b> 9/7 47/18 52/15 65/5 65/11 <b>whose [6]</b> 19/12 41/21 64/1 143/6 143/17 150/12 <b>why [11]</b> 7/22 22/6 22/21 47/4 60/4 68/16 71/17 91/21 116/12	117/4 137/17 <b>wide [2]</b> 10/4 69/6 <b>widely [2]</b> 22/3 74/19 <b>wider [4]</b> 4/8 12/11 23/25 78/11 <b>widespread [1]</b> 21/1 <b>will [81]</b> 1/20 1/24 2/5 2/12 3/14 4/14 4/15 4/16 6/19 6/21 7/6 7/22 8/6 8/7 11/23 13/19 14/22 14/23 16/20 18/25 24/4 24/23 30/22 31/10 39/7 40/22 43/10 43/14 43/16 43/24 44/19 45/24 47/3 49/1 49/13 50/10 50/14 51/5 57/12 60/1 60/3 60/12 60/15 62/5 63/13 65/9 68/14 75/4 78/24 79/4 79/5 79/15 80/11 80/19 81/15 81/20 83/3 91/1 91/22 91/24 98/12 98/19 98/22 104/2 106/17 112/6 116/19 116/22 118/25 125/16 132/22 139/4 139/22 141/16 141/19 146/6 148/1 148/4 148/11 148/25 163/18 <b>William [3]</b> 90/20 92/7 160/3 <b>willing [3]</b> 61/22 69/9 74/7 <b>willingness [3]</b> 79/9 99/7 108/14 <b>winter [1]</b> 69/22 <b>wiping [1]</b> 150/20 <b>wisdom' [1]</b> 33/4 <b>wish [3]</b> 2/1 90/6 164/16 <b>with [190]</b> <b>withdraw [1]</b> 42/13 <b>withdrawal [2]</b> 125/6 136/19 <b>withdrawn [1]</b> 154/14 <b>withdrew [4]</b> 124/25 125/2 126/1 126/1 <b>withheld [1]</b> 145/17 <b>withhold [3]</b> 42/13 56/19 145/4 <b>within [34]</b> 2/17 8/25 9/10 9/14 10/1 10/13 11/13 11/17 11/17 11/21 13/5 13/8 13/9 14/8 14/11 17/23 19/11 41/1 41/1 56/18 57/25 59/22 61/3 61/4 71/4 72/4 73/15 74/8 87/2 109/25 116/22 126/12 129/8 141/22	<b>without [11]</b> 4/11 14/3 34/17 48/1 48/12 53/15 82/5 84/21 95/18 107/7 112/5 <b>withstand [1]</b> 43/14 <b>witness [1]</b> 19/14 <b>WJ [3]</b> 134/2 134/5 135/1 <b>WJ Tarbit [2]</b> 134/5 135/1 <b>woman [1]</b> 9/5 <b>won [1]</b> 79/8 <b>won't [13]</b> 3/19 12/21 32/6 37/2 67/25 88/3 91/19 107/22 109/16 122/19 124/15 129/15 133/25 <b>wonder [3]</b> 46/10 79/15 136/24 <b>word [3]</b> 42/2 52/21 119/17 <b>words [8]</b> 20/20 34/4 44/7 50/11 53/25 68/25 82/15 82/15 <b>wore [1]</b> 87/25 <b>work [9]</b> 32/15 32/18 35/21 47/9 58/3 81/14 108/19 115/15 116/1 <b>workable [1]</b> 144/24 <b>Workgroup [1]</b> 75/25 <b>working [7]</b> 30/7 31/15 31/16 60/22 61/17 102/24 114/20 <b>Workshop [1]</b> 88/6 <b>world [4]</b> 84/24 131/8 134/11 153/12 <b>worldwide [4]</b> 7/20 67/3 131/9 153/14 <b>worry [1]</b> 119/4 <b>worth [2]</b> 14/6 114/17 <b>would [131]</b> 2/18 5/19 5/20 12/16 13/20 14/17 14/20 15/8 16/4 16/7 16/11 26/16 27/10 30/3 34/16 35/9 38/15 38/22 39/4 40/5 41/11 41/13 41/17 45/23 47/25 49/22 50/6 54/4 54/21 57/2 57/5 58/19 58/24 58/24 60/17 61/2 61/4 62/17 64/24 65/1 65/2 65/8 68/4 68/6 69/11 70/19 71/5 71/8 71/14 71/20 71/22 72/1 72/12 74/5 76/24 77/3 77/6 77/8 77/15 78/23 79/10 80/25 83/15 87/13 88/8 89/19 89/20 90/24 91/20 96/5 97/10 97/16 97/17 98/7 100/2
----------	--	--	--	--	--

(68) warranted - would

F:

<p><b>W</b></p> <p><b>would...</b> [56] 101/3 101/5 101/18 102/4 102/12 102/22 103/8 103/9 103/11 103/13 103/15 103/16 106/6 106/24 106/25 109/4 110/21 111/19 116/7 116/17 117/14 119/17 119/21 121/1 121/10 124/8 124/18 125/19 125/20 126/2 126/7 128/17 133/16 133/23 134/6 134/23 136/12 142/5 145/3 145/14 145/17 145/17 146/23 148/6 148/16 150/14 151/1 152/13 155/11 155/16 155/21 158/19 158/20 159/12 160/24 163/14</p> <p><b>wouldn't</b> [2] 39/19 82/17</p> <p><b>wrangling</b> [2] 39/5 39/6</p> <p><b>Wrigglesworth</b> [2] 140/20 141/4</p> <p><b>write</b> [1] 18/1</p> <p><b>writing</b> [2] 51/7 113/16</p> <p><b>written</b> [41] 1/19 1/22 1/25 3/17 4/10 8/19 11/8 14/25 15/4 18/10 18/22 21/7 23/7 23/7 26/13 37/5 39/19 40/17 42/25 45/16 49/2 50/17 66/4 71/3 72/9 74/15 75/13 86/19 89/1 98/18 104/15 109/13 125/7 126/17 129/13 135/7 135/8 139/18 143/2 163/20 164/24</p> <p><b>wrong</b> [3] 16/12 20/18 162/15</p> <p><b>wrote</b> [11] 15/10 37/5 43/3 47/15 82/22 124/5 129/17 130/16 135/5 161/15 163/1</p> <hr/> <p><b>X</b></p> <p><b>xeroxed</b> [1] 65/23</p> <hr/> <p><b>Y</b></p> <p><b>Yale</b> [1] 117/21</p> <p><b>Yale-New</b> [1] 117/21</p> <p><b>year</b> [13] 8/13 29/17 71/4 71/9 71/22 82/13 82/17 119/18 152/15 152/18 152/20 152/22 158/17</p> <p><b>years</b> [5] 7/11 27/23</p>	<p>43/18 45/19 66/23</p> <p><b>yes</b> [75] 1/6 2/21 3/1 11/7 16/10 16/15 16/19 21/5 21/13 21/21 21/25 23/17 23/21 23/23 23/23 24/3 24/8 24/11 24/21 31/22 32/4 41/7 42/4 44/5 44/11 44/16 44/16 44/18 44/18 46/14 54/20 54/25 59/18 60/9 60/17 60/24 61/13 61/16 61/17 61/19 61/20 65/2 68/6 79/14 79/20 81/3 81/18 87/4 91/4 91/10 93/19 108/7 108/7 111/19 112/4 119/12 124/22 125/24 126/8 126/15 132/8 132/14 132/14 136/20 136/23 136/25 137/5 137/21 146/4 146/21 147/2 153/11 165/16 165/16 165/19</p> <p><b>yesterday</b> [1] 163/2</p> <p><b>yet</b> [8] 34/10 35/13 37/20 54/2 70/21 72/13 120/22 120/25</p> <p><b>yield</b> [2] 106/22 106/24</p> <p><b>yielding</b> [1] 48/12</p> <p><b>York</b> [10] 6/2 26/8 26/9 26/10 58/17 112/17 114/6 117/24 118/19 138/18</p> <p><b>you</b> [99] 3/14 4/1 4/6 4/17 7/6 13/1 15/25 32/3 32/5 33/4 33/6 33/14 34/22 37/2 39/6 41/14 43/21 43/22 44/8 44/8 44/9 44/10 44/19 44/24 49/18 50/11 52/8 57/1 60/25 61/20 65/16 66/5 66/23 66/25 67/16 67/16 67/23 67/25 68/4 68/12 69/18 75/1 77/24 78/10 79/1 79/15 80/8 80/9 80/17 80/17 80/19 81/8 81/9 81/21 90/6 92/10 92/15 95/19 95/22 101/4 101/5 103/5 103/5 109/16 109/16 111/14 111/18 112/1 112/3 114/18 116/16 118/8 118/13 124/18 126/9 127/1 129/15 130/2 130/19 135/18 136/12 137/10 138/9 138/15 138/19 139/2</p>	<p>139/10 140/6 140/14 140/21 141/21 141/21 147/5 147/10 150/22 163/18 164/15 164/16 164/25</p> <p><b>you'll</b> [2] 2/19 9/23</p> <p><b>you're</b> [4] 79/25 80/1 116/18 150/21</p> <p><b>you've</b> [5] 1/13 12/5 94/23 95/23 96/3</p> <p><b>you've made</b> [1] 96/3</p> <p><b>your</b> [18] 4/18 41/15 49/13 66/24 67/6 80/10 80/11 90/25 92/5 118/18 132/24 135/18 136/7 137/20 138/20 138/22 139/7 160/6</p> <hr/> <p><b>Z</b></p> <p><b>zero</b> [1] 103/16</p> <p><b>Zucker</b> [1] 117/23</p> <p><b>Zucker-Franklin</b> [1] 117/23</p>			
---	---	---	--	--	--

(69) would... - Zucker-Franklin

F: